

A.G&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
VUYYURU-521165, KRISHNA Dt., A.P.

An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam
Accredited by NAAC with “A” Grade ISO9001-2015 Certified Institution

2021-2022

B.SC.AQUACULTURE(Industrial Fisheries)

EVEN SEMESTER



DEPARTMENT OF ZOOLOGY

MINUTES OF BOARD OF STUDIES

B.SC.AQUACULTURE

01-04-2022

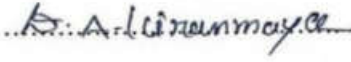
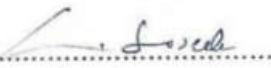
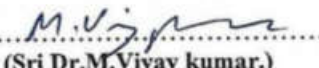


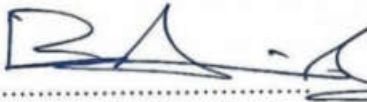



Minutes of the meeting of Board of studies in Zoology for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyuru, held at 2:30 pm on 01.04,2022 in the Department of Zoology.

Smt.D.A. Kiranmayee. ...

Presiding

Members Present:

- 1)  Chair person Head, Department of Zoology,
(Smt. D.A.Kiranmayee.) A.G&S.G.S Degree College of
Vuyuru-521165.
- 2)  University Nominee Bio Sciences & Bio technology
(Smt. Dr.L.Suseela.) Krishna University
Machilipatnam.
- 3)  Academic Council Head,Department of Zoology,
(Sri Dr.M.Viyay kumar.) Nominee SRR & CVR Govt. Degree College,
Vijayawada.
- 4)  Academic Council Head, Department of Zoology,
(Sri Ch. Venkateswaralu.) Nomine P.B. Siddhartha College,
Vijayawada.
- 5)  Member Lecturer in Zoology,
(Smt. K. Padmaja.) A.G&S.G.S Degree College
Vuyuru-521165.
- 6)  Industrialist Asst. Project Manager,
(B. Appala Naidu.) RGCA
Manikonda.
- 7)  Student Represent P.hd –Research Scholar,
(Ch.Chiranjeevi) Dept.of Botany & Microbiology,
Acharya Nagarjuna University,
Guntur.

Agenda for B.O.S Meeting.

1. To recommend the syllabi (Theory & Practical), Model question paper for II Semester of I B.Sc (A.B.C) for the academic year 2021-2022.
2. To recommend the syllabi (Theory & Practical), Model question paper for IV Semester of II B.Sc (A.B.C) for the academic year 2021-2022.
3. To discuss to the syllabus of Elective & Clusters in VI semester for the academic year 2021-2022.
4. To recommend the Model question paper for VI Semester of III B.Sc (A.B.C) for the academic year 2021-2022.
5. To recommend Model question paper and Blue print of II, IV & VI semester of I, II, III B.Sc (A.B.C.) for the academic year 2021-2022.
6. To recommend the teaching and evaluation methods to be followed under Autonomous status.
7. Any other matter.

D. A. Chinnappa

Chairman.

RESOLUTIONS

1. It is resolved to continue the same syllabi (Theory & Practical), model question paper of II Semester of I B.Sc. (A.B.C) under Choice Based Credit System (CBCS) for the academic Year 2021 – 2022.
2. It is resolved to follow the changed syllabi (Theory & Practical), model question paper of IV Semester of II B.Sc. (A.B.C) under Choice Based Credit System (CBCS) for the academic Year 2021 – 2022.
3. It is resolved to follow Elective (Ornamental Fishery) and Cluster I. Fish Processing Technology, Cluster-II . Fishery Microbiology and Fishery by- Products & Cluster- III. Quality Control in Processing plants in VI Semester from the Academic year 2021-2022
4. It is resolved to follow the suggested model question paper for VI Semester of III B.Sc. (A.B.C) under Choice Based Credit System (CBCS) for the academic Year 2021 – 2022.
5. It is resolved to follow the Model question paper and Blue print as suggested for II & IV semester of I, II B.Sc (A.B.C.) for the academic year 2021-2022.
6. It is resolved to continue the following teaching & evaluation methods for the Academic year 2021-22.
7. Any other matter.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of OHP and LCD projector to display on U boards etc; for better understanding of concepts.

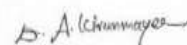
Evaluation of a student is done by the following procedure:

Internal Assessment Examination:

- Out of maximum 100 marks in each paper for II & III B.Sc(A.B.C) 30 marks shall be allocated for internal assessment.
- Out of these 30 marks, 20 marks are allocated for announced tests (i.e . IA-1& IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5 marks are allocated on the basis of candidate's percentage of attendance and remaining 5 marks are allocated for the assignment for I,II& III B.Sc (A.B.C).
- Out of maximum 100 marks in each paper for I B.Sc(A.B.C) 25 marks shall be allocated for internal assessment.
- Out of these 25 marks, 15 marks are allocated for announced tests (i.e . IA-1& IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5 marks are allocated on the basis of candidate's percentage of attendance / assignment for II, semester.
- There is no pass minimum for internal assessment for I, II, III B.Sc

Semester – End Examination:

- The maximum mark for I (ABC) semester – End examination shall be 75 marks and duration of the examination shall be 3 hours.
- The maximum mark for IV, VI (A.B.C) semester – End examination shall be 70 marks and duration of the examination shall be 3 hours. Even though the candidate is absent for two IA exams/ obtain Zero marks the external marks are considered (if the candidate gets 40/70) and the result shall be declared as “PASS”.
- Semester – End examination shall be conducted in theory papers at the end of every semester, while in practical papers, these examinations are conducted at the end of II, IV & VI semester for I, II & III B.Sc, (A.B.C).



Chairman

ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).

NAAC reaccredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: BIOLOGY OF FIN FISH & SHELL FISH.

Semester: - II

Course Code	AQTT21A	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours/ Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2019-20	Year of Offering 2019-20	Year of Revision –	Percentage of Revision:

AIM

- To know the biology of fin fish and shell fish.

OBJECTIVES

- To study the systematics of cultivable finfish and shellfish.
- To understand feeding habit and growth patterns of cultured species.
- To study the factors responsible for longevity of fishes.
- To study the reproductive biology of finfish and shell fish.
- To study the developmental aspects of cultivable finfish and shell fish.
- To study the role of hormones in the growth of finfish and shell fish.

PREREQUISITE

- Knowledge of fisheries management acquired in Intermediate.

COURSE OUTCOMES

By the end of the course students will be able to

CO 1	Classify the finfish and shellfish, analyse the cultivable species of fin fish and shellfish of commercial importance, describe their salient features and appreciate the diversity and uniqueness of different groups.
CO 2	Comprehend the relationship between food and growth, age and growth, hormones and growth in cultivable fin and shell fish.
CO 3	Gain knowledge and compare the feeding habits, mouth parts and digestive systems and analyze gut contents.
CO 4	Develop the skill of identifying the gut contents, gonadal maturity and fecundity and comprehend the concept of breeding behaviour, embryonic and larval development of cultivable aquatic fin and shell fish.
CO 5	Acquaint with the significance of unique mechanisms and behavioural patterns like sense organs, electric organs, buoyancy, moulting and metamorphosis exhibited by finfish and shell fish.

Syllabus :

Unit	Learning Units	Lecture Hours
I	1.0. Introduction Classification of Finfish and Shell fish Classification of fishes up to the level of Class. Classification of crustaceans up to the level of Class Finfish and Shell fish of Commercial Importance Cultivable fin fish Cultivable shell fish Sense organs of fishes and crustaceans	11
II	2.1. Food, Feeding and Growth Natural fish food Feeding habits, feeding intensity, stimuli for feeding, utilization of food Gut content analysis. Structural modifications in relation to feeding habits. Forage ratio and food selectivity index 2.2. Age and Growth Principles of Age and growth determination Growth regulation Growth rate measurement – scale method, otolith method, skeletal parts as age indicators Genetic, biotic & ecological factors in determining the longevity of fishes Length frequency method, age composition, age-length keys, absolute and specific growth, back calculation of length and growth, annual survival rate, asymptomatic length, fitting of growth curve . Length-weight relationship Condition factor/Ponderal index, relative condition factor	17
III	3.0. Reproductive Biology Breeding in Fishes .Breeding habits & breeding grounds Breeding in natural environment and in artificial ponds, courtship Reproductive cycles Induced breeding in fishes Breeding in shrimp Breeding in pearl oyster	9
IV	4.0. Development Ovo-viviparity, oviparity, viviparity in fishes Parental care in fishes, nest building and brooding Embryonic and larval development of fishes Embryonic and larval development of shrimp 4.. Embryonic and larval development of crabs Environmental factors affecting reproduction and development of cultivable aquatic fin & shellfish	12
V	5.0. Hormones & Growth Endocrine system in fishes Neurosecretory cells, androgenic gland, ovary, Y-organ, chromatophores, Pericardial glands and cuticle. Molting, molting stages, metamorphosis in crustacean shellfish	11

PRESCRIBED BOOK(S):

1. Bone Q et al., 1995. Biology of fishes, Blackie academ
2. ic &professional,LONDON
3. Saxena AB 1996. Life of Crustaceans.Anmol Publications Pvt. Ltd., New Delhi

REFERENCES:

- 1.Tandon K.K&Johal M.S 1996.Age and Growth in Indian Fresh Water Fishes.Narendra Publishing
2. Raymond T et al., 1990. Crustacean Sexual Biology, Columbia University Press, New York
3. Guiland J.A (ed) 1984. Penaeid shrimps- Their Biology andManagement.
4. Barrington FJW 1971. Invertebrates: Structure andFunction. ELBS
5. Parker F &Haswell 1992. The text book of Zoology, Vol I.Invertebrates

CO-CURRICULAR ACTIVITIES

1. Collection of cultivable finfish and shellfish
2. Animal album-making on cultivable finfish and shellfish
3. Preparation of models of digestive system of herbivorous, omnivorous and carnivorous fishes.
4. Preparation of charts on sense organs of fish and crustaceans
5. Growth rate measurement of different fishes using various methods.
6. Collection of data and finding the length –weight relationship in fishes.
7. Preparation of charts on reproductive cycles in fishes.
8. Preparation of models on fish nests.

**A.G& S.G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU – 521165, KRISHNA
Dt.,A.P. (AUTONOMOUS)
SEMESTER-II**

(Model Question paper)

w.e.f. 2019 – 2020

Paper Title: **BIOLOGY OF FIN FISH & SHELL FISH.**

Paper Code: AQT21

Time: 3 hrs

Max.Marks:75

Note: Draw neat labelled Diagrams wherever necessary.

SECTION-A

Answer any **Five** of the following Questions. **5X5= 25M**

1. Evaluate the significance of Exotic fishes in culture.CO1, L4
2. Explain the structure and function of Sense organs in fishes. CO5, L2
3. Explain the different fish feeding habits. –CO2, L5
4. Describe Condition factor and Relative condition factor.–CO2, L2
5. Describe breeding process in Pearl oyster.– CO4, L2
6. Explain Ovo-viviparity in Fishes. CO4, L2
7. Explain the Embryonic and larval Development in Crabs.CO2, L5
8. Write a short note on Neurosecretary cells. – CO3, L1

SECTION-B

Answer **all** the Questions.**5X10=50M**

9. Classify the Crustaceans up to the level of subclass. CO1, L2
(Or)
Give an account of Buoyancy in fishes .– CO5, L2
10. Explain different factors that determine the longevity of fishes. – CO2, L4
(Or)
Describe the different methods of estimating age and growth of fish. – CO2, L4
11. Describe the process of Induced breeding in Fishes. CO2, L2
(Or)
Explain the breeding technique in shrimp. CO2, L2
12. Explain the role of Environmental factors on reproduction and development of finfish. CO2, L2
(Or)
Write an essay on Embryonic and larval development in shrimp. CO2, L2
13. Describe the structure of Pituitary gland and explain the functions of its hormones. CO2, L2
(Or)
Describe the process of Moulting in Crustaceans.CO2, L2

AQUACULTURE
PRACTICAL -II

Semester- II

Max. Marks: 50

Title Of The Paper:-Biology Of Fin Fish & Shell Fish

NO OF HOURS: 30

CREDITS: 02

LEARNING OUTCOMES:

By the end of the course students will be able to

- Differentiate between the feeding habits of different fish and shell fish basing on their mouth parts and alimentary canal and identify the various appendages of shellfish.
- Understand the length – weight relationship and analyse the gut contents of fish and shrimp.
- Identify the eggs and larval stages of different cultured species of fish and shell fish and confirm the maturity and fecundity in fish and shell fish.
- Gain knowledge in nest building and brooding in fishes.
- Maintain a neat, labeled record of identified museum specimens and exhibit the hidden creative talent.

1. Study of mouth parts in herbivorous omnivorous and carnivorous fishes
2. Comparative study of digestive system of herbivorous and carnivorous fishes
3. Length-weight relationship of fishes
4. Gut content analysis in fishes and shrimp
5. Mouth parts and appendages of cultivable prawns, shrimps and other crustaceans
6. Study of eggs of fishes, shrimps, prawns and other crustaceans
7. Study of gonadal maturity and fecundity in fishes and shellfish
8. Observation of crustacean larvae
9. Study of nest building and brooding of fishes
10. Biostatistics – Mean, Mode, Median, Standard Deviation, Correlation and t-test

REFERENCES

1. Bone Q et al., 1995. Biology of fishes, Blackie academic & professional, LONDON
2. Saxena AB 1996. Life of Crustaceans. Anmol Publications Pvt.Ltd., New Delhi
3. Tandon K.K & Johal M.S 1996. Age and Growth in Indian Fresh Water Fishes. Narendra Publishing
4. Raymond T et al., 1990. Crustacean Sexual Biology, Columbia University Press, New York
5. Guiland J.A (ed) 1984. Penaeid shrimps- Their Biology
6. **Thomas PC, Rath SC & Mohapatra KD.** 2003. Breeding and Seed Production of Finfish and Shellfish. Daya Publ.

Chakraborty C & Sadhu AK. 2000. Biology Hatchery and Culture Technology of Tiger Prawn and Giant Freshwater Prawn. Daya Publ. House

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165,
KRISHNA Dt.,A.P. (AUTONOMOUS)

AQUACULTURE

BIOLOGY OF FIN FISH AND SHELL FISH

MODEL QUESTION PAPER

EXTERNAL PARTICAL PAPER- II

SEMESTER-II

Time: 3 Hours

COURSE CODE: AQT P21

Max. Marks: 40M

1. Identify and draw labeled diagram of digestive system of Labeorohita.

Compare it with that of a carnivorous fish. CO1, L2 &L3

10M

Or

Identify and draw labeled diagram of digestive system of Channapunctatus.

Compare it with that of a herbivore fish. CO1, L2 &L3

Identification: 1M

Diagram: 2M

Labelling: 3M

Comparison: 4M

2. Identify and draw labeled diagram of abdominal appendages of Macrobrachiummalcolmsonii. CO1, L3

10M

Or

Identify and draw labelled diagram of thoracic appendages of Scylla serrata.CO1, L3

Identification: 2M

Diagram: 4M

Labelling: 4M

3. Identify and comment on CO1, CO3 & CO4, L3 & L1

4x2½ =10M

A. Mouth parts of fish/prawn/crab

B. Egg mass of fish/prawn/shrimp/crab

C. Crustacean larvae

D. Types of fish nests

Identification: 1M

Diagram: ½M

Notes: 1M

4. Record Book CO5, L3

5M

5.VIVA CO5, L5

5M

INTERNAL PRACTICAL- II

Max.marks: 10M.

1. Attendance ----- 05M.

2. Assignment ----- 05M.

Total ----- 10 M.

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE
COLLEGE OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).**

NAAC reaccredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **FISH NUTRITION & FEED TECHNOLOGY**

Semester: - IV

Course Code	AQU-401C	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-2022	Year of Offering 2021-2022	Year of Revision –	Percentage of Revision:

Learning Objectives:

- 1 To know the nutritional requirements of fish and shell fish at different stages of their life.
- 2 To understand the different types of feeds, and feed additives used in the preparation of fish and shell fish feeds.
- 3 To improve the knowledge on feed manufacture and feed storage.
- 4 To gain knowledge on feeding and feed evaluation methods.
- 5 To gain knowledge on feed manufacture and storage -
- 6 To know the nutritional pathology and remedial methods of cultivable fish and shrimp.
- 7 To improve the technical knowledge feed quality and nutritional value analysis.

Course outcomes:

CO 1	Understand Nutritional requirements of cultivable fishes and factors affecting energy partitioning and feeding.
CO 2	Know different types of feed and FCR and different types of feeders
CO 3	Gain Knowledge of Feed manufacture and storage methods of feeds
CO 4	Understand the value of Feed additives and Non-Nutrient ingredients
CO 5	To create awareness of different nutritional deficiency and importance of natural and supplementary feeds and balanced diet.

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	<p>Nutritional requirements of cultivable fish and shellfish</p> <p>Classification of nutrients; Nutritional requirements (energy, proteins, carbohydrates, lipids, fiber, micronutrients) of different stages of cultivable fish and shellfish.</p> <p>Essential amino acids and fatty acids, protein to energy ratio, nutrient interactions and protein sparing effect</p> <p>Dietary sources of energy, effect of ration on growth, determination of feeding rate, check tray, factors affecting energy partitioning and feeding</p> <p>Importance of natural and supplementary feeds, balanced diet.</p>	10
II	<p>Types of feeds and Feed additives</p> <p>Live foods: Fish food organisms – Bacterioplankton, phytoplankton, zooplankton and their role in larval nutrition.</p> <p>Artificial feeds: Supplementary feed stuffs; Non-conventional feed ingredients; Forms of processed feeds - wet feeds, moist feeds, dry feeds, mashes, pelleted feeds - floating and sinking pellets; advantages of pelletization</p> <p>Water stability feeds, farm made aqua feeds, micro-coated feeds, micro-encapsulated feeds and micro-bound diets</p> <p>Feed additives: Binders, antioxidants, probiotics, enzymes, pigments, growth promoters, feed stimulants; use of preservatives.</p>	10
III	<p>Feed formulation, manufacture & storage</p> <p>Feed ingredients: selection, nutrient composition and nutrient availability.</p> <p>Feed formulation and manufacturing – extrusion processing and steam pelleting - grinding, mixing and drying, pelletization, and packing</p> <p>Microbial, insect and rodent damage of feed, chemical spoilage during storage period and feed storage methods.</p>	15
IV	<p>Feeding methods</p> <p>Feeding devices and methods: Manual feeding, demand feeders, automatic feeders, surface spraying, bag feeding & tray feeding</p> <p>Feeding schedules: Frequency of feeding, feeding rates and ration size</p> <p>Feed evaluation: feed conversion ratio, feed conversion efficiency and protein efficiency ratio.</p>	15
V	<p>Nutritional pathology of fish and shrimp</p> <p>Protein (Essential amino acid) and Lipid (Essential fatty acid) deficiency disorders; Fatty liver disease in fishes</p> <p>Vitamin and mineral deficiency disorders</p> <p>Anti-nutrients and aflatoxins.</p>	10

**A.G& S.G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU – 521165, KRISHNA
Dt.,A.P. (AUTONOMOUS)
SEMESTER-IV**

Model Question paper

w.e.f. 2021 – 2022

Paper Title: **Fish Nutrition & Feed Technology**

Paper Code: AQU-401C

Time: 3 hrs

Max.Marks:70

Section -A

I. Answer any FOUR of the following

Draw labeled diagram wherever necessary

4x5=20M

1. Lipids
2. Checktray
3. Feed conversion efficiency
4. probiotics
5. Extrusion processing
6. Feed storage methods
7. Bag feeding
8. Aflatoxins

Section -B

Answer any FIVE of the following

5x5=50 M

Draw labeled diagrams wherever necessary

9. Explain essential amino acids required for cultivable fish
10. Describe various carbohydrates and micronutrients required for different stages of cultivable fish
11. Explain various feeds
12. Describe different feeding methods.
13. Explain nutrient composition and nutrient availability of feed ingredients..
14. Describe Enzymes and growth promoters
15. Explain Protein and Vitamin deficiency symptoms.
16. Describe the importance of natural and supplementary feeds.

**A.G& S.G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU 521165, KRISHNA Dt., A.P.
(AUTONOMOUS)**

SEMESTER-IV

Guide lines to the paper setter

w.e.f. 2021 – 2022.

Paper Title:Fish Nutrition & Feed Technology .

Paper Code: AQU-401

Time: 3 hrs

Max.Marks:70

Note: 1. Answer **any four** questions out of eight in Part-A. Each question carries five marks. 4 X 5= 20M.

2. Answer any **five** questions out of eight in Part-B. Each question carries 10 marks. 5 X 10= 50M.

	PART	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
5 Marks Questions	A	2	2	2	1	1
10 Marks Questions	B	2	2	1	1	2
Weightage		30	30	20	15	25

Note: 1. please provide the scheme of valuation for the paper.

2. Question paper should be both in English and Telugu media.

ZOOLOGY PRACTICAL SYLLABUS

PAPERS – IV

w.e.f. 2021 – 2022.

Period: 24

Max.Marks:50

Credits: 2

Paper Title: Fish Nutrition & Feed Technology

Paper Code: AQU-401P

PRACTICALS: (Any 8 as per the local Industry needs and Requirement)

1. Estimation of protein content in aquaculturefeeds
2. Estimation of carbohydrate content in aquaculturefeeds
3. Estimation of lipid content in aquaculturefeeds
4. Estimation of ash in aquaculturefeed
5. Study of water stability of pelletfeeds
6. Feed formulation and preparation in the lab
7. Study of binders used in aquaculturefeeds
8. Study of feed packing materials
9. Study of physical and chemical change during storage
10. Study on physical characteristics of floating and sinking feeds
11. Visit to a aqua-feed production unit
12. Visit to a farm for studying feeding practices

EXTERNAL PRACTICAL- IV

MODEL QUESTION PAPER –IV
(2hrs/week)

Code: AQU-401P

Time: 3 hrs.

Max.marks: 25m.

I.Estimation of carbohydrate content in aquaculture feeds	7M.
II. Estimation of ash in aquaculture feed	5M.
III.Study of feed packing materials	5M
IV.Study of physical and chemical change during storage	5M
V. Viva.	3M
TOTAL: -----	25M.

Guide lines for the practical Examiners

- I:Estimation of carbohydrate content in aquaculture feeds (5marks notes & Result 2 mark .)
- II :Estimation of ash in aquaculture feed(5 marks notes)
- III :Study of feed packing materials (5 marks notes)
- IV. Study of physical and chemical change during storage (5 marks notes)

INTERNAL PRACTICAL- IV

w.e.f. 2021-2022.

(2 hrs/week).

Practical –IV

Code: AQU-401P.

MODEL QUESTION PAPER -IV

Max.marks:25M.

Time: 3hrs.

3. Attendance	-----	05M.	
4. Record	-----	10M.	
5. Field trip	-----	05M	
6. Assignment	-----	05M.	Total ----- 25M.

ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).

NAAC reaccredited at 'A' level

Autonomous

ISO 9001-2015 Certified

Title of the Paper: **FISH HEALTH MANGEMENT**

Semester: - IV

Course Code	AQU-402 c	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-22	Year of Offering 2021-2022	Year of Revision –	Percentage of Revision:

Learning Objectives:

1. To understand the Principles of disease diagnosis and fish healthmanagement.
2. To know the prophylactic and therapeutic methods to control thediseases.
3. T understand the defense mechanism and immune system in fish andshrimp.
4. To gain detailed knowledge on the disease symptoms, causative agent, preventive measures and treatment for microbial, parasitic, nutritional and environmental disorders in fish andshrimp.
5. To understand the diagnosis tools that are followed in field of aquaculture and vaccine production for fishimmunization.
6. To know the significance of Quarantine, Biosecurity and SPF seed in the health management of fish andshrimp.

Course outcomes:

CO1: Provide students with knowledge about fish diseases and pathological aspects of diseases.

CO2: Learn about Fungal, Viral and Bacterial diseases of finfish.

CO3: Learn about major shrimp viral, bacterial and protozoan diseases and prevention and therapy methods.

CO4: Gain knowledge of Nutritional deficiency related diseases and antibiotic and chemotherapeutics.

CO5: Understand and learn the importance of diagnostic tools in identification of diseases andapplication and development of vaccines. To know about production of disease freeseeds andgood feed management

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	<p>Introduction Principles of disease diagnosis and fish health management. Prophylaxis, Hygiene and Therapy of fish diseases. Defence mechanism in finfish and shellfish – specific and non-specific immunosystem. Role of stress and host defence mechanism in disease development - Host, pathogen and environment interaction.</p>	10
II	<p>Fish Diseases Clinical symptoms, pathology, prevention and therapy of Viral diseases: Viral Haemorrhagic septicemia, Infectious Hematopoietic Necrosis (IHN). Bacterial diseases: Epizootic ulcerative syndrome, Infectious abdominal dropsy, Bacterial gill disease, Columnaris disease, Tail and finrot. Fungal diseases: Saprolegniasis and Brachiomyxosis. Protozoan diseases: Ichthyophthiriasis, Myxoboliasis/ Whirling disease, Enterococcidiasis. Helminthic and Crustacean parasitic diseases: Gyrodactylosis and Dactylogyrosis; Argulosis and Lernaeiasis.</p>	10
III	<p>Shrimp Diseases Clinical symptoms, pathology, prevention and therapy of Viral diseases: White spot syndrome, Monodon Baculovirus, Infectious hypodermal and haematopoietic necrosis virus, Hepato Pancreatic parvo like virus, Yellow head baculovirus, Taura Syndrome. Bacterial diseases: Vibriosis, white gut disease, loose shell syndrome, Acute Hepato-pancreatic Necrosis Disease (Early Mortality Syndrome, EMS) Fungal diseases: Hepatopancreatic microsporidiosis (HPM) by <i>Enterocytozoon hepatopenaei</i> (EHP), <i>Lagenidium</i> and <i>Fusarium</i> disease. Protozoan diseases: ectocommensal protozoa – <i>Zoothamnium</i> and <i>Acineta</i>.</p>	15
IV	<p>Nutritional and Environmental disorders Clinical symptoms, pathology, prevention and therapy of Fish: Protein (Essential amino acid) and Lipid (Essential fatty acid) deficiency disorders; Vitamin and mineral deficiency disorders; Fatty liver disease; Gas bubble disease, Asphyxiation. Shrimp: Soft shell syndrome, Blue disease/Pigment deficiency syndrome, Red disease, Cramp tail syndrome, Black gill disease, Muscle necrosis, Black death disease. Role of gut probiotics in health management of fish and shrimp. Bioremediation of soil and water as a strategy for health management in ponds.</p>	15
V	<p>Fish Health Management Diagnostic tools – immune detection- DNA/RNA technique – molecular diagnosis of viral diseases. Principles and methods of vaccine production and fish immunization. Quarantine and health certification in aquaculture. Significance of Biosecurity and Specific pathogen free seed (SPF) in health management.</p>	10

Semester –IV

w.e.f. 2021-2022

Model question paper

Title of the paper: **Fish health management.**

Code – AQU-402C

Time: 3hrs.

Max.marks: 70

Section – A

4 x 5= 20.

Answer any **four** questions. Each question carries **five** marks. Draw neat labeled diagrams wherever necessary.

1. Necrosis.
2. Atrophy
3. Lagenidium diseases
- 4 Bacterial kidney disease.
5. Monodon Bacculovirus
6. Yellow head bacculovirus
7. Lipid liver degeneration
- 8, Zero water exchange.

Section – B

5 x 10 =50.

Answer any **five** questions. Each question carries **Ten** marks. Draw neat labeled diagrams wherever necessary.

9. Write an essay on any two nutritional Requirements for cultivable fish?
10. Explain the changes in cell metabolism?
11. Explain about Bacterial diseases of shell fish?
12. Explain about channel cat fish viral disease prevention and therapy?
13. Describe the Protozoan diseases??
14. Write an essay on genetically and environmentally induced diseases?
15. Explain about application and development of vaccines?
16. Methods and regulations for transplants?

A.G. & S.G.Siddhartha Degree College of Arts & Science, Vuyyuru – 521165,
Krishna Dt. A.P. (Autonomous)

Semester - IV

Guide lines to the Paper Setter.

Title of the paper: Fish health management

Code – AQU-402

Time: 3hrs.

Max. Marks: 70.

1. Answer any **four** questions out of eight in Section – A. Each question carries five marks. $4 \times 5 = 20M$.

2. Answer any **five** questions out of eight in Section – B. Each question carries Ten marks. $5 \times 10 = 50M$.

	Section	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
5 Marks Questions	A	2	2	2	1	1
10 Marks Questions	B	1	2	2	1	2
Weightage		20	30	30	15	25

Note: 1. please provide the scheme of valuation for the paper.

2. Question paper should be in English medium.

w.e.f. 2021-2022
MAX.MARKS : 50.
(2hrs/week)

Code : AQU- 402P

PRACTICAL SYLLABUS

1. Enumeration of Bacteria by TPC Method
2. Enumeration of total Coli forms
3. Observation of gross pathology and external lesions of fish and prawn with reference to the common diseases in aquaculture
4. Examination of pathological changes in gills and gut lumen, lymphoid organ, muscles and nerves of fish
5. Examination of pathological changes in gut lumen, hepatopneacas, lymphoid organ, muscles and nerves of prawn and shrimp
6. Collection, processing and analysis of data for epidemiological investigations of viraldiseases
7. Bacterial pathogens – isolation, culture and characterization
8. Identification of parasites in fishes: Protozoan, Helmiths, Crustaceans
9. Antibigrams – preparation and evaluation
10. Molecular and immunological techniques; Biochemical tests; PCR; ELISA; Agglutination test; Challenge tests; Purification of virus for development of vaccines (Demonstration at institutes/labs)
11. Estimation of dose, calculation of concentration, methods of administration of various chemotherapeutics to fish and shell fish
12. Estimation of antibiotics used in aquaculture practices
13. Estimation of probiotics used in aquaculture
14. Field visit to farm for health monitoring and disease diagnosis

PRESCRIBED BOOK(S):

1. Shaperclaus W. 1991 Fish Diseases- Vol.I & II. Oxonian Press Pvt.ltd
2. Roberts RJ 1989. Fish pathology. Bailliere Tindall, New York
3. Lydia Brown 1993. Aquaculture for veterinarians- fish husbandray and medicine. Pergamon Press. Oxford

REFERENCES:

1. Shankar KM & Mohan CV. 2002. Fish and Shellfish Health Management. UNESCO Publ. Sindermann CJ. 1990
2. Walker P & Subasinghe RP. (Eds.). 2005 Principal Diseases of Marine Fish and Shellfish. Vols. I, II. 2nd Ed. Academic Press
3. DNA Based Molecular Diagnostic Techniques: Research Needs for Standardization and Validation of the Detection of Aquatic Animal Pathogens and Diseases. FAO Publ. Wedmeyer G, Meyer FP & Smith L. 1999.
4. Bullock G et.al., 1972 Bacterial diseases of fishes. TFH publications, New Jersey
5. Post G 1987. Text book of Fish Health. TFH publications, New Jersey
6. Johnson SK 1995. Handbook of shrimp diseases. Texas A & M University, Texas

EXTERNAL PRACTICAL-IV

MODEL QUESTION PAPER –IV

(2hrs/week)
Code: AQU-402P

Time: 3 hrs.

Max.marks: 25m.

I.Estimation of antibiotics used in aquaculture practices	5M.
II. Biochemical tests	5M.
II.	5M
IV. Identify, draw labeled diagram & write notes on A, B, C, D E	5X2=10M

TOTAL: ----- 25M.

Guide lines for the practical Examiners

I: Estimation of carbohydrate content in aquaculture feeds (4 marks notes & Result 1 mark.)

II: Biochemical tests. (5 marks notes)

III: ELISA (5 marks notes)

IV. ½ Mark for identification, ½ Mark for labeled diagram & 1 Mark for notes for each question.

4 specimens / slides / models.

INTERNAL PRACTICAL-IV

w.e.f. 2021-2022.
(2 hrs/week).

Code: AQU-402P.

MODEL QUESTION PAPER -IV

Max.marks:25M.

Time: 3hrs.

1. Attendance	-----	05M.
2. Record	-----	10M.
3. Field trip	-----	10M
	Total -----	25M.

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA
DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU-521165, KRISHNA Dt., A.P.
(AUTONOMOUS).**

NAAC reaccredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **Ornamental fishery**

Semester: - VI

Course Code	AQU-601C	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-22	Year of Offering 2021-2022	Year of Revision –	Percentage of Revision:

Objective of the course: The students understand Ornamental fishery.

Course outcomes:

Learning Objectives:

- This course has been designed to understand identification and classification of commercially important fishes and other aquatic vertebrates by the students
- The course objectives are to provide the students with an introductory knowledge of live bearers.
- The students will be required to identify common Marine Ornamental species available in and around their region using Ocean area.
- To gain detailed knowledge on the disease symptoms, causative agent, preventive measures and treatment in fish and shrimp.
- To understand the students will be required - Commercial production of aquarium fish and plants

COURSE OUTCOMES

At the end of the course, students will be able to:

CO1. Describe and identify the characters of commercially important ornamental fishes

CO2. Explain the procedure for transportation fish and feed preparation

CO3. Identify the diagnosing procedure for ornamental fish diseases

CO 4. Construct aquarium and analyse water quality parameters

CO5. Access the role of Mass production of aquarium plants

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	UNIT- I: Introduction Aquarium and ornamental fishes – introduction Present status of Aquarium trade in the world and India Aquarium accessories – aerators, filters, lighters and heaters Water quality needs and different kinds of feeds.	10
II	UNIT-II: Fresh water ornamental fishes Live bearers, gold fish, koi, gourami, barbs and tetras, angel fish and cichlid fish Brood stock development, breeding, larval rearing and grow out. Larval feeds and feeding	10
III	UNIT-III: Marine ornamental fishes Varieties and habitat of marine ornamental fishes Major marine ornamental fish resources of India Collection and transportation of live fish, use of anaesthetics Breeding of marine ornamental fish. Other aquarium animals – sea anemones, lobsters, worms, shrimps, octopus and starfish	15
IV	UNIT-IV: Aquarium management Setting up fresh water, marine and reef aquariums. Water quality management for different types of aquariums. Common diseases of aquarium fish, diagnosis and treatment. Temperature acclimatization and oxygen packing for aquarium fish.	15
V	UNIT-V: Commercial production of aquarium fish and plants Commercial production units of ornamental fish- requirements and design. Commercial production of goldfish, live bearers, gouramies, barbs, angels and tetras. Mass production of aquarium plants. Retail marketing and export of ornamental fish.	10

A.G. & S.G.Siddhartha Degree College of Arts & Science, Vuyuru – 521165,
Krishna Dt. A.P. (Autonomous)

Semester –VI
Time: 3hrs

(Model question paper)

w.e.f. 2021-2022

Title of the paper: **Ornamental fishery**

Code – AQU-601C

Max.marks: 70

Section – A

Answer any **four** questions. Each question carries **five** marks. **4 x 5= 20.**

Draw neat labeled diagrams wherever necessary.

1. Aerators
2. Larval rearing
3. Gold fish
4. Use of anaesthetics
5. Lobsters
6. Diagnosis and Treatment of aquarium fish
7. Gouramies,
8. Retail marketing

Section – B

Answer any **five** questions. Each question carries **Ten** marks. **5 x 10 =50**

Draw neat labeled diagrams wherever necessary.

9. Describe the Present status of Aquarium trade in the world and India?
10. Write an essay on angel fish and cichlid fish?
11. Explain larval feeds and feeding?
12. Describe the Collection and transportation of live fish?
13. Explain Breeding of marine ornamental fish?
14. Water quality management for different types of aquariums?
15. Describe the Common diseases of aquarium fish?
16. Mass production of aquarium plants?

SEMESTER-VI

Time: 3 hrs

Guide lines to the paper setter

Paper Title: -Ornamental fishery.

Paper Code: AQU-601C

Max.Marks:70

Note: 1. Answer **any four** questions out of eight in Part-A. Each question carries five marks. 4X 5 = 20M.

2. Answer any **five** questions out of eight in Part-B. Each question carries 10 marks.
5 X 10 = 50M.

	PAR T	Unit –I	Unit – II	Unit-III	Unit – IV	Unit – V
5 Marks Questions	A	1	2	2	1	2
10 Marks Questions	B	1	2	2	2	1
Weightage		15	30	30	25	20

- Note:**
1. Please provide the scheme of valuation for the paper.
 2. Question paper should be both in English and Telugu media.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-
521165, KRISHNA Dt.,A.P. (AUTONOMOUS)
AQUACULTURE

PRACTICAL - VI

w.e.f. 2021-2022

Code: AQU- 601P

MAX.MARKS : 50.

(2hrs/week)

PRACTICAL SYLLABUS

PRACTICALS:

1. Study of aerators – types and structures
2. Water circulation methods in aquarium and filtration
3. Collection and identification of aquarium plants
4. Identification of common marine aquarium fishes
5. Identification of common fresh water aquarium fishes
6. Breeding of egg layers
7. Breeding of live bearers
8. Evaluation of significance of aquaria for commercial and domestic use.

PRESCRIBED BOOK(S):

1. Dick Mills 1998. Aquarium fishes, Dorling Kindersly Ltd, London
2. Van Ramshort JD 1978. The complete aquarium encyclopedia, Elsevier

REFERENCES:

1. Jameson JD and Santhanan R 1996. Manual of ornamental fishes and farming technologies, Fisheries College and research institute, Tuticorn
2. Stephen Spotte 1993. Marine aquarium keeping. John wiley and sons, USA

A.G& S. G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU - 521165,
KRISHNA Dt., A.P. (AUTONOMOUS)

Practical - VI

w.e.f. 2021 – 2022

Paper Code: AQU-601P

Max. Marks: 25

Model Question Paper (External)

-
1. Identify, draw labeled diagram & write notes on marine aquarium fishes. 4x2=8M
A , B, C & D
 2. Identify, draw labeled diagram & write notes on fresh water aquarium fishes. 4x2=8M
A , B, C & D
 3. Collection and identification of aquarium plants 5M
 4. Breeding of egg layers / Breeding of live bearers 4M
- Total-----25m

Guide lines for the practical Examiners

1. ½ Mark for identification, ½ Mark for labeled diagram & 1 Mark for notes for each question.
(4 specimens / slides / models.)
2. ½ Mark for identification, ½ Mark for labeled diagram & 1 Mark for notes for each question.
(4 specimens / slides / models.)
3. Collection and identification of aquarium plants submit field note book (5 marks).
4. Labeled diagrams 1 mark & 3 marks for notes (4marks)

**A. G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU
INTERNAL PRACTICAL- III**

(Practical -III)

w.e.f. 2021-2022.

Code: AQU-601P.

MODEL QUESTION PAPER -III

Max.marks:25M.

Time: 3hrs.

1. Attendance ----- 05M.
2. Record -----10M.
3. Field note book. ----- 05M
4. Assignment ----- 05M.

Total ----- 25M.

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA
DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU-521165, KRISHNA Dt., A.P.
(AUTONOMOUS).**

NAAC reaccredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **Fish Processing Technology**

Semester: - VI (CI-1)

Course Code	AQU-602C	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-22	Year of Offering 2021-2022	Year of Revision –	Percentage of Revision:

Learning Objective of the course:

- The students understand Fish Processing Technology
- Advanced treatment of the concepts – involved in the production, processing and acceptance of Fish processing Products derived from fish- Fish waste utilization

Course Outcomes:

CO1: After completing this course students can able to, deliver the different unit operations and its equipments involved in fish processing fishing resources.

CO2: Develop value added products from fish. Able to know about quality control of fish processing

CO3: Know about different methods of processing of fish Able to acquire a confident to get placement in any fish processing industry.

CO4: Students grow in understanding of Packing, Cold Storage and Export of Fishery Products.

CO5: Export of fishery products from India - major countries

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	UNIT- I: : Introduction: Principles of fish preservation. Importance of hygiene and sanitation in fish handling. Quality of water and ice in fish handling and processing. Preparation of ice. Different types of ice used in the seafood industry and their merits. Preservation by refrigerated seawater and chilled sea water	10
II	UNIT-II:Freezing and Canning: Fundamental principles involved in chilling and freezing of fish and fishery products. Various freezing methods. Freezing of shrimps and fishes. Changes during the cold storage of fish and fishery products. Principles involved in canning of fish. Different types of containers. Different stages of canning of Tuna. Retortable pouch processing.	10
III	UNIT-III: Drying, Smoking and Freeze-drying: Principles of smoking, drying and salting of fish, factors affecting drying. Traditional drying / curing methods. Different types of drying. Drying of fish and prawns. Packing and storage of dried products. Spoilage of dried products. Preventive measures. Standards for dry fish products. Cold smoking. Principles of freeze drying. Accelerated freeze drying and packing of freeze dried products. Modern methods of preservation by irradiation and modified atmospheric storage.	15
IV	UNIT-IV: Packing, Cold Storage and Export of Fishery Products: Functions of packing. Different types of packing materials and its quality evaluation. Packing requirements for frozen and cured products. Statutory requirements for packing. Labeling requirements. Different types of cold storages. Insulated and refrigerated vehicles.	15
V	UNIT-V: Export of fishery products from India - major countries, important products, export documents and procedures. Prospects and constraints in export including tariff and non- tariff barriers, marine insurance, export incentives, registered exporters	10

Semester –VI
w.e.f. 2021-2022
Time: 3hrs

Model question paper

Title of the paper: **Fish Processing Technology**
max.marks: 70

Code – **AQU-602P**

Section – A

Answer any **four** questions. Each question carries **five** marks. $4 \times 5 = 20$.

Draw neat labeled diagrams wherever necessary.

1. Preparation of ice
2. Canning
3. Various freezing methods
4. Drying and salting of fish
5. Spoilage of dried products
6. Functions of packing
7. Labeling requirements.
8. Registered exporters

Section – B

Answer any **five** questions. Each question carries **Ten** marks. $5 \times 10 = 50$

Draw neat labeled diagrams wherever necessary.

9. Describe the Principles of fish preservation?
10. Changes during the cold storage of fish and fishery products.?
11. Describe the Different stages of canning of Tuna?
12. Explain Different types of drying?.
13. Modern methods of preservation by irradiation and modified atmospheric storage?
14. Describe the Different types of packing materials and its quality evaluation?
15. Packing requirements for frozen and cured products?.
16. Explain about export documents and procedures?

SEMESTER-VI

Time: 3 hrs

Guide lines to the paper setter

Paper Title: -Fish Processing Technology

Paper Code: AQU-602C

Max.Marks:70

Note: 1. Answer **any four** questions out of eight in Part-A. Each question carries five marks.4X 5 = 20M.

2. Answer any **five** questions out of eight in Part-B. Each question carries 10 marks.5 X 10 = 50M.

	ART	Unit –I	Unit – II	Unit-III	Unit – IV	Unit – V
5 Marks Questions	A	1	2	2	2	1
10 Marks Questions	B	1	2	2	2	1
Weightage		15	30	30	30	15

- Note:**
1. please provide the scheme of valuation for the paper.
 2. Question paper should be both in English and Telugu media.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165,
KRISHNA Dt.,A.P. (AUTONOMOUS)

AQUACULTURE
PRACTICAL -VIII

w.e.f. 2021-2022.
MAX.MARKS : 50.
(2hrs/week)

Code :AQU- 602P

PRACTICAL SYLLABUS

Practical I Title: Fish Processing Technology and Quality Control

Experiments:

1. Determination of moisture content in fish and fishery products
2. General description –freezing
3. Processing shrimp
4. Filleting of fish
5. Drying of fish
6. Organoleptic analysis of fish
7. Preparation of fishery by products
8. Preparation of shark fin rays fish maws, chitin, fish wafer
9. Fish pickling
10. Value added fishery products, fish curry, cutlets fish finger.
11. Preparation of surimi

Filed visit:

1. Visit to sea food pre-processing plants
2. Visit to fish processing plants

Text books:

1. K.Gopakumar, Fish Processing Technology, ICAR, New Delhi
2. T.K. Govindan, Fish Processing Technology Oxfor & IBH Publication Co.
3. K.K. Balachandran Fish Canning – Principles & Practices.
4. Borgstrom,G. Fish as Food.
5. K.K. Balachandran, Postharvest Technology in Fish and Fishery Products. 6. Moorjani,M.V. Fish Processing in India.
7. Connell,J.J. Advances in Fishery science and Technology.
8. CIFT. Manual of Quality Control in Fish and Fishery Products. 9. Gopakumar,K. Fish Packaging Technology

Reference Books:

1. A.M.Martin, Fisheries – Processing Chapman & Hall, Madras 2. Ed.G.M.Hall – Fish Processing Technology Chopra & Hall. Madras.

Practical - VI

w.e.f. 2021 – 2022

Paper Code: AQU-602P

Max. Marks: 25

Model Question Paper (External)

1. General description –freezing.	5 m
2. Processing shrimp.	5 m
3. Drying of fish	5m
4. Preparation of fishery by products.	5m
5. Fish pickling	5m

Total-----25m

Guide lines for the practical Examiners

1. General description-5m
2. Processing shrimp notes-5m
3. Drying of fish. 5m
4. Preparation of fishery by products notes.5m
5. Fish pickling notes.5m

A. G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU-
521165

INTERNAL PRACTICAL

w.e.f. 2021-2022.
(2 hrs/week).

Code: AQU-602P.

MODEL QUESTION PAPER

Max.marks:25M.

Time: 3hrs.

1. Attendance	-----	05M.
2. Record	-----	10M.
3. Field note book.	-----	10M

Total ----- 25M.

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA
DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU-521165, KRISHNA Dt., A.P.
(AUTONOMOUS).**

NAAC reaccredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **Fishery Microbiology and Fishery by-products**

Semester: - VI (C1-2)

Course Code	AQU-603C	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-22	Year of Offering 2021-2022	Year of Revision –	Percentage of Revision:

Objective of the course: The students understand Fishery Microbiology and Fishery by-products.

Course outcomes

CO1: The ecosystem and taxonomy of microbes will be understood by the students along with prokaryotic and eukaryotic divisions

CO2: Hands on techniques on handling the microscopes in the class and instrumentation lab will be elaborate study of microbial organisms advanced techniques for easy and speedy identification will be known

CO3: Screening, isolation and enumeration of microbes using different media and application of advanced techniques for easy and speedy identification will be known

CO4: Students will be able to discuss Fishery By - products.

CO5: The practical knowledge of Value Added Products will be achieved by the students .

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	<p>UNIT- I: Introduction: History and development of microbiology –Different members of the microbial community – General characteristics of bacteria, fungi, viruses, algae and protozoan's. Ultra structure of prokaryotic cell – structure and function of bacterial cell wall, plasma membrane, capsule, flagella and endospore. Structure of fungi and yeast cell. Ultra structure of virus – classification of viruses, Life cycle bacteriophages - lytic and lysogenic cycle.</p>	10
II	<p>UNIT-II: Aquatic Microbiology: Microflora of aquatic environment, Different culture techniques. Nutrition and growth of bacteria – different types of media for isolation of bacteria and fungi. Isolation, enumeration, preservation and maintenance of cultures. Routine tests for identification of bacteria – morphological, cultural biochemical and serological. Basics of mycological and virology techniques</p>	15
III	<p>UNIT-III: Fish Microbiology: Perish ability of seafood – Fish as an excellent medium for growth of microorganisms. Spoilage microflora of fish and shellfish. Intrinsic and extrinsic factors affecting spoilage.</p>	10
IV	<p>UNIT-IV:Fishery By-Products: Fish meal, fish protein concentrate, shark fin rays, fish maws, isinglass, fish liver oil, fish body oil, fish hydrolysates, chitin, chitosan, glucosamine hydrochloride, squalene, pearl essence, ambergris, gelatin, beche-de-mer, fish silage, fish ensilage and seaweed products like agar, alginic acid and carrageen.</p>	15
V	<p>UNIT-V: Value Added Products. Value addition in sea food. Different types of value added products from fish and shell fishes – status of value addition in Indian seafood sector. Advantages of value addition. Fish mince and Surimi. Analog and fabricated products. Preparation of coated fishery products. Different types of batter and breading and its applications. Preparation of products viz. fish / prawn pickle, fish wafers, prawn chutneypowder, fish soup powder, fish protein hydrolysate, fish stacks, fillets, fish curry, mussel products, marinated products.</p>	10

A.G. & S.G.Siddhartha Degree College of Arts & Science, Vuyyuru – 521165,
Krishna Dt. A.P. (Autonomous)

Semester –VI

w.e.f. 2021-2022

Time: 3hrs

Model question paper

Title of the paper: **Fishery Microbiology and Fishery by-products**

Code – **AQU-603C**

Max.marks: 70

Section – A

Answer any **four** questions. Each question carries **five** marks. **4 x 5= 20.**

Draw neat labeled diagrams wherever necessary.

1. General characteristics of bacteria
2. Plasma membrane
3. Isolation
4. Spoilage microflora of fish
5. Carrageen
6. Isinglass
7. Advantages of value addition.
8. Mussel products

Section – B

Answer any **five** questions. Each question carries **Ten** marks. **5 x 10 =50**

Draw neat labeled diagrams wherever necessary.

9. Describe the Ultra structure of prokaryotic cell?
10. Life cycle of bacteriophages?
11. Different types of media for isolation of bacteria and fungi?
12. Write an essay on preservation and maintenance of cultures.?
13. Intrinsic and extrinsic factors affecting spoilage?
14. Describe the Fishery By-Products?
15. Explain about Value addition in sea food.
16. Different types of batter and breading and its applications?

SEMESTER-VI

Time: 3 hrs

Guide lines to the paper setter

Paper Title: Fishery Microbiology and Fishery by-products.

Paper Code: AQU-603C

Max.Marks:70

Note:

1. Answer **any four** questions out of eight in Part-A. Each question carries five marks. $4 \times 5 = 20M$.
2. Answer any **five** questions out of eight in Part-B. Each question carries 10 marks. $5 \times 10 = 50M$.

	PART	Unit –I	Unit – II	Unit-III	Unit – IV	Unit – V
5 Marks Questions	A	2	2	1	2	1
10 Marks Questions	B	2	2	1	1	2
Weightage		30	30	15	20	25

- Note:**
1. Please provide the scheme of valuation for the paper.
 2. Question paper should be both in English and Telugu media.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165,
KRISHNA Dt.,A.P. (AUTONOMOUS)

AQUACULTURE
PRACTICAL -VI

w.e.f. 2021-2022.
MAX.MARKS : 50.
(2hrs/week)

Code :AQU- 603P

PRACTICAL SYLLABUS

Practical II Title: Fishery Microbiology and Quality Control

Experiments/Activities

1. Sterilization technique- dry heating, autoclaving
2. Media preparation
3. Isolation and maintenance of bacteria from fishes and water.
4. Gram staining of bacteria
- 5.Enumeration of bacteria by TPC method
6. Enumeration of total coli forms.
7. Evaluation of fish / fishery products for organoleptic, chemical and microbial quality

Collection:

1. Collection of fishery by-products.

Text Books:

1. Pelzar, Reid & Chan – Microbiology
2. Prescott, Harley & Klein – Microbiology
3. Adeloger, Ingra & Wheates – Introduction to Microbial World
4. Windsor and Barlow. Introduction to Fishery Byproducts.
5. CIFT. Proceedings on Summer Institute on Non-traditional Diversified Fish Products &Byproducts.
6. Anon. Productivity in Aquatic Bodies.
7. Chincheste,C.O. and Graham,H.D. Microbial Safety of Fishery Products.
8. Amerine,M.A. and Pangborm,R.M. Principles of Sensory Evaluation of Foods.
9. Connell,J.J. Control of Fish Quality
10. Bigh,E.G. Seafood Science and Technology
11. Gopakumar.K Tropical Fishery Products

Reference Books

1. Kreuzer,R. Fishery Products.
2. Borgstrom,G .Fish as Food
3. Suzuki,T. Fish and Krill Protein: Processing Technology

A.G& S. G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU -
521165, KRISHNA Dt., A.P. (AUTONOMOUS)

Practical – VI

Paper Code: AQU-603P

Max. Marks: 25 Model Question Paper (External)

1. Write notes on autoclaving. 5M
 2. Write notes on Media preparation any two. 2x2¹/₂=5M
 3. Gram staining of bacteria 5M
 4. Enumeration of bacteria by TPC method 5M
 5. Enumeration of total coli forms. 5M
- Total-----25m

**A. G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE,
VUYYURU-521165**

INTERNAL PRACTICAL- VI

(2 hrs/week).

. Code: AQU-603P.

MODEL QUESTION PAPER

Max.marks:25M.

Time: 3hrs

1. Attendance ----- 05M.
2. Record -----10M.
3. Field note book. ----- 10M

Total ----- 25M.

**DUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA
DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt., A.P.
(AUTONOMOUS).**

NAAC reaccredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **Quality Control in Processing Plants**

Course Code	AQU-604C	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-2022	Year of Offering 2021-2022	Year of Revision –	Percentage of Revision:

Objective of the course: The students understand Quality control in processing plants.

Course outcomes:

CO1: Explain the application of fish quality and quality standards.

CO2: To understand the different types of water treatments

CO3: Examine the chemical and microbiological quality of fish and fish products.

CO4: To gain the knowledge on different types of processing plants.

CO5: Review of legislative approaches for the management of food safety

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	UNIT- I: Quality management, total quality concept and application in fish trade. Quality assessment of fish and fishery products - physical, chemical, organoleptic and microbiological. Quality standards. Quality Assurance. Inspection and quality assurance.	10
II	UNIT-II: Fish inspection in India, process; water quality in fishery industry, product quality, water analysis, treatments, chlorination, ozonisation, UV radiation, reverse osmosis, techniques to remove pesticides and heavy metals.	10
III	UNIT-III Sensory evaluation of fish and fish products, basic aspects, different methods of evaluation, taste panel selection & constitution, statistical analysis. Quality problem in fishery products: good manufacturing practices. HACCP and ISO 9000 series of quality assurance system, validation and audit. national and international standards, EU regulation for fish export trade,	15
IV	UNIT-IV: IDP and SAT formations in certification of export worthiness of fish processing units, regulations for fishing vessels pre-processing and processing plants, EU regulations. Factory sanitation and hygiene: National and international requirements, SSOP.	10
V	UNIT-V: Hazards in sea foods: Sea food toxins, biogenic amines, heavy metals and industrial pollutants. Infection and immunity, Microbial food poisoning, bacteria of public health significance in fish /fishery products / environments - Salmonella, Clostridia, Staphylococcus, E. coli, Streptococcus, Vibrio, Aeromonas, Listeria, Yersinia, Bacillus. Laboratory techniques for detection and identification of food poisoning bacteria. Mycotoxins in cured fish, bacterial associated with fish disease.	15

Semester –VI
Time: 3hrs

w.e.f. 2021-2022

Model question paper

Title of the paper: **Quality Control in Processing Plants**

Code – **AQU-604C**

Max.marks: 70

Section – A

Answer any **four** questions. Each question carries **five** marks. **4 x 5= 20.**

Draw neat labeled diagrams wherever necessary.

1. Quality standards
2. UV radiation
3. Chlorination,
4. Different methods of evaluation
5. Validation and audit
6. SSOP
7. Mycotoxins in cured fish.
8. Salmonella.

Section – B

Answer any **five** questions. Each question carries **Ten** marks. **5 x 10 =50**

Draw neat labeled diagrams wherever necessary.

9. Describe the total quality concept and application in fish trade?
10. Write an essay on Quality Assurance?
11. Discuss about the techniques to remove pesticides and heavy metals.?
12. Write an essay on Hazard Analysis Critical Control Point (HACCP)?.
13. Explain about good manufacturing practices.?
14. Describe the Factory sanitation and hygiene?
15. Explain about the Microbial food poisoning?
16. Laboratory techniques for detection and identification of food poisoning bacteria?

A.G& S.G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU 521165, KRISHNA Dt.,
A.P. (AUTONOMOUS)

SEMESTER-VI

Time: 3 hrs

Guide lines to the paper setter

Paper Title:- Quality Control in Processing Plants

Paper Code: AQU-604C

Max.Marks:70

1. Answer **any four** questions out of eight in Part-A. Each question carries five marks. 4X 5 = 20M
2. Answer any **five** questions out of eight in Part-B. Each question carries 10 marks. 5 X 10 =50M

	PAR T	Unit –I	Unit – II	Unit-III	Unit – IV	Unit – V
5 Marks Questions	A	1	2	2	1	2
10 Marks Questions	B	2	1	2	1	2
Weightage		25	20	30	15	30

- Note:**
1. Please provide the scheme of valuation for the paper.
 2. Question paper should be both in English and Telugu media.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU-
521165, KRISHNA Dt.,A.P. (AUTONOMOUS)

AQUACULTURE

PRACTICAL - X

w.e.f. 2021-2022

Code :AQU- 604P

MAX.MARKS : 50.

(2hrs/week)

PRACTICAL SYLLABUS

Practical III – PROJECT WORK

Reference Books

1. Ellis Harward. 18 Felix S, Riji John K, Prince Jeyaseelan MJ & Sundararaj V. 2001
Bacterial Fish Pathogens (Diseases in Farm and Wild)
2. Fish Disease Diagnosis and Health Management. Fisheries College and Research
Institute, T.N. Veterinary and Animal Sciences University. Thoothukkudi. Inglis V,
Roberts RJ & Bromage NR. 1993

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF BOTANY

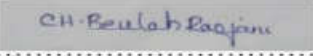

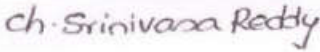
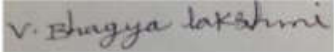
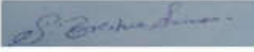


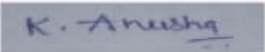
MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

04-04-2021

Minutes of the meeting of Board of studies in Botany for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 10:30 A.M on 04-04-2022 in the Department of Botany through online.

Members Present:-

- 1) Chairman
(Smt. CH. Beulah Ranjani) Head, Department of Botany
A. G & S.G S Degree College of
Arts & Science Vuyyuru- 521165.
- 2) University
(Sri. Dr. K. Ramesh) Nominee Department of Botany &
Head (I/c) Botany,
The Hindu College, Guntur .
- 3) Academic
(Sri. Dr. Ch. Srinivasa Reddy) Council Nominee Lecture in Botany,
SRR& CVR Govt. Degree College
Vijayawada, 520004
- 4) Academic
(Smt. V. Bhagya Lakshmi) Council Nominee Head, Department of Botany
SDMSK, Vijayawada,
- 4) Industrialist. Natural farming.
(Sri. S. Krishna Suman) yakamuru
Vuyyuru, Krishna d.t
- 5) Member
(Sri. N. Ramana Rao) Ad hoc Lecturer in Botany
AG & SGS Degree College of
Arts & Science (Autonomous),
Vuyyuru-521165.
- 6) Member
(Ms. G. Rebecca Rachel) Ad hoc Lecturer in Botany
AG & SGS Degree College of Arts &
Science (Autonomous), Vuyyuru-521165.
- 7) student representative
(Ms K. Anusha MSc) Lecturer in chaitanya
Gudiwada

Agenda for B.O.S Meeting.

1. To recommend the syllabi (Theory & Practical), Model question paper for II Semester of I B.Sc (A.B.C) for the academic year 2021-2022.
2. To recommend the syllabi (Theory & Practical), Model question paper for IV Semester of II B.Sc (A.B.C) for the academic year 2021-2022.
3. To recommend the syllabi (Theory & Practical), Model question paper for VI Semester of III B.Sc (A.B.C) for the academic year 2021-2022.
4. To recommend the syllabi (Theory & Practical), Model question paper and Blue print of II, IV & VI semester of I, II, III B.Sc (A.B.C.) for the academic year 2021-2022.
5. To recommend the teaching and evolution methods to be followed under Autonomous status.
6. Any other matter.

Dr. Beulah Panjara
Chairman.

RESOLUTIONS

1. It is resolved to continue the same syllabi (Theory & Practical), model question paper & guide lines to be followed by the question paper setters of Botany of II semester of I B.Sc. (B.Z.C) under Choice Based Credit System (CBCS) approved by the Academic Council of 2021 – 2022.
2. It is resolved to implement the syllabi (Theory & Practical), model question paper & guide lines to be followed by the question papers under Choice Based Credit System (CBCS) setters of Botany of IV Semester of II B.Sc. (B.Z.C) approved by the Academic Council of 2021 –2022.
3. It is resolved to implement the same syllabi & model papers under Choice Based Credit System (CBCS) Setters of Botany of VI semester of III B.Sc. (B.Z.C) approved by the Academic Council of 2021-2022.
4. It is resolved to Continue the same Blue prints of I,IV, &VI Semesters of B.Sc Botany for the Academic year 2021-2022.
5. It is resolved to continue the following teaching & evolution methods for the Academic year 2021-22.
6. Any other matter.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of OHP and LCD projector to display on U boards etc; for better understanding of concepts.

Evaluation of a student is done by the following procedure:

• Internal Assessment Examination:

- Out of maximum 100 marks in each paper for II, III B.Sc, 30 marks shall be allocated for internal assessment.
- Out of these 30 marks, 20 marks are allocated for announced tests (i.e . IA-1& IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5 marks are allocated on the basis of candidate's percentage of attendance and remaining 5 marks are allocated for the assignment for II, III B.SC.
- Out of maximum 100 marks in each paper for II B.Sc, 25 marks shall be allocated for internal assessment.
- Out of these 25 marks, 15 marks are allocated for announced tests (i.e. IA-1& IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5 marks allocated on the basis of candidate's percentage of attendance / assignment for II semester.
- There is no pass minimum for internal assessment for I, II, III B.Sc

• Semester – End Examination:

- The maximum mark for II (BZC) semester – End examination shall be 75 marks and duration of the examination shall be 3 hours.
- The maximum mark for II, III B.Sc semester- End examination shall be 70 marks and duration of the examination shall be 3 hours. Even through the candidate is absent for two IA exams / obtain zero marks the external marks are considered (if the candidate gets 40/70) and the result shall be declared as "PASS"
- Semester – End examination shall be conducted in theory papers at the end of every semester, while in practical papers, these examinations are conducted at the end of I, IV, & VI semester for I, II & III B.Sc.
- Discussed and recommended for organizing Seminars, Guest lectures, Work – Shops to upgrade the Knowledge of students, for the approval of the Academic Council.

Course Structure of BZC, AQUA Syllabus

year	semester	Paper code	Title of the paper	Marks(100)		Credits
				Internal assessment	semester	
I	II	BOTT2IA	Basics of Vascular plants and Phytogeography	25	75	4
			Practical-I	10	40	2
	II	BOT-PNT	Plant nursery management	40	10	2
II	IV	BOT-401	Plant Physiology and Metabolism	30	70	3
			Practical- 401	25	25	2
II	IV	BOT-402	Cell Biology, Genetics and Plant Breeding.	30	70	3
			Practical – 402	25	25	2
III	VI	BOT-601	Plant Tissue Culture and its Biotechnological Applications(G.E)	30	70	3
			Practical-v- 601	15	35	2
III	VI	BOT-602	Plant Diversity and Human welfare (C.E)	30	70	3
			Practical-v- 602	20	30	2
	VI	BOT-603	Ethnobotany and Medicinal Botany(C.E)	30	70	3
			Practical-v- 603	20	30	2
	VI	BOT-604	Pharmacognosy and Phytochemistry(C.E)	30	70	3
			Practical-v- 604	20	30	2

A.G. & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru- 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: Basics of Vascular plants and Phyto geography

(Pteridophytes, Gymnosperms, Taxonomy of Angiosperms and Phyto geography)

Semester : II

Course Code	BOTT21A	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: -	Percentage of Revision: -

Course Prerequisites: Knowledge of Pteridophytes, Gymnosperms, Taxonomy of Angiosperms and Phyto geography studied in intermediate.

Course Description:

This course will provide one with a basic and comprehensive understanding of anatomical structure and functions. Enable the student with depth of topics and helps them to gain an appreciation in the embryology of Angiosperms. On the other hand, importance of understanding plant ecology and biodiversity provides an extensive knowledge to the student.

Course Objectives:

1. The study of Pteridophytes
2. The study of Gymnosperms
3. Knowledge of Basic aspects of Taxonomy
4. Study of Systematic Taxonomy
5. Knowledge of Phyto geography

Course Outcomes: At the end of this course, students should be able to:

CO1: Gain knowledge in the classification and comparison of Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction and life cycle.

CO2: Justify evolutionary trends in Tracheophytes to adapt for land habitat. Evaluate the ecological, ethnic and economic value of different tracheophytes and summarize their good and services for human welfare

CO3: Explanation of the process of fossilization and compare the characteristics of extinct and extant plants.

CO4: Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families.

CO5: Locate different Phyto geographical regions of the world and India and can analyze their floristic wealth.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	<p>Pteridophytes General characteristics of Pteridophyta; classification of Smith (1955) upto divisions. Occurrence, morphology, anatomy, reproduction (developmental details are not needed) and life history of (a) <i>Lycopodium</i> (Lycopsida) and (b) <i>Marsilea</i> (Filicopsida). Stelar evolution in Pteridophytes Heterospory and seed habit.</p>	12
II	<p>Gymnosperms General characteristics of Gymnosperms; Sporne classification upto classes. Occurrence, morphology, anatomy, reproduction (developmental details are not needed) and life history of (a) <i>Cycas</i> (Cycadopsida) and (b) <i>Gnetum</i> (Gnetopsida). Outlines of geological time scale. A brief account on Cycadeoidea</p>	12
III	<p>Basic aspects of Taxonomy Aim and scope of taxonomy; Species concept: Taxonomic hierarchy, species, genus and family. Plant nomenclature: Binomial system, ICBN –rules for nomenclature. Herbarium and its techniques, BSI herbarium and Kew herbarium; concept of digital herbaria. Bentham and Hooker system of classification Systematic description and economic importance of the following families:(a) Annonaceae (b) Curcubitaceae</p>	
IV	<p>Systematic Taxonomy Systematic description and economic importance of the following families: (a) Asteraceae (b) Asclepiadaceae (c) Amaranthaceae (d) Euphorbiaceae (e) Orchidaceae (f) Arecaceae (i) Poaceae Outlines of Angiosperm Phylogeny Group (APG IV).</p>	12
V	<p>Phytogeography Principles of Phytogeography, Distribution (wides, endemic, discontinuous species) Endemism – types and causes. Phytogeographic regions of World. Pytogeographic regions of India. Vegetation types in Andhra Pradesh</p>	12

Textbook:

1. Botany – I (Vrukshasastram-I): Telugu Akademi, Hyderabad
2. Botany – II (Vrukshasastram-II): Telugu Akademi, Hyderabad
3. Acharya, B.C., (2019) Archchegoniates, Kalyani Publishers, New Delhi.
4. Bhattacharya, K., G. Hait & Ghosh, A. K., (2011) A Text Book of Botany, Volume II, New Central Book Agency Pvt. Ltd., Kolkata
5. Hait, G., K. Bhattacharya & A.K. Ghosh (2011) A Text Book of Botany, Volume-I, New Central Book Agency Pvt. Ltd., Kolkata
6. Pandey, B.P. (2013) College Botany, Volume-I, S. Chand Publishing, New Delhi Pandey, B.P. (2013) College Botany, Volume-II, S. Chand Publishing, New Delhi

Recommended Reference book:

1. Smith, G.M. (1971) Cryptogamic Botany Vol. II., Tata McGraw Hill, New Delhi
 2. Sharma, O.P. (2012) Pteridophyta. Tata McGraw-Hill, New Delhi
 3. Kramer, K.U. & P. S. Green (1990) The Families and Genera of Vascular Plants, Volume –I: Pteridophytes and Gymnosperms (Ed. K. Kubitzki) .Springer-Verlag, New York
 6. Bhatnagar, S.P. & Alok Moitra (1996) Gymnosperms. New Age International, New Delhi Govil, C.M. (2007) Gymnosperms : Extinct and Extant. KRISHNA Prakashan Media (P) Ltd. Meerut & Delhi
 7. Sporne, K.R. (1971) The Morphology of Gymnosperms. Hutchinsons Co. Ltd., London
 8. Arnold, C.A., (1947) An introduction to Paleobotany McGraw –Hill Book Company, INC, New York
 9. Stewart, W.N., and G.W. Rothwell (2005) Paleobotany and the evolution of plants Cambridge University Press, New York Cambridge. London.
 10. Sambamurthy, A.V.S.S. (2005) Taxonomy of Angiosperms I. K. International Pvt. Ltd., New Delhi
 11. Singh, G. (2012). Plant Systematics: Theory and Practice. Oxford & IBH Pvt. Ltd., New Delhi.
 12. Simpson, M.G. (2006). Plant Systematics. Elsevier Academic Press, San Diego, CA, U.S.A.
 - Cain, S.A. (1944) Foundations of Plant Geography Harper & Brothers, N.Y.
 13. Mani, M.S (1974) Ecology & Biogeography of India Dr. W. Junk Publishers, The Hague
- Course Delivery method:** Face-to-face / Blended

Course has focus on: Foundation

Websites of Interest:

- <https://www.youtube.com/watch?v=VA2LNWkZNW0>
<https://www.youtube.com/watch?v=zDUCacewuAg>
<https://www.youtube.com/watch?v=sfFDOSM-EuA>
<https://www.youtube.com/watch?v=wKNox2weqW4>

Co-curricular Activities:

A. Measurable:

1. Collection and identification of Pteridophytes from their native locality/ making an album by collecting photographs of Pteridophytes.
2. Collection and identification of Gymnosperms from their native locality/making an album by collecting photographs of Gymnosperms.
3. Collection of information on famous herbaria in the world and preparation of a report.
4. Collection of information on famous botanic gardens in the world and preparation of a report.
5. Collection of data on plants of ethnic and ethnobotanical importance from their native locality.
6. Preparation of a local flora by enlisting the plants of their native place.

c. Assignments: Written assignment at home / during '0' hour at college;

Lycopodium-life cycle, Marselia-life cycle, Cycas-life cycle, Gnetum-life cycle, Bentham & Hooker classification, Stellar evolution in Pteridophytes, characteristics of Cycadeoidea, Asteraceae-taxonomy, Asclepiadaceae-taxonomy, Euphorbiaceae-taxonomy, Cucurbitaceae-taxonomy, Principles of phytogeography, Endemism types & causes, Phytogeographic regions of India.

preparation of charts with drawings, making models etc., on topics included in syllabus. Five kingdom classification, Miller & Urey experiment, Shape and Symmetry of viruses.

B. General:

1. Quiz

Model Question Paper Structure for SEE

Max.: 75 Marks

Min.Pass : 30 Marks

Section-A

Answer Any Five atleast one from each unit

5 x 5M = 25Marks

1. What is meant by heterospory? Justify the advantage of heterospory over homosporous.
CO1, L1.
2. Write about Protocorm and its morphological nature. CO1, L6.
3. Explain the characteristics of Cycadeoidea. CO2, L2.
4. Enumerate Geological time scale. CO2, L1.
5. Describe ICBN rules for nomenclature. CO3, L2.
6. Write a note on Angiosperms Phylogeny Group. CO4, L6.
7. Discuss about the Vegetation types in Andhra Pradesh. CO5, L2.
8. Explain the causes and types of Endemism. CO5, L2.

Section-B

Answer the following questions (5 x 10M = 50Marks)

9. (a) Describe diverse gametophytes present in the *Lycopodium* species. CO1, L2.
(Or) Unit I
(b) What is sporocarp? Describe the structure of *Marselia* Sporocarp. CO1, L2.
10. (a) Describe the anatomy of *Cycas* leaflet. Add a note on xerophytic features of it. CO2, L2.
(Or) Unit II
(b) Describe the structure of *Gnetum* male and female cones. CO2, L2.
11. (a) What is Natural System of Classification, Bentham and Hooker System of Classification? CO3, L1.
(Or) Unit III
(b) Describe vegetative and floral characters of Cucurbitaceae. Add a note on and economic Importance CO3, L1.
12. (a) Elucidate floral characters of Asteraceae. CO4, L1.
(Or) Unit IV
(b) Describe floral characters of Poaceae. Add a note on economic importance CO4, L1.
13. (a) What is Phytogeography? Explain principles of Phytogeography. CO5, L2.
(Or) Unit V
(b) Explain about Phytogeographic region of India. CO5, L1.

A.G. & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **Basics of Vascular plants and Phytogeography**

(Pteridophytes, Gymnosperms, Taxonomy of Angiosperms and Phytogeography)

Total Number of Lecture Hours: 30

SEMESTER - II	BOTT21A	2021-22	B.Sc, B.Z.C,A.B.C
----------------------	----------------	----------------	--------------------------

Course Prerequisites: Knowledge of Pteridophytes, Gymnosperms, Taxonomy of Angiosperms and Phytogeography studied in intermediate.

Course Description:

This course will provide one with a basic and comprehensive understanding of anatomical structure and functions. Enable the student with depth of topics and helps them to gain an appreciation in the embryology of Angiosperms. On the other hand, importance of understanding plant ecology and biodiversity provides an extensive knowledge to the student.

Course Objectives

1. The study of Pteridophytes
2. The study of Gymnosperms
3. Knowledge of Basic aspects of Taxonomy
4. Study of Systematic Taxonomy
5. Knowledge of Phytogeography

Course Outcomes: At the end of this course, students should be able to:

CO1: Demonstrate the techniques of section cutting, preparing slides, identifying of the material and drawing exact figures.

CO2: Compare and contrast the morphological, anatomical and reproductive features of vascular plants.

CO3: Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.

CO4: Exhibit skills of preparing slides, identifying the given twigs in the lab and drawing figures of plant twigs, flowers and floral diagrams as they are.

CO5: Prepare and preserve specimens of local wild plants using herbarium techniques.

Syllabus

1. Study/ microscopic observation of vegetative, sectional/anatomical and Reproductive structures of the following using temporary or permanent slides/ specimens/ mounts:
 - a. Pteridophyta: *Lycopodium* and *Marselia*
 - b. Gymnosperms: *Cycas* and *Gnetum*
2. Study of fossil specimens of Cycadeoidea and Pentoxylon (photographs /diagramscan be shown if specimens are not available).
3. Demonstration of herbarium techniques.
4. Systematic / taxonomic study of locally available plants belonging to the families prescribed in theory syllabus. (Submission of 30 number of Herbarium sheets of wildplants with the standard system is mandatory).
5. Mapping of phytogeographical regions of the globe and India.

Textbook:

1. A text book of Practical Botany-I Ashok Bendra and Ashok kumar
2. Practical manual of College Botany I and II- B.S..Reddy and S.M.Reddy

Course Delivery method: Face-to-face / Blended.**Course has focus on:**

Skill Development **Websites of**

Interest:

<https://youtu.be/RJsOOhws5gI>

<https://youtu.be/9xtB1G4kISQ>

<https://youtu.be/2wFN9YmkBOQ>

Model Question Paper Structure for SEE

Time: 3hrs.

Max. Marks 40M

1. Take T.S. of the material 'A' (Pteridophyta), make a temporary slide and justify the identification with apt points.....**8M**
2. Take T.S. of the material 'B' (Gymnosperms), make a temporary slide and justify the identification with apt points.....**8M**
3. Describe the vegetative and floral characters of the material 'C' (Taxonomy of Angiosperms) and derive its systematic position.....**8M**
4. Identify the specimen 'D' (Fossil Gymnosperm) and give specific reasons.....**3M**

1. Locate the specified phytogeographical regions the world / India (E) map supplied to you

2X2=4 M

2. Record + Herbarium & amp; Field note book **5+4 = 9M**

A.G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **Plant Physiology and Metabolism**

Semester: IV

Course Code	BOT - 401	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2021-22	Year of Offering: 2021 - 22	Year of Revision: --	Percentage of Revision: -

Learning Objectives:

- On successful completion of this course, the students will be able to;
- Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.
- Evaluate the role of minerals in plant nutrition and their deficiency symptoms.
- Interpret the role of enzymes in plant metabolism.
- Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.
- Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.
- Evaluate the physiological factors that regulate growth and development in plants.
- Examine the role of light on flowering and explain physiology of plants under stress conditions

THEORY: Learning outcomes:

- On _____
successful completion of this course, the students will be able to;
Understand on the organization of tissues and tissue systems in plants.
- Illustrate and interpret various aspects of embryology.
- Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities.
- Appraise various qualitative and quantitative parameters to study the population and community ecology.
- Correlate the importance of biodiversity and consequences due to its loss.
- Enlist the endemic/ endangered flora and fauna from two biodiversity hot spots in India and assess strategies for their conservation.

SYLLABUS

Unit – 1	<p>Plant - water relations 10HRS</p> <p>Importance of water to plant life, physical properties of water, diffusion, Imbibition, Osmosis. Water potential, osmotic potential, pressure potential.</p> <p>Absorption and lateral transport of water; Ascent of sap</p> <p>Transpiration: stomata structure and mechanism of stomatal movements (K^+ ion flux).</p> <p>Mechanism of phloem transport; source-sink relationships.</p>
Unit – 2	<p>Mineral nutrition, Enzymes and Respiration 14 HRS</p> <p>Essential macro and micro mineral nutrients and their role in plants; symptoms of mineral deficiency.</p> <p>Absorption of mineral ions; passive and active processes.</p> <p>Characteristics, nomenclature and classification of Enzymes. Mechanism of enzyme action, enzyme kinetics.</p> <p>Respiration: Aerobic and Anaerobic; Glycolysis, Krebs cycle; electron transport system, mechanism of oxidative phosphorylation, Pentose Phosphate Pathway (HMP shunt).</p>
Unit – 3	<p>Photosynthesis and Photorespiration 12 HRS</p> <p>Photosynthesis: Photosynthetic pigments, absorption and action spectra; Red drop and Emerson enhancement effect</p> <p>Concept of two photosystems; mechanism of photosynthetic electron transport and evolution of oxygen; photophosphorylation</p> <p>Carbon assimilation pathways (C_3, C_4 and CAM); Photorespiration - C_2 pathway</p>
Unit – 4	<p>Nitrogen and lipid metabolism 12 HRS</p> <p>Nitrogen metabolism: Biological nitrogen fixation – asymbiotic and symbiotic nitrogen fixing organisms. Nitrogenase enzyme system.</p> <p>Lipid metabolism: Classification of Plant lipids, saturated and unsaturated fatty acids.</p> <p>Anabolism of triglycerides, β-oxidation of fatty acids, Glyoxylate cycle.</p>
Unit – 5	<p>Plant growth – development and stress physiology 12 HRS</p> <p>Growth and Development: Definition, phases and kinetics of growth.</p> <p>Physiological effects of Plant Growth Regulators (PGRs) - auxins, gibberellins, cytokinins, ABA, ethylene and brassinosteroids.</p> <p>Physiology of flowering: Photoperiodism, role of phytochrome in flowering.</p> <p>Seed germination and senescence; physiological changes.</p>

Text books:

- Botany – IV (Vrukshasastram-II) : Telugu Akademi, Hyderabad
- Pandey, B.P. (2013) *College Botany, Volume-III*, S. Chand Publishing, New Delhi
- Ghosh, A. K., K. Bhattacharya & G. Hait (2011) *A Text Book of Botany, Volume- III*, New Central Book Agency Pvt. Ltd., Kolkata

Books for Reference:

- Aravind Kumar & S.S. Purohit (1998) *Plant Physiology – Fundamentals and Applications*, AgroBotanica, Bikaner
- Datta, S.C. (2007) *Plant Physiology*, New Age International (P) Ltd., Publishers, New Delhi
- Hans Mohr & P. Schopfer (2006) *Plant Physiology*, Springer (India) Pvt. Ltd., New Delhi
- Hans-Walter heldt (2005) *Plant Biochemistry*, Academic Press, U.S.A.
- Hopkins, W.G. & N.P.A. Huner (2014) *Introduction to Plant Physiology*, Wiley India Pvt. Ltd., New Delhi
- Noggle Ray & J. Fritz (2013) *Introductory Plant Physiology*, Prentice Hall (India), New Delhi
- Pandey, S.M. & B.K. Sinha (2006) *Plant Physiology*, Vikas Publishing House, New Delhi
- Salisbury, Frank B. & Cleon W. Ross (2007) *Plant Physiology*, Thomsen & Wadsworth, Australia & U.S.A
- Sinha, R.K. (2014) *Modern Plant Physiology*, Narosa Publishing House, New Delhi
- Taiz, L. & E. Zeiger (2003) *Plant Physiology*, Panima Publishers, New Delhi
- Verma, V. (2007) *Text Book of Plant Physiology*, Ane Books India, New Delhi

A.G & S.G. Siddhartha Degree College of Arts & Science

An autonomous college in the jurisdiction of Krishna University

BOTANY	BOT- 401C	w.e.f. 2021-22	B. Sc. (BZC), AQUA
---------------	------------------	-----------------------	---------------------------

II B. Sc – BOTANY

Model Question Paper

SEMESTER- IV

PAPER-IV: Time: 3 Hours

Max. Marks: 70

SECTION-A

Answer any four of the following questions.

4x 5 = 20Marks

(Draw diagrams wherever necessary)

1. Types of Transpiration
2. Water potential.
3. Nitrogen.
4. Anaerobic respiration.
5. Emerson enhancement effect
6. Ethylene.
7. Photo periodism.
8. β -oxidation of fatty acids.

SECTION-B

Answer any five of the following questions.

5x10 = 50Marks

(Draw diagrams wherever necessary)

9. Write an essay on Ascent of sap.
10. Write an essay on the Translocation of organic substances in higher plants
11. Write an essay on the absorption of mineral ions.
12. Give an account on Krebs cycle?
13. Describe the carbon assimilation pathway in C4 plants.
14. Explain the non cyclic electron transport and evolution of oxygen?
15. Write an essay on various types of Lipids.
16. describe about physiological effects in Auxins and Gibberellins.

Guide lines for paper setter: (for Paper III – BOT- 401) w.e.f 2021-22

1. In **section A**: Unit III, IV must carry **one** question, Unit I,II & V must carry **two** questions.
2. In **section- B**: Set minimum **two** questions from Unit I, II, III . **One** question each from Unit IV and Unit V.
3. See the following table and Model paper for marks distribution.
4. Please provide the scheme of valuation for the paper.
5. Question paper should be both in English and Telugu media.

Unit	Section - A		Section - B		Weightage in
	Questions	Marks	Questions	Marks	Marks
Unit – I	2		2		
	10		20		30
Unit - II	2		2		
	10		20		30
Unit – III	1		2		
	05		20		25
Unit – IV	1		1		
	05		10		15
Unit – V	2		1		
	10		10		20
Max. Q & marks	8	(x 5) = 40	8	(x 10) = 80	(Total questions =16) Total marks = 120
Max. Q and marks for Valuation	Questions	Marks	Questions	Marks	Max. marks
	4	(4 X 5M) = 20 M	5	(5 X 10M)= 50 M	70M

INTERNAL EXAMS - 30Marks

(20 marks for unit tests, 5marks for Attendance 5 marks for seminars)

Practical Syllabus of Botany Core Course – 4 / Semester –

IV Plant Physiology and Metabolism

Course outcomes: On successful completion of this practical course, students shall be able to:

1. Conduct lab and field experiments pertaining to Plant Physiology, that is, biophysical and biochemical processes using related glassware, equipment, chemicals and plant material.
2. Estimate the quantities and qualitative expressions using experimental results and calculations
3. Demonstrate the factors responsible for growth and development in plants.

Practical Syllabus

1. Determination of osmotic potential of plant cell sap by plasmolytic method using *Rhoeo/ Tradescantia* leaves.
2. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.
3. Determination of rate of transpiration using Cobalt chloride method / Ganong's potometer (at least for a dicot and a monocot).
4. Effect of Temperature on membrane permeability by colorimetric method.
5. Study of mineral deficiency symptoms using plant material/photographs.
6. Demonstration of amylase enzyme activity and study the effect of substrate and Enzyme Concentration.
7. Separation of chloroplast pigments using paper chromatography technique.
8. Demonstration of Polyphenol oxidase enzyme activity (Potato tuber or Apple fruit)
9. Anatomy of C3, C4 and CAM leaves
10. Estimation of protein by biuret method/Lowry method
11. Minor experiments – Osmosis, Arc- auxonometer, ascent of sap through xylem, cytoplasmic streaming.

Model Question Paper for Practical Examination

Semester – IV/ Botany Core Course – 4

Plant Physiology and Metabolism

1. Conduct the experiment 'A' (Major experiment), write aim, principle, material and Apparatus/equipment, procedure, tabulates results and make conclusion..... 10 M
2. Demonstrate the experiment 'B' (Minor experiment), write the principle, procedure and give inference.....6 M
 1. Identify the following with apt reasons. 3 x 2 = 6 M
 - A. Plant water relations / Mineral nutrition
 - B. Plant metabolism
 - C. Plant growth and development
 2. Viva-voce = 3 M

Internals:

1. Record10M
2. Assignments.....05 M
3. Project work.....05 M
4. Internal practical exam.....05 M

A. Measurable :

Student seminars:

1. Anti transpirants and their significance in crop physiology and horticulture.
2. Natural chelating agents in plants.
3. Criteria of essentiality of elements and beneficial elements.
4. Hydroponics, aquaponics and aeroponics.
5. Mycorrhizal association and mineral nutrition in plants.
6. Non- proteinaceous enzymes.
7. Respiratory inhibitors.
8. Structure of ATPase and Chemiosmotic hypothesis.
9. Transpiration and photosynthesis – a compromise.
10. Amphibolic pathways and bypass pathways in plants.
11. Non-biological nitrogen fixation.
12. Role of Hydrogenase in nitrogen fixation.
13. Plant lectins – their role in plants and use in medicine and medical research.

A.G. & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Title of the Paper: **Cell Biology, Genetics and Plant Breeding****Semester: IV**

Course Code	BOT - 402	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2021-22	Year of Offering: 2021 - 22	Year of Revision: --	Percentage of Revision: --

Theory: Learning out comes:

- On successful completion of this course, the students will be able to:
- Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
- Explain the organization of a eukaryotic chromosome and the structure of genetic material.
- Demonstrate techniques to observe the cell and its components under a microscope.
- Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
- Elucidate the role of extra-chromosomal genetic material for inheritance of characters.
- Evaluate the structure, function and regulation of genetic material.
- Understand the application of principles and modern techniques in plant breeding.
- Explain the procedures of selection and hybridization for improvement of crops.

SYLLABUS

Unit – 1	The Cell: Cell theory; prokaryotic vs eukaryotic cell; animal vs plant cell; a brief account on ultra-structure of a plant cell.	12 Hrs.
-----------------	--	----------------

	<p>Ultra-structure of cell wall. Ultra-structure of plasma membrane and various theories on its organization. Polymorphic cell organelles (Plastids); ultra structure of chloroplast. Plastid DNA.</p>
Unit – 2	<p>Chromosomes: 11Hrs.</p> <p>Prokaryotic vs eukaryotic chromosome. Morphology of a eukaryotic chromosome. Euchromatin and Heterochromatin; Karyotype and ideogram. Brief account of chromosomal aberrations - structural and numerical changes Organization of DNA in a chromosome (nucleosome models).</p>
Unit – 3	<p>Mendelian and Non-Mendelian genetics 14Hrs.</p> <p>Mendel's laws of inheritance. Incomplete dominance and co-dominance; Multiple allelism. Complementary, supplementary and duplicate gene interactions (plant based examples are to be dealt). A brief account of linkage and crossing over; Chromosomal mapping - 2 point and 3 point test cross.</p>
Unit – 4	<p>Structure and functions of DNA 12 Hrs.</p> <p>Watson and Crick model of DNA. Brief account on DNA Replication (Semi- conservative method). Brief account on Transcription, types and functions of RNA. Gene concept and genetic code and Translation. Regulation of gene expression in prokaryotes - Lac Operon.</p>
Unit – 5	<p>Plant Breeding 12 Hrs.</p> <p>Plant Breeding and its scope; Genetic basis for plant breeding. Plant Introduction and acclimatization. Definition, procedure; applications and uses; advantages and limitations of : (a) Mass selection, (b) Pure line selection and (c) Clonal selection. Hybridization – schemes, and technique; Heterosis (hybrid vigor). A brief account on Molecular breeding – DNA markers in plant breeding. RAPD, RFLP.</p>

**B.Sc – BOTANY
SEMESTER -V. THEORY MODEL PAPER**

Time: 3 Hours

Max. Marks: 70

SECTION-A

Answer any FOUR of the following question
(Draw diagrams wherever necessary)

4x5=20M.

1. Cell Theory
2. karyotype.
3. Rho - factor
4. Back cross and test cross.
5. supplementary genes
6. t RNA
- 7 RFLP
8. Hybridization.

SECTION-B

Answer any FIVE of the following questions.

5x10= 50M.

(Draw diagrams wherever necessary)

9. Describe the Ultra structure and functions of cell membrane.
10. Describe the Ultra structure of cell wall.
11. Give brief account on of chromosomal aberrations.
12. Explain the Mendel's law of inheritance.
13. Define linkage. Describe the different types of Linkage.
14. Write about structure and replication of DNA.
15. Write an essay on mechanism and Regulation of gene Expression in Prokaryotes
16. Discuss about methods of Crop improvement.

Guide lines for paper setter: (for Paper V-BOT-402) W.e.f. 2021-22

1. In Section A: Unit I & II, must carry one question from each unit. Unit III ,IV & V
Must carry 2 questions.
2. In section-B: Set minimum Two questions from Unit I, III & IV One question from Unit II&V.
3. See the following table and Model paper.

4. Please provide the scheme of valuation for the paper.

5. Question paper should be both in English and Telugu media.

Unit	Section - A		Section - B		Weightage in
	Questions	Marks	Questions	Marks	Marks
Unit – I	1		2		
		5	20		25
Unit – II	1		1		
		05	10		15
Unit –III	2		2		
		10		20	30
Unit-IV	2		2		
		10		20	30
Unit-V	2		1		
		10		10	20
Max .Q & marks	8	(x 5) =40	8	(x 10) = 80	(Total questions =16) Marks 120
Max. Q and marks for Valuation	Questions	Marks	Questions	Marks	Max. marks
	4		5		
		(4 x 5) = 20		(5 x 10) = 50	70

INTERNAL EXAMS - 30Marks

(20 marks for unit tests, 5marks for Attendance 5 marks for seminars)

Practical Syllabus of Botany Core Course –5/IVSemester

Cell Biology, Genetics and Plant Breeding

(Total hours of laboratory exercises 30 Hrs. @ 02 Hrs. /Week)

Course Outcomes:

- After successful completion of this practical course the student shall be able to:

- Show the understanding of techniques of demonstrating Mitosis and Meiosis in the laboratory and identify different stages of cell division.
- Identify and explain with diagram the cellular parts of a cell from a model or picture and prepare models
- Solve the problems related to crosses and gene interactions.
- Demonstrate plant breeding techniques such as emasculation and bagging

Practical Syllabus:

1. Study of ultra structure of plant cell and its organelles using Electron microscopic Photographs/models.
2. Demonstration of Mitosis in *Allium cepa*/*Aloe vera* roots using squash technique; observation of various stages of mitosis in permanent slides.
3. Demonstration of Meiosis in P.M.C.s of *Allium cepa* flower buds using squash technique; observation of various stages of meiosis in permanent slides.
4. Study of structure of DNA and RNA molecules using models.
5. Solving problems monohybrid, dihybrid, back and test crosses.
6. Solving problems on gene interactions (at least one problem for each of the gene interactions in the syllabus).
7. Chromosome mapping using 3- point test cross data.
8. Demonstration of emasculation, bagging, artificial pollination techniques for hybridization.

Model paper for Practical Examination

Semester-IV / Botany Core Course – 5

Cell Biology, Genetics and Plant Breeding

Max. Time: 3 Hrs.

Max. Marks: 50

1. Make a cytological preparation of given material 'A' (mitosis or meiosis in Onion) by squash technique, report any two stages, draw labeled diagrams and write the reasons. 10 M
2. Solve the given Genetic problem (Dihybrid cross/ Interaction of genes/ 3-point test cross) 'B' and write the conclusions. 7 M
3. Identify the following and justify with apt reasons. 3 x 2 = 06M
 - B. Cell Biology (Cell organelle)
 - C. Genetics (DNA/RNA)
 - D. Plant Breeding
4. Viva-voce = 2 M

Internals:

1. Record10M
2. Assignments.....05 M
3. Project work.....05 M
4. Internal practical exam.....05 M

Suggested co-curricular activities for Botany Core Course- 5 in Semester-IV:

A. Measurable :

a. Student seminars :

1. Light microscopy : bright field and dark field microscopy.
2. Scanning Electron Microscopy (SEM).

3. Transmission Electron Microscopy (TEM).
4. Mitosis and Meiosis
5. Cell cycle and its regulation.
6. Cell organelles bounded by single membrane.
7. Prokaryotic chromosomes
8. Special types of chromosomes : Polytene, Lampbrush and B-chromosomes.
9. Different forms of DNA.
10. Gene mutations.
11. DNA damage and repair mechanisms.
12. Reverse transcription.
13. Protein structure.
14. Modes of reproduction in plants.
15. Modes of pollination in plants

b. Student Study Projects :

1. Study of mitotic cell cycle in roots of *Allium cepa*
2. Study of mitotic cell cycle in roots of *Aloe vera*
3. Observation of chromosomal aberrations in *Allium cepa* root cells exposed to industrial effluent(s).
4. Observation of chromosomal aberrations in *Allium cepa* root cells exposed to heavy metal(s).
5. Observation of polyembryony in *Citrus* spp. and *Mangifera indica*.

c. Assignments: Written assignment at home / during 'O' hour at college; preparation of charts with drawings, making models etc., on topics included in syllabus.

B. General :

1. Field visit to Agriculture/Horticulture University/ Research station to observe Plant breeding methods.
2. Group Discussion (GD)/ Quiz/ Just A Minute (JAM) on different modules in syllabus of the course.

RECOMMENDED ASSESSMENT OF STUDENTS:

Recommended continuous assessment methods for all courses:

Some of the following suggested assessment methodologies could be adopted. Formal assessment for awarding marks for Internal Assessment in theory.

(a) Formal:

1. The oral and written examinations (Scheduled and surprise tests),
2. Simple, medium and Critical Assignments and Problem-solving exercises,
3. Practical assignments and laboratory reports,
4. Assessment of practical skills,
5. Individual and group project reports,
6. Seminar presentations,
7. Viva voce interviews.

(b) Informal:

1. Computerized adaptive testing, literature surveys and evaluations,
2. Peers and self-assessment, outputs form individual and collaborative work
3. Closed-book and open-book tests,

A.G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Course Code	BOT - 601	Course Delivery Method	Class Room / Blended Mode - Both
-------------	------------------	------------------------	-------------------------------------

Hours			
Year of Introduction :2017-18	Year of Offering: 2019- 20	Year of Revision: -	Percentage of Revision: --

Title of the Paper: **Plant tissue culture and its Biotechnological applications**

Semester: **VI**

Course Description:

This course will provide one with a basic and comprehensive understanding of plant tissue culture. Enable the student with depth of topics and helps them to gain an appreciation in the tissue culture techniques. On the other hand, importance of understanding biotechnological applications provides an extensive knowledge to the student.

Course Objectives

1. To study methods of sterilization
2. To study medium preparation
3. To study tissue culturing techniques (endosperm, embryo)
4. To study research techniques, including methods of molecular biology, Genetic engineering.

Course Outcomes: At the end of this course, students should be able to: CO 1 : Analyze the basic principles of plant tissue culture CO2: Explain the, various culturing techniques.

CO3: Demonstrate recombinant DNA technology.

CO4: Discuss the methods of gene transfer.

CO5: Understand the applications of plant genetic engineering.

CO6: Elucidate the selection of transgenics.

SYLLABUS

Unit – 1	<p>PLANT TISSUE CULTURE – 1 (12hrs) History of plant tissue culture research - basic principles of plant tissue callus culture, Meristem culture, organ culture, Totipotency of cells. Sterilization procedures, culture media composition and preparations of explants. Murashige and Skoog's (MS medium), Cell and protoplast culture. Somatic Hybrids and Cybrids (out lines), Artificial Seeds, Somaclonal variations. Applications of Tissue culture (Brief account).</p>
Unit – 2	<p>Plant Tissue culture -2 (12hrs) Endosperm culture – Embryo culture -culture requirements – applications, embryo rescue technique. Cryopreservation; Germ plasm conservation.</p>

Unit – 3	R Recombinant DNA technology (12hrs) 1. r-DNA technology: Steps in r-DNA technology and tools 2. Cloning Vectors: Prokaryotic (pBR322, Ti plasmid and Lambda phage, Eukaryotic Vectors (YAC and briefly PAC) 3. Gene cloning (Bacterial Transformation and selection of recombinant clones, PCR Mediated gene cloning)
Unit – 4	Methods of gene transfer (12hrs) Methods of gene transfer- Agrobacterium-mediated, direct gene transfer By Electroporation, Microinjection, Micro projectile bombardment. 2. Selection of transgenics – selectable marker and reporter genes (Luciferase, GUS, GFP).
Unit – 5	Applications of Biotechnology (12 hrs) Applications of Plant Genetic Engineering – crop improvement, herbicide resistance, insect resistance, virus resistance. Genetic modification – transgenic plants for pest resistant (Bt-cotton); herbicide resistance (Round Up Ready soybean); improved agronomic traits flavrSavr tomato, Golden rice.

III B. Sc – BOTANY Model paper (2021-2022)

Plant tissue culture and its Biotechnological applications

SEMESTER- VI

ELECTIVE-C

PAPER – VII

Time: 3 Hours

Paper code: BOT-VII C

Max. Marks: 70

SECTION-A

Answer any FOUR of the following question
(Draw diagrams wherever necessary)

4x5=20M.

1. Organ culture.
2. Somatic hybrids.
3. Cryopreservation.

4. Application of tissue culture.
5. Restriction Endonuclease.
6. Bacterial transformation.
7. GUS.
8. Bt-Cotton.

SECTION-B

Answer any Five of the following questions.

5 x 10= 50M.

(Draw diagrams wherever necessary)

9. Describe the composition and preparation of different culture media.
10. Explain the callus sub-culture and their growth and measurement.
11. Give an account on secondary metabolites.
12. Write notes on endosperm culture and their applications.
13. Explain the PCR mediated gene cloning.
14. Explain the various types of cloning vectors.
15. Write about methods of gene transfer techniques.
16. Write an essay on application of Biotechnology in the field of medicine and industry.

Guide lines for paper setter: (for Paper VII -BOT-601) W.e.f. 2021-22.

1. In Section A: Unit I,III, IV must carry Two question from each unit. Unit II, V must carry one question.
2. In section-B: Set minimum two questions from Unit I, II, III and Set One Question from IV, V.
3. See the following table and Model paper.
4. Please provide the scheme of valuation for the paper.
5. Question paper should be both in English and Telugu media.

Unit	Section – A		Section - B		Weightage in Marks
	Questions	Marks	Questions	Marks	

Unit – I	2	2			
	10	20	30		
Unit – II	1	2			
	5	20	25		
Unit – III	2	2			
	10	20	30		
Unit-IV	2	1			
	10	10	20		
Unit-V	1	1			
	5	10	15		
Max. Q & marks	8 (x 5) = 40	8 (x 10) = 80	(Total questions = 16) Marks 120		
Max. Q and marks for Valuation	Questions	Marks	Questions	Marks	Max. marks
	5		5		
	(4 x 5) = 20		(5 x 10) = 50		70

INTERNAL EXAMS - 30Marks

(20 mark for unit tests, 5 marks for assignments and remaining 5 marks for seminar etc.)

Practical Paper VII-C

Plant Tissue Culture & Plant Biotechnology

SEMESTER- VI

BOT – 601P

Total hours of teaching 30hrs @ 2hrs per week

Credits:2

1. (a) Preparation of MS medium.
(b) Demonstration of in vitro sterilization methods and inoculation methods using leaf and nodal explants of Tobacco/ Datura/ Brassica etc.
2. Study of embryo and culture, micro propagation of Banana, somatic embryogenesis, artificial seeds through photographs.
3. Construction of restriction map of circular and linear DNA from the data provided.
4. Study of methods of gene transfer through photographs: Agrobacterium- mediated, directgene

transfer by electroporation, microinjection, and micro projectile bombardment.

5. Different steps involved in genetic engineering for production of Bt. cotton, Golden rice, Flavr Savr tomato through photographs.
6. Isolation of plasmid DNA.
7. Restriction digestion and gel electrophoresis of plasmid DNA (optional)
8. Field visit to a lab involved in tissue culture
9. Study project under supervision of lecturer – tissue culture/ genetic engineering.

Expected domain skills to be achieved: Ability to prepare artificial nutrient media, preparing independently, applying various sterilization procedures for media, glassware and biological materials, invitro propagation of Banana callus, morphogenesis--s, clonal propagation methods, isolation of plasmid DNA individually and as a group.

Practical Paper VII-C
Plant Tissue Culture & Plant Biotechnology

SEMESTER- VI

BOT – 601(GE) P

Total hours of teaching 30hrs @ 2hrs per week

Credits: 2

Q1. Project report (A) -.....	10M
Viva-voce on study project.....	02M
Q2. Identify and write notes on B, C and D (3x3).....	09 M
B- Tool/instrument/container used in sterilization	
C- Tool/instrument/container used in gene transfer	

D- GM crops (Photographs)

Q3. Construct restriction map of circular and/ or linear DNA from the data
Provided.....06M

Q 4. Field report.....03M

Total.....30 Marks

Internal Assessment

a. Record -05M

b. Attendance.....05M

e. Internal practical exam.....10M

Total... 20Marks

Total ----- 50M

Books for Reference:

1. Pullaiah. T. and M.V.Subba Rao. 2009. Plant Tissue culture. Scientific Publishers, New Delhi.
2. Bhojwani, S.S. and Razdan, M.K., (1996). Plant Tissue Culture: Theory and Practice. Elsevier Science Amsterdam. The Netherlands.
3. Glick, B.R., Pasternak, J.J. (2003). Molecular Biotechnology- Principles and Applications of recombinant DNA. ASM Press, Washington.
4. Bhojwani, S.S. and Bhatnagar, S.P. (2011). The Embryology of Angiosperms. VikasPublicationHouse Pvt. Ltd., New Delhi. 5th edition.

A.G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **Plant diversity and Human welfare**

Semester: **VI**

Course Code	BOT - 602	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2019- 20	Year of Revision: ---	Percentage of Revision: ---

Course Objectives:

1. To study plant diversity and its scope
2. To study the loss of biodiversity
3. To study contemporary practices
4. To study the conservation of biodiversity
5. To study the role of plants in relation to human welfare

Course Outcomes: At the end of this course, students should be able to:CO1: Distinguish the levels of biodiversity.

CO2: Explain the loss of biodiversity at different levels.

CO3: Demonstrate contemporary practices in resource management.

CO4: Discuss the conservation of biodiversity.

CO5: Elucidate the role of plants in relation to human welfare.

SYLLABUS

Unit – 1	Plant diversity and its scope: (12hrs) Genetic diversity, Species diversity, Plant diversity at the ecosystem level, Agro biodiversity and Vavilov Crop centers. Values and uses of biodiversity: Ethical and aesthetic values, Uses of plants.
Unit – 2	Loss of biodiversity: (12hrs) Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agro biodiversity, projected scenario for biodiversity loss. Management of plant biodiversity: Organizations associated with biodiversity Management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR; Biodiversity legislation and conservations, Biodiversity information management and Communication.
Unit – 3	Contemporary practices in resource management: (12hrs) Environmental Impact Assessment (EIA), Geographical Information System GIS, Solid and liquid waste management.
	Conservation of biodiversity (12hrs)

Unit – 4	Conservation of genetic diversity, species diversity. Social approaches to conservation, Biodiversity awareness Programmes, Sustainable development.
Unit – 5	Role of plants in relation to Human Welfare (12hrs) Importance of forestry, their utilization and commercial aspects- a) Avenue trees, b) ornamental plants of India. Fruits and nuts: Important fruit crops their commercial importance. Wood, fiber and their uses.

III B. Sc – BOTANY Model paper (2019-2020)

SEMESTER- VI

Paper – VIII-A-1

PAPER – VIII

PLANT DIVERSITY AND HUMAN WELFARE

Time: 3 Hours

Max. Marks: 70

SECTION-A

Answer any FOUR of the following question

4x5=20M.

1. Species Diversity.
2. Wild Taxa.
3. NBPGR.
4. Biodiversity and its Conservation.
5. EIA.
6. Geographical information system (GIS).
7. Sustainable Development.
8. Fiber and their uses.

SECTION-B

Answer any Five of the following questions.

5 x10=50M.

9. Give a Note on Plant Diversity and its Scope.
10. Write about Values and Uses of Biodiversity.
11. What is Biodiversity? Discuss about the Loss of Biodiversity?
12. Explain the Various Types Organizations in Biodiversity?
13. Write an essay on EIA?
14. Write essays on Solid and Liquid Waste Management?
15. What is Conservation? Explain the In-situ and Ex-situ conservation?
16. What are Fruit crops? Explain their Commercial importance?

Guide lines for paper setter: (for Paper VIII -BOT-602) W.e.f. 2021-22

1. In Section A: Unit I, II, III, must carry Two question from each unit. Unit IV, V must carry one question.
2. In section-B: Set minimum two questions from Unit I, II & III and Set One Question from IV, V.
3. See the following table and Model paper.
4. Please provide the scheme of valuation for the paper.
5. Question paper should be both in English and Telugu media.

Unit	Section - A		Section - B		Weightage in
	Questions	Marks	Questions	Marks	Marks
Unit – I	2		2		
		10		20	30
Unit – II	2		2		

		10	20	30	
Unit – III	1		2		
		05	20	25	
Unit-IV	1		1		
		5	10	15	
Unit-V	2		1		
		10	10	20	
Max. Q & marks	8	(x 5) = 40	8	(x 10) = 80	(Total questions = 16) Marks 120
Max. Q and marks for Valuation	Questions	Marks	Questions	Marks	Max. marks
	4		5		
		(4 x 5) = 20		(5 x 10) = 50	70

INTERNAL EXAMS – 30 Marks

(20 mark for unit tests, 5 marks for assignments and remaining 5 marks for seminar etc)

Paper – VIII-A-1: Practicals:

PLANT DIVERSITY AND HUMAN WELFARE

SEMESTER- VI

BOT-602-A-1(CL)P

Time: 3hrs

Max. Marks: 50

- 1) Study of plant diversity (flowering plants).
- 2) Study of exotic species- Identification and morphological characteristics.
- 3) Identification of forest trees through bark, wood, flowers, leaves and fruits.
- 4) Maceration, Study of wood (Tracheary elements, fibres).
- 5) Methods of preservation and canning of fruits.
- 6) Visit to the local ecosystem to study the plants.
- 7) Study of Solid and Liquid waste management systems in rural/urban areas.

SCHEME OF PRACTICAL EXAMINATION

- I. Assign the plants **A, B and C** to their respective families, giving reasons, family name and classification-1marks, important diagrams- 2 marks.....**09 marks**
- II. Give the protocol of **D****04marks**
- III. Comment on specimens **E, F and G****3x3 = 09 marks**
- IV. Report on Field visit..... **4 marks**

To study sources of firewood (10 plants), timber-yielding trees (10trees) and bamboos.

V. Viva-Voce04marks
Total..... 30 Marks

Internals

a. Record -05M
b. Attendance.....05M
c. Internal practical exam.....10M
Total..... 20 Marks

Total -----50M

KEY

A-Cultivated Plant

B- Wild Plant

C –Exotic plant

D- Preservation and canning of fruits, solid and liquid waste management systems in rural/urban areas

E. Bark/wood/fruit yielding plant

F. Nuts/ Alcoholic beverage plant

G. wood /Fibre yielding plant

Paper – VIII-A-1: Practical's:

PLANT DIVERSITY AND HUMAN WELFARE

SEMESTER- VI

BOT-602-A-(CL) P

SCHEME OF PRACTICAL EXAMINATION

Time: 3hrs

Max. Marks: 50

I. Assign the plants **A, B and C** to their respective families, giving reasons, family name and classification-1marks, important diagrams- 2 marks.....**09 marks**

II. Give the protocol of **D****04marks**

III. Comment on specimens **E, F and G****3x3= 09 marks**

IV. Report on Field visit..... **4 marks**
To study sources of firewood (10 plants), timber-yielding trees (10trees) and bamboos.

V. Viva-Voce**4marks**

Total --- 30marks

Internals:

a. Record -	05M
b. Attendance.....	05M
c. Internal practical exam.....	10M

Total --- 20marks

Total -----50M

KEY

A-Cultivated Plant

B- Wild Plant

C –Exotic plant

D- Preservation and canning of fruits, solid and liquid waste management systems in rural/urban areas

E. Bark/wood/fruit yielding plant

F. Nuts/ Alcoholic beverage plant

G. wood /Fibre yielding plant

Suggested Readings:

1. Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity - Principles and Practices. Oxford and IBH Publications Co. Pvt. Ltd. New Delhi.
2. Singh, J. S., Singh, S.P. and Gupta, S. (2006). Ecology, Environment and Resource Conservation. Anamaya Publications, New Delhi.
3. Rogers, P.P., Jalal, K.F. and Boyd, J.A. (2008). An Introduction to Sustainable Development. Prentice Hall of India Private Limited, New Delhi.

A.G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **Ethno Botany and Medicinal Botany**

Semester: **VI**

Course Code	BOT - 603	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2019- 20	Year of Revision: --	Percentage of Revision: --

Course Objectives:

1. To learn about ethnobotany
2. To learn about the role of ethnobotany in modern medicine
3. To learn the ethnobotany as a tool to protect interests of ethnic groups
4. To study the history, scope and importance of medicinal plants in indigenous medicinal sciences
5. To study the conservation of endangered and endemic medicinal plants

Course Outcomes: At the end of this course, students should be able to:

CO1: Analyze the concept, scope and objectives.

CO2: Explain the role of ethnobotany in modern medicine.

CO3: Demonstrate ethnobotany as a tool to protect interests of ethnic groups.

CO4: Discuss the history scope and importance of medicinal plants in indigenous medicinal sciences.

CO5: Elucidate the conservation of endangered and endemic medicinal plants

SYLLABUS

Unit – 1	<p>Ethnobotany (12hrs)</p> <p>Introduction, concept, scope and objectives</p> <p>Major and minor ethnic groups or Tribal's of India, and their lifestyles.</p> <p>Plants used by the tribal populations:</p> <p>a) Food plants, b) Intoxicants</p> <p>c) Beverages, d) Resins and oils and miscellaneous uses.</p>
Unit – 2	<p>Role of ethnobotany in modern Medicine (12hrs)</p> <p>Role of Ethnobotany in modern medicine with special example; Rauwolfia serpentina, Artemisia annua, Withania somnifera.</p> <p>Significance of the following plants in ethno botanical practices (along with their habitat and morphology)</p> <p>a) Azadirachta indica, b) Vitex negundo, c) Ocimum sanctum, d) Phyllanthus niruri</p> <p>Medico-Ethnobotanical Sources of India.</p>
Unit – 3	<p>Ethnobotany as a tool to protect interests of ethnic groups (12hrs)</p> <p>Sharing of wealth concept with few examples from India.</p> <p>Biopiracy, Intellectual Property Rights and Traditional Knowledge</p>
	<p>History, Scope and Importance of Medicinal Plants, Indigenous Medicinal Sciences (12hrs)</p> <p>Definition and Scope-Ayurveda: History, origin, panchamahabhutas, saptadhatu and</p>

Unit – 4	tridosha concepts, Rasayana, plants used in ayurvedic treatments. Homeopathy: Origin of Homeopathy medicinal systems, Basis of Homeopathy, plants used in Homeopathy medicine.
Unit – 5	Conservation of endangered and endemic medicinal plants (12hrs) Definition: endemic and endangered medicinal plants. 2. Red list criteria In situ conservation: Sacred groves, National Parks. Ex situ conservation: Botanical Gardens, Seed Banks.

III B. Sc – BOTANY Model paper (2021-2022)

Title of the Paper: **ETHNOBOTANY AND MEDICINAL BOTANY**

SEMESTER- VI PAPER – VIII Cluster – A **Paper – VIII-A-2**

Time: 3 Hours

Max. Marks: 70

SECTION-A

Answer any FOUR of the following question

4x5=20M.

1. Intoxicants.
2. Withania somnifera.
3. Phyllanthus niruri
4. Curcuma langa.
5. Biopiracy
6. Saptdhatu and Tridosha.
7. Tumors treatments.
8. Red list criteria.

SECTION-B

Answer any Five of the following questions.

5x10 =50M.

9. Explain the Relevance of Ethno-Botany in the present Context.

10. Discuss about Major and Minor Ethnic groups of India.
11. Write about Botanical name, Family, Active principle and medicinal uses of Rauvolfia serpentina, Artemisia annua.
12. Write about the Medico-Ethnobotanical Sources of India.
13. Write about the Intellectual property rights and Traditional knowledge.
14. Write an Essay on Basic concepts of Ayurveda.
15. What is Siddha System of Medicine? Explain their Basic Concepts?
16. Give an account of Endemic and Endangered Medicinal plants ?

Guide lines for paper setter: (for Paper VIII-BOT-603(CE)) W.e.f. 2021-22

1. In Section A: Unit I, IV, must carry two questions from each unit. Unit II must carry Two Question. Unit III, V must carry one question.
2. In section-B: Set minimum Two questions from Unit I, II & IV and Set One Question from III, V.
3. See the following table and Model paper.
4. Please provide the scheme of valuation for the paper.
5. Question paper should be both in English and Telugu media.

Unit	Section - A		Section - B		Weightage in
	Questions	Marks	Questions	Marks	Marks
Unit – I	2		2		
		10		20	30
Unit – II	2		2		
		10		20	30

Unit – III	1	1			
		05	10	15	
Unit-IV	2	2			
		10	20	30	
Unit-V	1	1			
		5	10	15	
Max. Q & marks	8	(x 5) = 40	8	(x 10) = 80	(Total questions = 16) Marks 120
Max. Q and marks for Valuation	Questions	Marks	Questions	Marks	Max. marks
	4		5		
		(4 x 5) = 20		(5 x 10) = 50	70

INTERNAL EXAMS - 30Marks

(20 mark for unit tests, 5 marks for assignments and remaining 5 marks for seminar etc.).

**III B. Sc – Practical Paper
ETHNOBOTANY AND MEDICINAL BOTANY**

**SEMESTER- VI
Time: 3 Hours**

**BOT-VIII-603-A- 2(CL)P
Max. Marks- 50**

1. Ethno botanical specimens as prescribed in theory syllabus
2. Detailed morphological and anatomical study of medicinally important part(s) of locally available plants (Minimum 8 plants) used in traditional medicine.
3. Field visits to identify and collect ethno medicinal plants used by local tribes/folklore.

Practical Question Paper

- I. Identify the specimen A- Give reasons (morphological and anatomical) and draw Labeled sketches10marks
- II. Identify and write about the medicinal uses of B and C.....2x4 = 08 marks
- III. Comment on D and E.....2 x 2= 04 marks
- IV. Report on Field visit:.....04 marks
List to be prepared mentioning special features of plants used by tribal Populations as Medicinal Plants & Spices. Write their botanical and common names, Parts used and diseases/disorders for which they are prescribed.
- V. Viva-voce..... 04 marks
- Total.....**30Marks**

Internals Assessment

a. Record -	05M
b. Attendance.....	05M
c. Internal practical exam.....	10M
Total.....	<u>20 Marks</u>

Total-----50Marks

KEY

- A-Plants given in unit II (i)
- B-Plants used in Ayurvedic preparations (Amla in Chyavanprash, Senna in Laxatives)
- C - - Do -
- D. Photographs of National parks, Biosphere reserves and Botanical gardens.
- E. Photograph of famous personalities in Ayurveda/Siddha medicine.

Suggested Readings:

- 1) S.K. Jain, Manual of Ethnobotany, Scientific Publishers, Jodhpur, 1995.
- 2) Glimpses of Indian. Ethnobotny, Oxford and I B H, New Delhi – 1981.
- 3) S.K. Jain (ed.) 1989. Methods and approaches in ethnobotany. Society of ethnobotanists, Lucknow, India.
- 4) S.K. Jain, 1990. Contributions of Indian ethnobotny. Scientific publishers, Jodhpur.
- 5) Colton C.M. 1997. Ethnobotany – Principles and applications. John Wiley and sons Chichester

A.G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **Pharmacognosy and Phytochemistry**

Semester: **VI**

Course Code	BOT - 604	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2019- 20	Year of Revision: --	Percentage of Revision: --

Course Objectives:

1. The study of pharmacognosy.

2. The study of organoleptic and microscopic studies.
3. Knowledge of secondary metabolites.
4. Study of phytochemistry
5. Knowledge of enzymes, proteins and amino acids.

Course Outcomes: At the end of this course, students should be able to:

CO1: Remember the importance of pharmacognosy.

CO2: Understand organoleptic and microscopic studies with reference to nature of active principles and common adulterants of certain species.

CO3: Apply detailed account of acetate pathway, mevalonate pathway and shikimate pathway.

CO4: Analyze the importance of phytochemicals.

CO5: Evaluate the biological importance of secondary metabolites.

CO6: Create enzymes proteins and amino acids as drugs.

SYLLABUS

Unit – 1	Pharmacognosy Definition, Importance Classification of drugs - Chemical and Pharmacological Drug evaluation methods	(12hrs)
Unit – 2	Organoleptic and microscopic studies: Organoleptic and microscopic studies with reference to nature of active principles and common adulterants of a) Adhatoda vasica(leaf) b) Strychnosnuxvomica (seed), c) Rauwolfia serpentina(root) d) Zinziberofficinalis e) Catharanthusroseus.	(12hrs)
Unit – 3	Secondary Metabolites Definition of primary and secondary metabolites and their differences, Major types - terpenes, Phenolics, alkaloids, terpenoids, steroids .A brief idea about extraction of alkaloids. Origin of secondary metabolites–detailed account of Mevalonate pathway, Shikimate pathway.	(12hrs)
Unit – 4	Phytochemistry: Biosynthesis and sources of drugs: Structural type biosynthesis importance of simple Phenolic compounds, coumarins, Flavonoids. Steroids, sterols: Biosynthesis, commercial importance. Alkaloids: Different groups, biosynthesis, bioactivity. Volatile oils, aromatherapy.	(12hrs)
Unit – 5	Enzymes, proteins and amino acids as drugs: Vaccines, toxins and toxoids, immune globulins, antiserums, Vitamins, Antibiotics – chemical nature, mode of action. Pharmacological action of plant drugs – tumor inhibitors, PAF antagonists, antioxidants,	(12hrs)

III B. Sc – BOTANY Model paper (2021-2022)

SEMESTER- VI

PAPER – VIII Cluster – A

Paper – VIII-A-3: Title of the Paper: **Pharmacognosy and Photochemistry**

Time: 3 Hours

Max. Marks: 75

SECTION-A

Answer any FOUR of the following question

4x5=20M.

1. Classification of Drugs.
2. Catharanthus roseus.
3. Difference between Primary and Secondary Metabolites.
4. Terpenoids.
5. Flavonoids.
6. Aromatherapy
7. Vaccines.
8. Vitamins.

SECTION-B

Answer any Five of the following questions.

5x10=50M.

9. Give an account on Pharmacognosy ?
10. Write an essay on Drug Evolution methods ?
11. Write about nature and Active principles of *Adhatda vasica*, *Rauwfia serpentine* ?
12. Write about common Adulteration of *Zanzibar officinalis*, *Strychnos nuxvomica* ?
13. Give an Brief note on Extraction of Alkalods ?
14. Give an account of Acetate pathway ?
15. Write about Bio-Synthesis and Commercial importance of Steroids, Sterols, Cucurbitacins ?
16. Explain the role of Different Enzyme inhibitors ?

Guide lines for paper setter: (for Paper VI-BOT-604) W.e.f. 2021-22.

1. In Section A: Unit III, IV, V must carry two questions from each unit. Unit I, II, must carry One question.
2. In section-B: Set minimum two questions from Unit I, II & III and Set One Question from IV, V.
3. See the following table and Model paper.
4. Please provide the scheme of valuation for the paper.
5. Question paper should be both in English and Telugu media.

Unit	Section - A		Section - B		Weightage in
	Questions	Marks	Questions	Marks	Marks
Unit – I	1		2		
		5		20	25
Unit – II	1		2		
		5		20	25

Unit – III	2	2			
		10	20	30	
Unit-IV	2	1			
		10	10	20	
Unit-V	2	1			
		10	10	20	
Max. Q & marks	8	(x 5) = 40	8	(x 10) = 80	(Total questions = 16) Marks 120
Max. Q and marks for Valuation	Questions	Marks	Questions	Mark s	Max. marks
	4		5		
		(4 x 5) = 20		(5 x 10) = 50	70

INTERNAL EXAMS - 30Mark

(20 mark for unit tests, 5 marks for assignments and remaining 5 marks for seminar etc.)

Pharmacognosy and Phytochemistry

SEMESTER- VI
Time: 3 Hours

BOT-VIII-604-A- 3 (CL)P
Max. Marks- 50

1. Physical and chemical tests for evaluation of unorganized drugs- Asaphoetida. Honey, Castor oil. Acacia
2. Identification of bark drugs – cinchona, cinnamom
3. Identification of fruit drugs – Cardamom, Coriander
4. Identification of root and rhizome drugs- Ginger, Garlic, Turmeric
5. Identification of whole plant – Aloes, Vinca, Punarnava
6. Herbarium of medicinal plants (minimum of 20 plats)
7. Collection of locally available crude drugs from local venders (minimum of 20)

Practical Question Paper

- I. Identify the given crude drugs **A & B** by Anatomical study and Morphological Study.....**2X5 = 10marks**
- II. Perform suitable chemical test and identify the given phytochemical **C**.....**05marks**

III. Comment on D and E2x3= 06 marks

IV. Herbarium and submission of drugs -.....5 marks

IV. Viva-Voce04 marks

Total..... 30Marks

Internals

a. Record -05M

b. Attendance.....05M

c. Internal practical exam.....10M

Total.....20Marks

Total -----50M

KEY

A-Flower/fruit drugs

B-Rhizome/whole plant drugs

C- Tannins/ phenolics/steroids/ isoprenoids /Asaphoetida/ Honey/ Castor oil/ Acacia

D. Column Chromatography/ Gas Chromatogram/HPLC (photograph/ instrument used for chemical analysis of drugs.

BOOKS FOR REFERENCE:

1. Wallis, T. E. 1946. Text book of Pharmacognosy, J & A Churchill Ltd. 2. Roseline, A. 2011. Pharmacognosy. MJP Publishers, Chennai.
2. Gurdeep Chatwal, 1980. Organic chemistry of natural productis. Vol.I.Himalaya Publishing house.
3. Kalsi, P. S. and Jagtap, S., 2012. Pharmaceutical medicinal and natural Product chemistry N.K. Mehra . Narosa Publishing House Pvt. Ltd. New Delhi.
4. Agarwal, O. P. 2002. Organic chemistry–Chemistry of organic natural products. Vol. II. Goel publishing house , Meerut.

A.G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru - 521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: Plant Nursery Management

Offered to: BSc. BZC,AQU

Course Type: SDC

Year of Introduction: 2021-22

Year of Revision: –

Percentage of Revision: —

Semester: II

Credits: 02

Hours Taught: 30 hrs. Per Semester
Hours

Hours per week: 2

Course Prerequisites: Knowledge of herbarium methodology studied in intermediate. **Course Description:** This course will provide one with a basic and comprehensive understanding of herbarium. Enable the student with depth of topics and helps them to gain an appreciation in collection and processing of specimens. On the other hand, importance of understanding maintenance of herbarium, handling of specimens provides an extensive knowledge to the student.

Course Objectives:

1. To study importance of nursery.
2. To study the basic requirements for nursery.
3. To study the management of nursery.
4. To study seasonal activities and routine operations in a nursery.
5. To study vegetative propagation techniques.

Course Outcomes: At the end of this course, students should be able to:

CO1: Understand the importance of plant nursery, basic infrastructure to establish it. CO2: Explain the basic material, tools and techniques required for nursery.

CO3: Demonstrate expertise related to various practices in a nursery

CO4: Comprehend knowledge and skills to get an employment or to become an entrepreneur in plant nursery sector.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction to Plant Nursery 1. Plant nursery: definition, importance. 2. Different types of nurseries on the basis of duration, plant parts used for propagation. 3. Basic facilities for a nursery: layout and components of a good nursery 4. Plant propagation structures in brief 5. Bureau of Indian standards (BIS-2008) related to nursery.	6
II	Basic Requirements for Nursery 1. Nursery beds – types and precautions to be taken during preparation. 2. Growing media, nursery tools and implements, containers for plant nursery in brief. 3. Outlines of vegetative propagation techniques to produce planting material. 4. Sowing methods of seeds and planting material.	6
III	Management of Nursery 1. Seasonal activities and routine operations in a nursery. 2. Nursery management- watering, weeding and nutrients: pests and diseases. 3. Common possible errors in nursery activities. 4. Economics of nursery development, pricing and record maintenance. Online nursery information and sales systems.	6

Recommended Reference book:

1.Ratha Krishnan, M., et..al (2014) plant nursery management: principles andpractices, Central arid Zone Research Institute (ICAR), Jodhpur, Rajasthan.

2.Kumar, N., (1997) Introduction to Horticulture, Rajalakshmi PublicationsNagercoil.

3.Kumar Mishra.,N.K. Mishra and Satish Chand (1994) Plant Propogation, JohnWiley & Sons. New Jersey

Course Delivery method: Face-to-face / Blended.

Course has focus on: Foundation/Skill Development

Websites of Interest: <https://youtu.be/Y6BgWWPFGss>

<https://www.youtube.com/watch?v=9Dc-NYGz-9w>.

MODEL QUESTION PAPER

PLANT NURSERY MANAGEMENT

Time: 2hrs

Max. Marks: 40

SECTION- A

2x5M=10 M

**Answer any TWO questions. Each answer carries 5 marks
(At least 1 question should be given from each Unit)**

1. Write a short note on Nursery.
2. Soil sterilization
3. Bio pesticides
4. Seed Scarification

SECTION B

3x10M = 30 M

Answer any three questions. Each answer carries 10 marks

(At least TWO question should be given from each Unit)

1. Write an essay on components of Model nursery?
2. Write an essay on Bureau of Indian Standards related to nursery?
3. Write an essay on Growing media?
4. What is layering? Explain different types of layering?
5. Write about nursery management?
6. Explain about Nursery diseases and their management?

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF CHEMISTRY

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

06-04-2022

Minutes of the Meeting of Board of Studies in Chemistry for the Autonomous Course

A.G. & S.G.Siddhartha Degree College of Arts & Science, Vuyyuru held at 11.00 A.M on 06-04--2022 in
the Department of Chemistry.

Sri. K.RAMESH

Presiding

Members Present:

- 1) K. Ramesh Chairman HOD, Dept. of Chemistry,
(Sri. K.RAMESH) A.G. & S.G.S.Degree College, Vuyyuru.
- 2) D. Ramasekhara Reddy University Nominee Assistant Professor,
(Prof.D.Ramasekhara Reddy) Dept. of Chemistry, Krishna University, MTM.
- 3) S. Kalpana Academic Council Nominee HOD, Dept. of Chemistry,
(Dr. S. Kalpana) SDMS M College, Vijayawada.
- 4) A. Indira Academic Council Nominee Lecturer in Chemistry,
(Smt. A. Indira) G.D.C, Dumpagadapa
- 5) Industrialist Manager, Q.A, Biophore india
(Dr. G Raja) Pharmaceuticals pvt ltd Hyd,
- 6) Student Nominee Lecturer in Chemistry,
(Smt. M. Sowjanya) ANR College Gudivada.
- 7) G. Giri Prasad Member Lecturer in Chemistry,
(Dr. G.Giri prasad) A.G. & S.G.S.Degree College, Vuyyuru
- 8) M. Venkatesh Member Lecturer in Chemistry,
(Smt. M.V.Santhi) A.G. & S.G.S.Degree College, Vuyyuru.
- 9) P. Suresh Member Lecturer in Chemistry,
(Sri. P.Suresh) A.G. & S.G.S.Degree College, Vuyyuru.
- 10) M. Santhi Member Lecturer in Chemistry,
(MS. M.Santhi) A.G. & S.G.S.Degree College, Vuyyuru.
- 11) J. Nageswara Rao Member Rtd.Lecturer in Chemistry,
(Sri. J.Nageswara Rao) A.G. & S.G.S.Degree College, Vuyyuru.

Agenda for B.O.S Meeting

1. To recommend the syllabus and model paper for II semester of I Degree B.Sc., Chemistry for the Academic year 2021-2022.
2. To recommend the syllabus and model papers for IV semester of II Degree B.Sc., Chemistry for the Academic year 2021-2022.
3. To recommend the syllabus and model papers for VI semester of III Degree B.Sc. Chemistry for the Academic year 2021-2022.
4. To recommend the Blue print of II, IV, VI semesters of B.Sc. Chemistry for the Academic year 2021--2022.
5. To recommend the Guidelines to be followed by the question paper setters in Chemistry for II, IV, VI Semester-end exams.
6. To recommend the teaching and evaluation methods to be followed under Autonomous status.
7. Any suggestions regarding certificate course, seminars, workshops, Guest lecture to be organized.
8. Recommend the panel of paper setters and Examiners to the controller of Examinations of autonomous Courses of A.G. & S.G.S. Degree colleges of Arts & Science, Vuyyuru.
9. Any other matter.

K. Ramakrishna
Chairman.

RESOLUTIONS

- 1) It is resolved to Change the **syllabus for II semesters of I B.Sc.** under Choice Based Credit System (CBCS) for the Academic year 2021–2022.

Adding Syllabus: HSAB Unit-4

- 2) It is resolved to follow the **syllabus of APSCHE for IV semesters of II B.Sc.** under Choice Based Credit System (CBCS) for the Academic year 2021–2022. II, IV, & VI

- In this academic year two papers will be introduced i.e. CHE-401(Inorganic, Organic and Physical chemistry) & CHE-402(Inorganic, Organic and Physical chemistry)

- 3) It is resolved to implement the same **syllabus** under Choice Based Credit System for the Academic year 2021-2022 for **VI semester of III B.Sc.** Project work for VI Sem.

- 4) It is resolved to follow the **Blue prints** as proposed by members of BOS II, IV & VI semester of Degree B.Sc. for the Academic year 2021-2022.

- 5) It is resolved to follow the **guidelines** to be followed by the question paper setters of Chemistry for II, IV & VI semesters of Degree B.Sc. for the Academic Year 2021-2022.

- 6) It is resolved to continue the following teaching and evolution methods for Academic year 2021-22.

Teaching Methods:

Besides the conventional methods of teaching, we use modern technology i.e. using of LCD projector to display on U boards etc, for better understanding of concepts.

Evaluation of a student is done by the following procedure:

• Internal Assessment Examinations:

- Out of maximum 100 marks in each paper for I B.Sc, 25 marks shall be allocated for internal assessment. Out of these 25 marks, 15 marks are allocated for announced tests (i.e. IA-1 & IA-2).
- Out of maximum 100 marks in each paper for II, III B.Sc, 30 marks shall be allocated for internal assessment. Out of these 30 marks, **20 marks are allocated for announced tests (i.e. IA-1 & IA-2).**
- Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, **5 marks are allocated on the basis of candidate's percentage of attendance and remaining 5 marks are allocated for the innovative component like assignment/quiz/seminars for II, IV, VI B.Sc.**
- There is **no pass minimum** for internal assessment for I, II, III B.Sc.

Semester – End Examination:

- The maximum marks for I B.Sc Semester – End examination shall be 75 marks and 70 marks for II, III B.Sc., duration of the examination shall be 3 hours. Even though the candidate is absent for two IA exams /obtain Zero marks the external marks are considered (if the candidate gets 40/70) and the result shall be declared as "PASS".
- Semester – End examinations shall be conducted in theory papers at the end of every semester, while in practical papers, these examinations are conducted at the end of II, IV, & VI semesters for I, II & III B.Sc for 50 marks.
- Discussed and recommended for organizing **certificate course, seminars, Guest lecturers, workshops** to upgrade the knowledge of students, for the approval of the academic council.
- Discussed and empowered the Head of the department of Chemistry to suggest the panel of paper setters and examiners to the controller of examinations.
- NIL.

K. Ramani

Chairman



**A.G & S.G. SIDDHARTHA DEGREE COLLEGE OF
ARTS & SCIENCE**

Vuyyuru-521165

NAAC reaccredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: ORGANIC AND GENERAL CHEMISTRY

Semester: II

Course Code	CHET21A	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-22	Year of Offering: 2021 - 22	Year of Revision: -----	Percentage of Revision: 0

Course outcomes:

At the end of the course, the student will be able to;

CO1. Understand and explain the differential behaviour of organic compounds based on fundamental concepts learnt.

CO2. Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved.

CO3. Learn and identify many organic reaction mechanisms including Free Radical Substitution, Electrophilic Addition and Electrophilic Aromatic Substitution.

CO4. Understand the concepts of absorption and adsorption, colloidal chemistry and nature of Chemical Bonding.

CO5. Correlate and describe the stereo chemical properties of organic compounds and reactions.

Learning Objectives:

1. To understand the basic concepts of alkanes & cycloalkanes.
2. To identify the difference between saturated and unsaturated hydrocarbons.
3. To learn the basic concepts of aromatic compounds and its reactivity.
4. To understand the chemistry of adsorption, colloid chemistry, HSAB principle and Molecular Orbital theory.
5. To learn the fundamental aspects of stereo chemistry.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
ORGANIC CHEMISTRY		
I	<p>Recapitulation of Basics of Organic Chemistry Carbon-Carbon sigma bonds (Alkanes and Cycloalkanes) 1.1 General methods of preparation of alkanes- Wurtz and Wurtz - Fittig reaction, Corey House synthesis, physical and chemical properties of alkanes, Isomerism and its effect on properties. 1.2 Free radical substitutions; Halogenation, concept of relative reactivity v/s selectivity. 1.3 Conformational analysis of alkanes (Conformations, relative stability and energy diagrams of Ethane, Propane and butane). 1.4 General molecular formulae of cycloalkanes and relative stability, Baeyer strain theory, Cyclohexane conformations with energy diagram, Conformations of mono substituted cyclohexane.</p>	12h
II	<p>Carbon-Carbon pi Bonds (Alkenes and Alkynes) 2.1 General methods of preparation, physical and chemical properties. 2.2 Mechanism of E1, E2, E1CB reactions, Saytzeff and Hoffmann eliminations, Electrophilic Additions, mechanism (Markownikoff / Antimarkownikoff addition) with suitable examples, <i>syn</i> and <i>anti</i>-addition; addition of H₂, X₂, HX. oxymercuration-9, demercuration, hydroboration-oxidation, ozonolysis, Hydroxylation, Diels alder reaction, 1,2 and 1,4 addition reaction in Conjugated Dienes. 2.3 Reactions of alkynes; acidity, electrophilic and</p>	12h

	nucleophilic additions, hydration to form carbonyl compounds, Alkylation of terminal alkynes.	
III	<p>Benzene and its reactivity</p> <p>3.1 Concept of aromaticity, Huckel's rule - application to Benzenoid (Benzene, Naphthalene) and Non - Benzenoid compounds (cyclopropenylcation, cyclopentadienyl anion and tropyliumcation)</p> <p>3.2 Reactions - General mechanism of electrophilic aromatic substitution, mechanism of nitration, Friedel-Craft's alkylation and acylation.</p> <p>3.3 Orientation of aromatic substitution - ortho, para and meta directing groups. Ring activating and deactivating groups with examples (Electronic interpretation of various groups like NO₂ and Phenolic). Orientation of (i) Amino, methoxy and methyl groups (ii) Carboxy, nitro, nitrile, carbonyl and sulphonic acid groups (iii) Halogens (Explanation by taking minimum of one example from each type)</p>	12h
GENERAL CHEMISTRY		
IV	<p>Surface chemistry and chemical bonding</p> <p>1. Surface chemistry</p> <p>4.1 Colloids- Coagulation of colloids- Hardy-Schulze rule. Stability of colloids, Protection of Colloids, Gold number.</p> <p>4.2 Adsorption-Physical and chemical adsorption, Langmuir adsorption isotherm, applications of adsorption.</p> <p>2. Chemical Bonding</p> <p>4.3 Valence bond theory, hybridization, VB theory as applied to ClF₃, Ni(CO)₄</p>	14h

	<p>4.4 Molecular orbital theory -LCAO method, construction of M.O. diagrams for homo-nuclear and hetero-nuclear diatomic molecules (N₂, O₂, CO and NO).</p> <p>3. HSAB</p> <p>4.5 Pearson's concept, HSAB principle & its importance, bonding in Hard-Hard and Soft-Soft combinations.</p>	
V	<p>Stereochemistry of carbon compounds</p> <p>5.1 Molecular representations- Wedge, Fischer, Newman and Saw-Horse formulae.</p> <p>5.2 Optical isomerism: Optical activity- wave nature of light, plane polarised light, optical rotation and specific rotation.</p> <p>5.3 Chiral molecules- definition and criteria(Symmetry elements)- Definition of enantiomers and diastereomers – Explanation of optical isomerism with examples- Glyceraldehyde, Lactic acid, Alanine, Tartaric acid, 2,3-dibromopentane.</p> <p>5.4 D, L, R,S and E,Z- configuration with examples. Definition of Racemic mixture – Resolution of racemic mixtures (any 3 techniques)</p>	10h

Co-curricular activities and Assessment Methods

Continuous Evaluation: Monitoring the progress of student's learning

Class Tests, Worksheets and Quizzes

Presentations, Projects and Assignments and Group Discussions: Enhances critical thinking skills and personality

Semester-end Examination: critical indicator of student's learning and teaching methods adopted by teachers throughout the semester.

List of Text Books

1. A Text book of Organic Chemistry by Lloyd.N.Ferguson
2. A Text book of Organic Chemistry by Rakesh K.Parashar & V.K.Ahluwalia
3. Telugu Academy Book
4. Unified Chemistry by O.P.Agarwal-Vol-I

List of Reference Books

Theory:

1. Morrison, R. N. & Boyd, R. N. Organic Chemistry, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
2. Finar, I. L. Organic Chemistry (Volume 1), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
3. Finar, I. L. Organic Chemistry (Volume 2: Stereochemistry and the Chemistry of Natural Products), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
4. Eliel, E. L. & Wilen, S. H. Stereochemistry of Organic Compounds; Wiley: London, 1994.
5. Kalsi, P. S. Stereochemistry Conformation and Mechanism; New Age International, 2005.

Practical:

1. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
2. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)

Additional Resources:

1. Solomons, T. W. G.; Fryhle, C. B. & Snyder, S. A. Organic Chemistry, 12th Edition, Wiley. Bruice, P. Y. Organic Chemistry, Eighth Edition, Pearson.
2. Clayden, J.; Greeves, N. & Warren, S. Organic Chemistry, Oxford.
3. Nasipuri, D. Stereochemistry of Organic Compounds: Principles and Applications, Third Edition, New Age International.
4. Gunstone, F. D. Guidebook to Stereochemistry, Prentice Hall Press, 1975.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.**

SEMESTER – II	PAPER-II	PAPER CODE : CHET21A
PAPER TITLE: ORGANIC & GENERAL CHEMISTRY -I ACADEMIC YEAR-2021-2022		

Time: 3 Hours

Max. Marks: 75M

PART- A

5 X 5 = 25 Marks

Answer any **FIVE** of the following questions. Each carries **FIVE** marks

1. Write different conformations of n-butane. Explain their relative stability. **L2- CO1**
2. Explain 1, 2- & 1,4- addition reactions of conjugated dienes. **L2- CO2**
3. Explain the orientation effect of halogens on mono substituted benzene. **L2- CO3**
4. Explain the mechanism of E₁CB elimination reaction. **L2- CO2**
5. Explain the structure of ClF₃ by Valency Bond theory. **L2- CO4**
6. What are Hard & soft acids & bases? Explain with examples. **L1- CO4**
7. Draw the Wedge, Fischer, Newmann & saw-Horse representations for Tartaric acid. **L1- CO5**
8. Define Enantiomers and Diastereomers and give two examples for each. **L2- CO5**

PART- B

5 X 10 = 50 Marks

Answer **ALL** the questions. Each carries **TEN** marks

9. (a) (i) Write the preparation of alkanes by Wurtz and Corey-House reaction.
(ii) Explain Halogenation of alkanes. Explain the reactivity and selectivity in free radical substitutions. **L2- CO1**
(or)
(b).(i) Explain Baeyer Strain Theory
(ii) Draw the conformations of Cyclohexane and explain their stability by drawing energy profile diagram. **L2- CO1**
10. (a).(i) Write any two methods of preparation of alkenes.
(ii) Explain the mechanism of Markownikoff and Anti-Markownikoff addition of HBr to alkene. **L2- CO2**
(or)
(b) (i) Explain the acidity of 1-alkynes
(ii) How will you prepare acetaldehyde and acetone from alkynes?
(iii) Write alkylation reaction of terminal alkyne. **L1- CO2**

11. (a) Define Huckel rule of aromatic compounds. What are Benzenoid and non-Benzenoid aromatic compounds? Give examples. **L1- CO3**

(or)

(b) Explain the mechanisms of Nitration and Friedel-Craft's alkylation of Benzene. **L2- CO3**

12. (a) (i) Define Hardy-Schulze rule & Gold number.

(ii) Differentiate Physisorption & Chemisorption. Explain Langmuir adsorption isotherm.

L2- CO4

(or)

(b) Construct the Molecular Orbital diagram for O₂ and NO and explain their bond order and magnetic property. **L2- CO4**

13. (a) Define racemic mixture. Explain any two techniques for resolution of racemic mixture. **L2- CO5**

(or)

(b) (i) Define Optical activity and Specific rotation.

(ii) Draw the R- & S- isomers of Alanine, Glyceraldehyde.

(iii) Write the E- & Z- isomers of 2-butene. **L1- CO5**

**A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.
(Accredited at “A” Grade by NAAC, Bangalore)
PRACTICAL SYLLABUS.**

Practical Paper – II Volumetric Analysis	PAPER CODE : CHEP21A ACADEMIC YEAR-2021-2022
---	---

30 hrs (2h/w)

Credits-2

Course outcomes:

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Understand and explain the volumetric analysis based on fundamental concepts learnt in ionic Equilibria
3. Learn and identify the concepts of standard solutions, primary and secondary standards
4. Facilitate the learner to make solutions of various molar concentrations. This may include: The concept of the mole; Converting moles to grams; Converting grams to moles; Defining concentration; Dilution of Solutions; Making different molar concentrations.

Volumetric analysis 50 M

1. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture.
2. Determination of Fe (II) using KMnO_4 with oxalic acid as primary standard.
3. Determination of Cu (II) using $\text{Na}_2\text{S}_2\text{O}_3$ with $\text{K}_2\text{Cr}_2\text{O}_7$ as primary standard
4. Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4



A.G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165

NAAC reaccredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY

Semester: IV

Course Code	CHE-401C	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021 - 22	Year of Offering: 2021 - 22	Year of Revision: -----	Percentage of Revision: 0

Program outcomes:

Main objectives of this paper is to give a basics, applications and updated knowledge for the students on Chemistry of Organometallic Compounds, Carbohydrates Amino acids and proteins, Nitrogen Containing Functional Groups, Photochemistry and Thermodynamics.

Course Outcomes:

At the end of the course, the student will be able to:

1. To learn about the laws of absorption of light energy by molecules and the subsequent photochemical reactions.
2. To understand the concept of quantum efficiency and mechanisms of photochemical reactions

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
INORGANIC CHEMISTRY		
I	<p>Organometallic Compounds (Marks weightage 10+5) Definition and classification of organometallic Compounds on the basis of bond type, Concept of hapticity of organic ligands. Metal carbonyls: 18electronrule, electron count of mononuclear, poly nuclear and substituted metal carbonyls of Fe, Ni, Co.</p>	8h
ORGANIC CHEMISTRY		
II	<p>Carbohydrates (Marks weightage 10) Occurrence, classification, Monosaccharides: Constitution and absolute configuration of glucose and fructose, epimers and anomers, mutarotation, determination of ring size of glucose and fructose, Haworth projections and conformational structures; Interconversions (Marks weightage 5) 1. Aldopentose to Aldohexose (Killiani-Fischer synthesis) 2. Aldohexose to Aldopentose (Ruff degradation). 3. Aldohexose to ketohexose 4. Ketohexose to Aldohexose</p>	8h
III	<p>1. Amino acids and proteins (Marks weightage 10) 6h Introduction: Definition of Amino acids, classification of Amino acids into alpha, beta, and gamma amino acids. Natural and essential amino acids - definition and examples, classification of alpha amino acids into acidic, basic and neutral amino acids with examples. Methods of synthesis: General methods of synthesis of alpha amino acids (specific examples - Glycine, Alanine, valine and leucine) by following methods: a) from halogenated carboxylic acid b) from malonic ester synthesis c) strecker's synthesis.</p>	6h

	<p>Physical properties: (Marks weightage 5) Zwitter ion structure - salt like character - solubility, melting points, amphoteric character, definition of isoelectric point.</p> <p>Chemical properties: (Marks weightage 5) General reactions due to amino and carboxyl groups - lactams from gamma and delta amino acids by heating- peptide bond (amide linkage). Structure and nomenclature of peptides and proteins.</p> <p>2. Heterocyclic Compounds (Marks weightage 10) Introduction and definition: Simple five membered ring compounds with one hetero atom Ex. Furan. Thiophene and pyrrole - Aromatic character – Preparation from 1, 4, -dicarbonyl compounds, Paul-Knorr synthesis. Properties: Acidic character of pyrrole - electrophilic substitution at 2 or 5 position, Halogenation, Nitration and Sulphonation under mild conditions - Diels Alder reaction in furan.</p> <p>Pyridine (Marks weightage 5) Pyridine – Structure - Basicity - Aromaticity- Comparison with pyrrole- one method of preparation and properties - Reactivity towards Nucleophilic substitution reaction</p>	7h
IV	<p>Nitrogen Containing Functional Groups Preparation, properties and important reactions of nitro compounds, amines and diazonium salts.</p> <p>1. Nitrohydrocarbons 3h</p> <p>Nomenclature and classification-nitro hydrocarbons, structure - Tautomerism of nitroalkanes leading to aci and keto form, Preparation of Nitroalkanes, reactivity -halogenation, reaction with HONO (Nitrous acid),</p> <p>Reactions (Marks weightage 10) Nef reaction and Mannich reaction leading to Micheal addition</p>	3h

	<p>and reduction.</p> <p>2. Amines (Marks weightage 10 +5)</p> <p>Introduction, classification, chirality in amines (pyramidal inversion), importance and general methods of preparation.</p> <p>Properties : Physical properties, Basicity of amines: Effect of substituent, solvent and steric effects. Distinction between Primary, Secondary and tertiary amines using nitrous acid.</p> <p>Discussion of the following reactions; (Not required mechanism) Gabriel Phthalimide synthesis, Hoffmann-Bromamide reaction, Carbylamine reaction.</p> <p>Diazonium Salts:</p> <p>Synthetic applications of diazonium salts including preparation of arenes, haloarenes, Coupling reactions of diazonium salts (preparation of azo dyes).</p>	11h
V	<p>1.Photochemistry (Marks weightage 10+5)</p> <p>Difference between thermal and photochemical processes, Laws of photochemistry- Grothus- Draper's law and Stark-Einstein's law of photochemical equivalence, Quantum yield- Photochemical reaction mechanism- hydrogen- chlorine and hydrogen- bromine reaction. Qualitative description of fluorescence, phosphorescence, Jablonski diagram, Photosensitized reactions- energy transfer processes (simple example).</p> <p>2. Thermodynamics (Marks weightage 10+5)</p> <p>The first law of thermodynamics-statement, definition of internal energy and enthalpy, Heat capacities and their relationship, Joule-Thomson effect- coefficient, Calculation of work for the expansion of perfect gas under isothermal and adiabatic conditions for reversible processes, State function. Temperature dependence of enthalpy of formation- Kirchoff s equation, Second law of thermodynamics Different Statements of the law,</p>	5h

Carnot cycle and its efficiency, Carnot theorem, Concept of entropy, entropy as a state function, entropy changes in reversible and irreversible processes.	12h
---	------------

List of Reference Books

1. Concise coordination chemistry by Gopalan and Ramalingam
2. Coordination Chemistry by Basalo and Johnson
3. Organic Chemistry by G.Mareloudan, Purdue Univ
4. Text book of physical chemistry by S Glasstone
5. Concise Inorganic Chemistry by J.D.Lee
6. Advanced Inorganic Chemistry Vol-I by Satyaprakash, Tuli, Basu and Madan
7. A Text Book of Organic Chemistry by Bahl and Arunbahl
8. A Text Book of Organic chemistry by I L FinarVol I
9. A Text Book of Organic chemistry by I L FinarVol II
10. Advanced physical chemistry by Gurudeep Raj

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.**

SEMESTER – IV IV	PAPER-	PAPER CODE : CHE-401C
PAPER TITLE: INORGANIC, ORGANIC & PHYSICAL CHEMISTRY ACADEMIC YEAR-2021-2022		

Time: 3 hours

Maximum Marks: 70

PART- A

4 X 5 = 20 Marks

Answer any **FOUR** of the following questions. Each carries **FIVE** marks

1. Describe the 18 electron rule of mono nuclear and polynuclear metal carbonyls with suitable examples.
2. What are epimers and anomers. Give examples.
3. Discuss about isoelectric point.
4. Write the reactions due to amino group.
5. Discuss the structure of pyridine.
6. Discuss the basic nature of amines.
7. Write the differences between thermal and photochemical reactions.
8. Derive heat capacities and derive $C_p - C_v = R$.

PART- B

Answer any FIVE questions. Each question carries 10 marks.

5X10=50M

9. What are organometallic compounds? Discuss their Classification on the basis of type of bonds with examples.
10. Discuss the structure illustration of fructose.
11. What are amino acids? Write any two general methods of preparation of amino acids.
12. Discuss the aromatic character of Furan, Thiophene and Pyrrole.
13. Write the mechanism for the following. (i). Nef reaction (ii) Mannich reaction
14. Discuss any three synthetic applications of diazonium salts
15. Explain about Jablonski diagram.
16. Define entropy. Describe entropy changes in the reversible and irreversible process.

The Guidelines to be followed by the question paper setters in chemistry for the

IV- Semester - end exams

SEMESTER – IV SUBJECT: CHEMISTRY COURSE CODE: CHE-401C
PAPER TITLE : INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY
ACADEMIC YEAR-2021-2022

Weightage for the question paper

syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (15 Marks)	1	1
Unit-2 (15 Marks)	1	1
Unit-3 (35 Marks)	1+1+1	1+1
Unit-4 (25 Marks)	1	1+1
Unit- 5 (30 Marks)	1+1	1+1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B

The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.
(Accredited at “A” Grade by NAAC, Bangalore)
PRACTICAL SYLLABUS.**

Practical Paper – IV	PAPER CODE : CHE-401 P
Organic Qualitative analysis	ACADEMIC YEAR-2021-2022

30 hrs (2h/w)

Credits-2

Course outcomes:

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory.
2. Determine melting and boiling points of organic compounds
3. Understand the application of concepts of different organic reactions studied in theory part of organic chemistry.

Organic Qualitative analysis

50 M

Analysis of an organic compound through systematic qualitative procedure for functional group identification including the determination of melting point and boiling point with suitable derivatives.

Alcohols, Phenols, Aldehydes, Ketones, Carboxylic acids, Aromatic primary amines, amides and simple sugars.

SCHEME OF VALUATION

1. INTERNAL MARKS- Record-10M
 2. EXTERNAL MARKS-40
 - Analysis of an organic compound and preparation of suitable derivative-30M
 - Viva questions = 10 M
- TOTAL = 50 M_



A.G & S.G. SIDDHARTHA DEGREE COLLEGE OF

ARTS & SCIENCE

Vuyyuru-521165

NAAC recredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: INORGANIC & PHYSICAL CHEMISTRY

Semester: IV

Course Code	CHE-402C	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021 - 22	Year of Offering: 2021 - 22	Year of Revision: -----	Percentage of Revision: 0

Program outcomes:

Main objectives of this paper is to give a basics, applications and updated knowledge for the students on Chemistry of Coordination Chemistry, Inorganic Reaction Mechanism Stability of metal complexes, Bioinorganic Chemistry, Phase rule, Chemical Kinetics and Electrochemistry.

Course outcomes:

At the end of the course, the student will be able to;

1. Understand concepts of boundary conditions and quantization, probability distribution, most probable values, uncertainty and expectation value
2. Application of quantization to spectroscopy.

3. Various types of spectra and their use in structure determination.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
INORGANIC CHEMISTRY		26h
I	<p>Coordination Chemistry (Marks weightage 10+10+5) IUPAC nomenclature of coordination compounds, Structural and stereoisomerism in complexes with coordination numbers 4 and 6. Valence Bond Theory (VBT): Inner and outer orbital complexes. Limitations of VBT, Crystal field effect, octahedral symmetry. Crystal field stabilization energy (CFSE), Crystal field effects for weak and strong fields. Tetrahedral symmetry, Factors affecting the magnitude of crystal field splitting energy, Spectro chemical series,</p>	12h
II	<p>1. Inorganic Reaction Mechanism (Marks weightage 10+5) 4h Labile and inert complexes, ligand substitution reactions SN^1 and SN^2, Substitution reactions in square planar complexes, Trans-effect, theories of trans effect and its applications</p>	4h
	<p>2. Stability of metal complexes (Marks weightage 10+5) Thermodynamic stability and kinetic stability, factors affecting the stability of metal complexes, chelate effect, determination of composition of complex by Job's method and mole ratio method.</p>	8h
	<p>3. Bioinorganic Chemistry (Marks weightage 5+5) Metal ions present in biological systems, Importance of sodium, potassium and magnesium. Structure and functions of Hemoglobin.</p>	2h
PHYSICAL CHEMISTRY		34h
III	<p>1 .Phase rule (Marks weightage 10+5) Concept of phase, components, degrees of freedom. Phase diagram of one component system - water system, Study of Phase diagrams of Simple eutectic systems i) Pb-Ag system, desilverisation of lead Definition and</p>	6h

	examples for systems having congruent and incongruent melting point , freezing mixtures.	
IV	<p>Electrochemistry (Marks weightage 10+5)</p> <p>Specific conductance, equivalent conductance and molar conductance- Definition and effect of dilution. Cell constant. Strong and weak electrolytes, Kohlrausch's law and its applications, Definition of transport number, determination of transport number by Hittorf's method. Debye-Huckel-Onsagar's equation for strong electrolytes (elementary treatment only), Application of conductivity measurements- conductometric titrations. Electrochemical Cells- Single electrode potential, Types of electrodes with examples: Metal- metal ion, Gas electrode, Inert electrode, Redox electrode, Metal-metal insoluble salt- salt anion. Determination of EMF of a cell, Nernst equation, Applications of EMF measurements - Potentiometric titrations.</p>	14h
V	<p>Chemical Kinetics: (Marks weightage 10+10+5)</p> <p>The concept of reaction rates. Effect of temperature, pressure, catalyst and other factors on reaction rates. Order and molecularity of a reaction, Derivation of integrated rate equations for zero, first and second order reactions (both for equal and unequal concentrations of reactants). Half-life of a reaction. General methods for determination of order of a reaction. Concept of activation energy and its calculation from Arrhenius equation.</p>	14 h

List of Reference Books

1. Text book of physical chemistry by S Glasstone
2. Concise Inorganic Chemistry by J.D.Lee
3. Advanced Inorganic Chemistry Vol-I by Satyaprakash, Tuli, Basu and Madan
4. Advanced physical chemistry by Gurudeep Raj
5. Principles of physical chemistry by Prutton and Marron
6. Advanced physical chemistry by Bahl and Tuli
7. Inorganic Chemistry by J.E.Huheey
8. Basic Inorganic Chemistry by Cotton and Wilkinson
9. A textbook of qualitative inorganic analysis by A.I. Vogel
10. Atkins,P.W.&Paula,J.deAtkin'sPhysicalChemistryEd.,OxfordUniversityPress 10thEd(2014).
11. Castellan,G.W.Physical Chemistry 4thEd.Narosa(2004).
12. Mortimer,R. G.PhysicalChemistry 3rdEd. Elsevier:NOIDA,UP(2009).
13. Barrow,G.M.Physical Chemistry

The Guidelines to be followed by the question paper setters in chemistry for the

III- Semester - end exams

SEMESTER – IV SUBJECT: CHEMISTRY COURSE CODE: CHE-402C
PAPER TITLE : INORGANIC & PHYSICAL CHEMISTRY
ACADEMIC YEAR-2021-2022

Weightage for the question paper

syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (25 Marks)	1	1+1
Unit-2 (40Marks)	1+1+1+1	1+1
Unit-3 (15Marks)	1	1
Unit-4 (15Marks)	1	1
Unit-5 (20Marks)	1	1+1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.**

SEMESTER – IV	PAPER-V	PAPER CODE : CHE-402C
PAPER TITLE : INORGANIC & PHYSICAL CHEMISTRY		
ACADEMIC YEAR-2021-2022		

Time: 3 hours

Maximum Marks: 70

PART- A

4X 5 = 20 Marks

Answer any FOUR of the following questions. Each carries FIVE marks

1. Write note structural isomerism.
2. Explain Labile & inert complexes.
3. Explain mole ratio method for determination of composition of complex.
4. write structure and functions of Haemoglobin.
5. Write the importance of metals Na and K.
6. Write about freezing mixtures.
7. Explain about kohltrausch's law.
8. Explain order and molecularity.

PART- B

Answer any FIVE questions. Each question carries 10 marks.

5X10=50M

9. Explain Valence Bond theory with Inner and Outer orbital complexes. Write limitations of VBT.
10. Define CFSE. Explain the factors affecting the magnitude of crystal field splitting energy.
11. Explain Trans effect. Explain the theories of trans effect and write any two applications of trans effect.
12. Write about factors affecting the stability of metal complexes.
13. Define Phase rule and terms involved in it. Explain phase diagram of Pb-Ag system.

14. Define Transport number. Write experimental method for the determination of transport number by Hittorf method.
15. Explain general methods for determination of order of a reaction.
16. Derive second order rate equation and half-life and units.

A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE (AUTONOMOUS), VUYURU.

(Accredited at "A" Grade by NAAC, Bangalore)

PRACTICAL SYLLABUS

Practical Paper – V	PAPER CODE : CHE-402P
Conductometric and Potentiometric Titrimetry	ACADEMIC YEAR-2021-2022

30 hrs (2 h/W)

Credits: 2

Practical-Course –V Conductometric and Potentiometric Titrimetry

50 M

Course outcomes:

At the end of the course, the student will be able to;

1. Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. Apply concepts of electrochemistry in experiments
3. Be familiar with electro analytical methods and techniques in analytical chemistry which study an analyte by measuring the potential (volts) and/or current (amperes) in an electrochemical cell containing the analyte

Conductometric and Potentiometric Titrimetry

50 M

1. Conductometric titration- Determination of concentration of HCl solution using standard NaOH solution.
2. Conductometric titration- Determination of concentration of CH₃COOH Solution using standard NaOH solution.
3. Conductometric titration- Determination of concentration of CH₃COOH and HCl in a mixture using standard NaOH solution.
4. Potentiometric titration- Determination of Fe (II) using standard K₂Cr₂O₇ solution.
Determination of rate constant for acid catalyzed ester hydrolysis



A.G & S.G. SIDDHARTHA DEGREE COLLEGE OF

ARTS & SCIENCE

Vuyyuru-521165

NAAC recredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: ANALYTICAL METHODS IN CHEMISTRY

Semester: VI

Course Code	CHE-601GE	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2017-18	Year of Offering: 2021 - 22	Year of Revision: -----	Percentage of Revision: 0

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	<p>Quantitative analysis: (Marks weightage 10+5) Methods of different types of chemical analysis, Principle of volumetric analysis. Theories of acid-base, redox, complexometric, iodometric and precipitation titrations - choice of indicators for these titrations.</p>	15h
II	<p>Treatment of analytical data: (Marks weightage 10+5) Types of errors, significant figures and its importance, accuracy - methods of expressing accuracy, error analysis and minimization of errors, precision - methods of expressing precision, standard deviation and confidence limit.</p>	8h
III	<p>Separation Techniques in Chemical analysis (Marks weightage 10+10+5) Solvent extraction: Introduction, principle, techniques, factors affecting solvent Extraction, Batch extraction, continuous extraction. Synergism. Application - Determination of Iron (III), organic mixture analysis.</p>	15h
IV	<p>Chromatography (Marks weightage 10+10+5+5) Classification of chromatography methods, principles of differential migration adsorption phenomenon, Nature of adsorbents, solvent systems, R_f values, factors effecting R_f values. Ion exchange Chromatography: Introduction, action of ion exchange resins, separation of inorganic mixtures, applications. Paper Chromatography : Principle, experimental procedures, choice of paper and solvent systems, developments of chromatogram - ascending, descending and radial.</p>	12h

	Two dimensional chromatography, applications.	
V	<p>Thin layer Chromatography (TLC): (Marks weightage 10+10+5+5) Principles, Experimental procedures. Adsorbents and solvents. Preparation of plates. Development of the chromatogram. Detection of the spots. Applications.</p> <p>Column Chromatography: Principles, experimental procedures, Stationary and mobile Phases, Separation technique. Applications. GC: Principle and applications, HPLC: Basic principle and applications.</p>	10h

List of Reference Books

1. Analytical Chemistry by Skoog and Miller
2. A textbook of qualitative inorganic analysis by A.I. Vogel
3. Nanochemistry by Geoffrey Ozin and Andre Arsenault
4. Stereochemistry by D. Nasipuri
5. Organic Chemistry by Clayden

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU
(Accredited at "A" Grade by NAAC, Bangalore)**

Model question paper

SEMESTER – VI	PAPER CODE : CHE-601GE
PAPER TITLE : ANALYTICAL METHODS IN CHEMISTRY, PAPER-VII,	
Model question paper- AC-2021-22	

Time: 3Hours

Maximum marks: 70

Pass marks: 28

SECTION-A

Answer any **FOUR** of the following. Each question carries 5 marks. 4X5=20M

1. Explain the principals involved in chemical analysis
2. Define precession write the methods of expressive precession.
3. Write the applications of Solvent extraction.
4. Write the Principle of differential migration of adsorption phenomenon.
5. Write a short note on Nature of adsorbent
6. Write the Principles of TLC and give their applications.
7. Write the development methods of chromatograms.

SECTION-B

Answer any FIVE questions. Each question carries 10 marks. 5X10=50M

8. Explain about (a)Complexometric titrations (b) Idometric titrations
9. Explain the Choice of indicators for Acid -base and Redox titrations.
10. Define and explain the methods of expressing Accuracy.
11. Discuss the principle, factors affecting the solvent extraction and write the applications of solvent extraction.
12. Discuss the Separation of in organic mixtures by using ion exchange method.
13. Explain the classification of Chromatographic methods.
14. How to prepare plates in TLC.
15. Explain principle and applications of HPLC.

**The Guidelines to be followed by the question paper setters in chemistry for the
VI- Semester - end exams –Academic year -2021-22**

SEMESTER – VI	PAPER CODE : CHE-601GE
PAPER TITLE : ANALYTICAL METHODS IN CHEMISTRY, PAPER-VII	

syllabus	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1 (15 Marks)	1	1
Unit-2 (15 Marks)	1	1
Unit-3 (25 Marks)	1	1+1
Unit-4 (30 Marks)	1+1	1+1
Unit-5 (30 Marks)	1 +1	1 + 1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.**

(Accredited at “A” Grade by NAAC, Bangalore)

PRACTICAL SYLLABUS

Practical Paper – I Analysis of SALTMIXTURE	PAPER CODE : CHE-601GE ACADEMIC YEAR-2021-2022
--	---

1. Identification of amino acids by paper chromatography.
2. Determination of Zn using EDTA
3. Determination of Mg using EDTA
4. Hardness of water.

SCHEME OF VALUATION

1. INTERNAL MARKS- Record-10M
2. EXTERNAL MARKS-40
 - Titrimetric analysis -30
 - Viva-10

TOTAL = 50 M__



A.G & S.G. SIDDHARTHA DEGREE COLLEGE OF

ARTS & SCIENCE

Vuyyuru-521165

NAAC recredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: ORGANIC SPECTROSCOPIC TECHNIQUES

Semester: VI

Course Code	CHE-602CE	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2017-18	Year of Offering: 2021 – 22	Year of Revision: -----	Percentage of Revision: 0

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	<p>NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY (Marks weightage 10+10+5)</p> <p>Nuclear spin, Principles of NMR-Classical and Quantum Mechanical methods, Larmour Frequency. Instrumentation. Saturation, Relaxation spin-spin & spin lattice relaxation. Chemical shifts -Factors influencing Chemical shift, Shielding and De-shielding mechanism.</p>	15h
II	<p>NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY (Marks weightage 10+5)</p> <p>Spin-Spin interactions-factors affecting spin-spin interactions, Deuterium exchange (H^+) Coupling constant- types of coupling constant-vicinal, Geminal and long range coupling constant-Factors influencing coupling constants. Types of PMR Spectrums –AX, AX₂ and AB type with one example.</p>	8h
III	<p>Electron Spin Resonance Spectroscopy (Marks weightage 10+10+5+5)</p> <p>Basic Principles, Theory of ESR, Comparison of NMR & ESR.Instrumentation, Factors affecting the 'g' value, determination of 'g' value. Isotropic and Anisotropic constants. Splitting hyper fine splitting coupling constants. Line width, Zero field splitting and Kramer degeneracy. Crystal field splitting,Crystal field effects.Applications:- Detection of free radicals, ESR spectra of (a) H- radical (b)Deuterium radical (c) Methyl radical(CH₃) (d) Benzene anion (C₆H₆) (e) [Cu(H₂O)₆]⁺²</p>	14h
IV	UV & VISIBLE SPECTROSCOPY	

	(Marks weightage 10+10+5+5)	
	Electronic spectra of diatomic molecules. The Born- oppenheimer approximation. Vibration coarse structure: Intensity of Vibrational-electronic spectra: The Franck-Condon principle. Electronic structure of diatomic molecules. Types of transitions, Chromophores, Auxochrome, types of shifts in UV Visible spectrum, Conjugated dienes, trienes and polyenes, unsaturated carbonyl compounds-Woodward – Fieser rules.	15h
V	<p style="text-align: center;">Electronic spectra of polyatomic molecules</p> <p style="text-align: center;">(Marks weightage 10+5)</p> <p>Chemical analysis by Electronic Spectroscopy – Beer-Lambert’s Law. Deviation from Beer’s law. Quantitative determination of metal ions (Mn^{+2}, Fe^{+2}). Simultaneous determination of Chromium and Manganese in a mixture.</p>	8h

REFERENCE BOOKS:

1. Electron Spin Resonance Elementary Theory and Practical Applications- John E. Wertz and James R. Bolton, Chapman and Hall, 1986.
2. Spectroscopic Identification of organic compounds – Silverstein, Basseler and Morrill.
3. Organic Spectroscopy- William Kemp.
4. Fundamentals of Molecular Spectroscopy- C.N.Banwell and E.A. Mc cash 4thEdition, Tata Mc GrawHillPublishing Co., Ltd. 1994.
5. Physical Methods in Inorganic Chemistry – R.S.Drago, Saunders Publications.
6. Application of Mössbauer Spectroscopy – Green Mood.
7. NMR, NQR, EPR and Mössbauer Spectroscopy in inorganic chemistry – R.VParish, Ellis, Harwood.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU
. (Accredited at "A" Grade by NAAC, Bangalore)**

Model question paper

SEMESTER – VI

PAPER CODE : CHE-602CE

PAPER TITLE : : ORGANIC SPECTROSCOPIC TECHNIQUES, PAPER-VIII, Model question paper- AC-2021-

22

Time: 3Hours

Maximum marks: 70

Pass marks: 28

Answer any FOUR of the following. Each question carries 5 marks.

4X5=20M

1. Write about Nuclear spin?
2. Write any two types of coupling constant?
3. Write about Kramer degeneracy?
4. What is isotropic and anisotropic constants?
5. Explain Woodward-Fieser rules?
6. Write a short note on Auxochrome?
7. Define and derive Beer-Lambert's law.

SECTION-B

Answer any FIVE questions. Each question carries 10 marks.

5X10=50M

8. Explain the instrumentation of the NMR?
9. Explain Spin-Spin relaxation and spin lattice relaxation.
10. Write the types of PMR spectrums of AX, AX₂ & AB?
11. Explain the instrumentation of the ESR.
12. Explain the ESR splitting of a) Deuterium radical b) [Cu(H₂O)₆]⁺² ion
13. Explain the electronic spectra of di atomic molecule.
14. Write note on Vibrational coarse structure.
15. Explain the simultaneous determination of Chromium and Manganese in a mixture.

The Guidelines to be followed by the question paper setters in chemistry for the VI-Semester - end exams Academic year- 2021-22

**PAPER TITLE: ORGANIC SPECTROSCOPIC TECHNIQUES,
PAPER CODE: CHE-602CE**

Paper – VIII Maximum marks : 70 Duration : 3 Hours

Weightage for the question paper

syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (25Marks)	1	1+1
Unit-2 (15 Marks)	1	1
Unit-3 (30Marks)	1+1	1+1
Unit-4 (30Marks)	1+1	1+1
Unit-5 (15Marks)	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.



A.G & S.G. SIDDHARTHA DEGREE COLLEGE OF

ARTS & SCIENCE

Vuyyuru-521165

NAAC recredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: ADVANCED ORGANIC REACTIONS

Semester: VI

Course Code	CHE-603CE	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2017-18	Year of Offering: 2021 – 22	Year of Revision: -----	Percentage of Revision: 0

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	<p>ORGANIC PHOTO CHEMISTRY (Marks weightage 10+10+5)</p> <p>Organic photochemistry: Molecular orbitals, carbonyl chromophore–Jablonski diagram, Photochemical reactions- Photo reduction-mechanism, example-aromatic compounds. Sensitizer and influence of sensitizer.</p>	10h
II	<p>ORGANIC PHOTOCHEMISTRY (Marks weightage 10+10+5)</p> <p>Norrish cleavages, type -I: Mechanism, acyclic cyclic diones, Photo Fries rearrangement. Norrish type II cleavage: Mechanism and stereochemistry, Type- II reactions of esters: 1: 2 diketones, photo decarboxylation, Di-π methane Rearrangement, Photochemistry – of conjugated dienes, Decomposition of nitrites –Barton reaction.</p>	12h
III	<p>PROTECTING GROUPS AND ORGANIC REACTIONS (Marks weightage 10+10+5+5)</p> <p>Principles of (1) Protection of alcohols – ether formation including silyl ethers – ester formation, (2) Protection of diols – acetal,ketal and carbonate formation, (3) Protection of carboxylic acids – ester formation, benzyl and t-butyl esters, (4) Protection of amines– acetylation, benzylation, benzyloxy carbonyl, triphenyl methyl groups and fmoc, (5)Protection of carbonyl groups – acetal, ketal, 1,2-glycols and 1,2-dithioglycols formation.</p>	15h
IV	<p>SYNTHETIC REACTIONS: (Marks weightage 10+5+5)</p> <p>Mannich reaction – Mannich bases – Robinson annulations. The Shapiro reaction, Stork–enamine reaction. Use of dithioacetals – Umpolung, phase transfercatalysis – mechanisms and use of</p>	8h

	benzyl trialkyl ammonium halides. Wittig reaction.	
V	<p>NEW SYNTHETIC REACTIONS (Marks weightage 10+5)</p> <p>Define with example and mechanism- Suzuki coupling, Click reaction, Baylis–Hillman reaction, RCM olefin metathesis, Mukayama aldol reaction.</p> <p>Define with one example: (Mechanism not required) Mitsunobu reaction, McMurrey reaction, Julia–Lythgoe olefination, Stille coupling and Heck reaction.</p>	15h

Recommended Books

1. Molecular reactions and Photochemistry by Charles Dupey and O.L. Chapman.
2. Molecular Photochemistry by Turru.
3. Importance of antibonding orbitals by Jaffe and Orchin.
4. Text Book of Organic Chemistry by Cram, Hammand and Henrickson.
5. Some modern methods of organic synthesis by W. Carruthers.
6. Guide Book to Organic Synthesis by R.K. Meckie, D.M. Smith and R.A. Atken.
7. Organic Synthesis by O. House.
8. Organic synthesis by Michael B. Smith.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU
. (Accredited at "A" Grade by NAAC, Bangalore)**

Model question paper

SEMESTER – VI	PAPER CODE : CHE-603CE
PAPER TITLE : ORGANIC SPECTROSCOPIC TECHNIQUES, PAPER-IX, <u>Model question paper- AC-2021-22</u>	

Time: 3Hours

Maximum marks: 70

Pass marks: 28

SECTION-A

Answer any FOUR of the following. Each question carries 5 marks.

4X5=20M

1. Write about Chromophore triplet state?
2. Write about Barton reaction?
3. Explain how to protect the Carbonyl group?
4. Explain how to protect the Diols?
5. Explain about Umpolung?
6. Explain PTC with mechanism?
7. Explain Suzuki coupling?

SECTION-B

Answer any FIVE questions. Each question carries 10 marks.

5X10=50M

8. Explain about Jablonski diagram in organic photo chemistry?
9. Explain mechanism of photo reduction with examples?
10. Explain Norrissch type –I cleavage with mechanism?
11. Explain Norrissch type –II cleavage with mechanism?
12. Explain how to protect Alcohols?
13. Explain how to protect Carboxylic acids?
14. What is Mannich reaction? Explain with mechanism and Mannich bases?
15. Write the mechanism of Baylis-Hillman reaction and RCM Olefination?

The Guidelines to be followed by the question paper setters in chemistry for the VI-Semester - end exams Academic year- 2021-22

PAPER TITLE: ADVANCED ORGANIC REACTIONS, PAPER CODE: CHE-603CE

Paper – VIII

Maximum marks : 70

Duration : 3 Hours

Weightage for the question paper

syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (25Marks)	1	1+1
Unit-2 (25 Marks)	1	1+1
Unit-3 (30 Marks)	1+1	1+1
Unit-4 (20Marks)	1+1	1
Unit-5 (15 Marks)	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.



A.G & S.G. SIDDHARTHA DEGREE COLLEGE OF

ARTS & SCIENCE

Vuyyuru-521165

NAAC recredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: PHARMACEUTICAL AND MEDICINAL CHEMISTRY

Semester: VI

Course Code	CHE-604CE	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2017-18	Year of Offering: 2021 - 22	Year of Revision: -----	Percentage of Revision: 0

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	<p>Pharmaceutical chemistry Terminology: (Marks weightage 10+5+5)</p> <p>Pharmacy, Pharmacology, Pharmacophore, Pharmacodynamics, Pharmacokinetics (ADME, Receptors - brief treatment) Metabolites and Anti metabolites.</p>	12h
II	<p>Drugs (Marks weightage 10+10+5)</p> <p>Nomenclature: Chemical name, Generic name and trade names with 10-examples Classification based on structures and therapeutic activity with one example each.</p>	10h
III	<p>Synthesis and therapeutic activity of the compounds:</p> <p>Chemotherapeutic Drugs (Marks weightage 10+10+5)</p> <p>1.Sulphadruugs(Sulphamethoxazole) 2.Antibiotics - β-Lactam Antibiotics-Isolation of Pencilline by submerged culture method, 3. Anti malarial Drugs (chloroquine).</p> <p>Psycho therapeutic Drugs: (Marks weightage 10+5)</p> <p>1.Antipyretics(Paracetamol)2.Hypnotics,Tranquilizers (Diazepam) 3.Levodopa.</p>	18h
IV	<p>Pharmacodynamic Drugs: (Marks weightage 10+5)</p> <p>1.Antiasthma Drugs (Solbutamol) 2. Antianginals (Glycerol Trinitrate) 3.Diuretics (Frusemide)</p>	8h
V	<p>HIV-AIDS: (Marks weightage 10+5)</p> <p>Immunity - CD-4cells, CD-8cells, Retro virus, Replication in human body, Investigation available, prevention of AIDS, Drugs available - examples with structures: PIS: Indivanir (crixivan), Nelfinavir(Viracept).</p>	12h

List of Reference Books:

1. Medicinal Chemistry by Dr. B.V.Ramana
2. Synthetic Drugs by O.D.Tyagi & M.Yadav
3. Medicinal Chemistry by Ashutoshkar
4. Medicinal Chemistry by P.Parimoo
5. Pharmacology& Pharmacotherapeutics R.S Satoshkar & S.D.Bhandenkar

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU
. (Accredited at "A" Grade by NAAC, Bangalore)**

Model question paper

SEMESTER – VI

PAPER CODE : CHE-604CE

PAPER TITLE : PHARMACEUTICAL AND MEDICINAL CHEMISTRY, PAPER-IX, Model question paper- AC-2021-22

Time: 3Hours

Maximum marks: 70

Pass marks: 28

SECTION-A

Answer any FOUR of the following. Each question carries 5 marks. 4X5=20M

1. What are Metabolites and anti metabolites? Explain with example.
2. Write a note on Pharmacology and Pharmacophore.
3. Explain the classification of drugs on the basis of structure.
4. Describe the synthesis and therapeutic activities of Sulphamethoxazole.
5. Write the synthesis,therapeutic activity and side effects of paracetamol.
6. Write a note on Antianginals.
7. Explain about immunity.

SECTION-B

Answer any FIVE questions. Each question carries 10 marks. 5X10=50M

8. What are Pharma cokinetics ? Describe Absorption,Distribution,Metabolism and Excretion(ADME)of drug.
9. Explain the classification of drugs based on therapeutic activity with examples.
10. Describe the nomenclature systems of drugs.
11. What are antibiotics? Give examples. Explain the isolation method of Pencillin by submerged culture method.
12. Write the synthesis, therapeutic activity and side effects of Chloroquine.
13. Discuss the synthesis and therapeutic activity of Levodopa.
14. Explain in detail about antiasthma drugs.
15. What is AIDS ?How it causes ? Write the drugs available for the treatment of AIDS with their structure?

The Guidelines to be followed by the question paper setters in chemistry for the VI-Semester - end exams Academic year-2021-22

PAPER TITLE: PHARMACEUTICAL AND MEDICINAL CHEMISTRY,

PAPER CODE: CHE-604CE

Paper – VIII-C-3 Semester – VI Maximum marks : 70 Duration : 3 Hours

Weightage for the question paper

syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (20 Marks)	1+1	1
Unit-2 (25Marks)	1	1+1
Unit-3 (40Marks)	1+1	1+1+1
Unit-4 (15 Marks)	1	1
Unit-5 (15Marks)	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.**

(Accredited at "A" Grade by NAAC, Bangalore)

PRACTICAL SYLLABUS

Practical Paper – I Preparations of Organic compounds	PAPER CODE : CHE-602CE ACADEMIC YEAR-2021-2022
--	---

30 hrs (2 h / W)

Credits-2

1. Preparation of Aspirin.
2. Preparation of Paracetamol.
3. Preparation of Acetanilide
4. Preparation of Barbituric Acid.
5. Preparation of Phenyl Azo β -naphthol.

SCHEME OF VALUATION

1. INTERNAL MARKS- Record-10M
2. EXTERNAL MARKS-40M
 - Titrimetric analysis -30
 - Viva-10

TOTAL = 50 M__

**A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.**

(Accredited at "A" Grade by NAAC, Bangalore)

PRACTICAL SYLLABUS

Practical Paper – I Preparations of Organic compounds by Green procedure	PAPER CODE : CHE-603CE ACADEMIC YEAR-2021-2022
---	---

30 hrs (2h / W),

Credits-2

1. Green procedure for organic qualitative analysis: Detection of N, S and halogens
2. Acetylation of 1^o amine by green method: Preparation of acetanilide
3. Rearrangement reaction in green conditions: Benzil-Benzilic acid rearrangement
4. Electrophilic aromatic substitution reaction: Nitration of phenol
5. Radical coupling reaction: Preparation of 1, 1-bis -2-naphthol
6. Green oxidation reaction: Synthesis of Adipic acid
7. Green procedure for Diels Alder reaction between furan and Maleic anhydride

SCHEME OF VALUATION

1. INTERNAL MARKS- Record-10M
2. EXTERNAL MARKS-40 M
 - Practical -30
 - Viva-10

TOTAL = 50 M__

A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU.
(Accredited at “A” Grade by NAAC, Bangalore)
PRACTICAL SYLLABUS

Practical Paper – I Project work	PAPER CODE : CHE-604CE
---	-------------------------------

The students have chosen chemistry as cluster elective.

“*Spectral analysis of various shaded dried leaves powder extract with polar and non-polar solvents using IR and UV spectroscopies*” is selected as a project work to the students for this academic year.

SCHEME OF VALUATION

1. EXTERNAL- 25M- given by the Examiner (Viva)

2. INTERNAL = 25 M

- Written viva-10 M
- Submission of the project book-15M

TOTAL = 50 M__

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF COMMERCE

MINUTES OF BOARD OF STUDIES



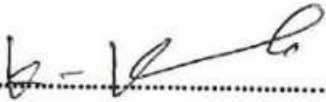

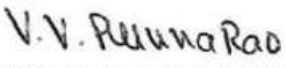
EVEN SEMESTER

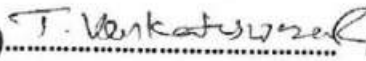


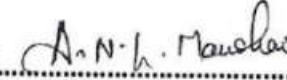

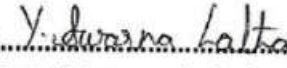

31-03-2022

Minutes of the meeting of Board of studies in Commerce for the Autonomous courses of
AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at
10.30 A.M on 31-3-2022

N.Vasanatha Rao ... Presiding

Members Present:

- 1).....
(N.Vasanatha Rao) Chairman Head, Department of Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru
- 2).....
(Dr.N.A Francis Xavier) University Nominee Head, Department of Commerce
Andhra Loyola College.
Vijayawada (9440524321)
nafrancisxavier@gmail.com
- 3).....
(Dr.K.Venkateswarlu,) Subject Expert Lecturer in Commerce
V.S.R Govt. Degree & P.G College
Movva (9848341412)
gdcjkc.movva@gmail.com
- 4).....
(K.Narayanarao) Subject Expert Lecturer in Commerce
P.B.Siddhartha College of arts and Science
Vijayawada. (9885038196)
hodcommerce@pbsiddhartha.ac.in
- 5).....
(Sri V.Punnarao) Member General Manager
K.C.P & IC Ltd
Vuyyuru.
- 6).....
(Sri V.Balaji) Member Chartered Accountant
Managing Partner
Balaji V & Co (9052190007)
Vuyyuru (cbalajinco@gmail.com)

- 7)  Member
(Dr. T. Venkateswara Rao) Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru
- 8)  Member
(Sri V. Gopi Chand) Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru
- 9)  Member
(Sri K. Sekhar Babu) Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru
- 10)  Member
(Ms A.N.L Manohari) Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru
- 11)  Member
(Ms P. Mohan Krishna) Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru
- 12)  Member
(Smt. Y. Swarna Latha) Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru
- 13)  Member
(K. Kiran Kumar) Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

RESOLUTIONS

1. Discussed and recommended the Changed syllabi, Model Question Papers and Guidelines for question paper setters in Commerce for the 2nd Semester of **I B.Com., (general, computer & e-commerce)** for the Academic year 2021-2022, prescribed by APSCHE. A new Topic “**Supply analysis**” was incorporated in Unit II. Some new topics “**Monopolistic Competition, Oligopoly and Kinky demand curve Analysis**” was incorporated in Unit IV and another new topic “**Trade cycles**” was incorporated in Unit V of Business Economics.
2. Discussed and recommended that new changes are required in syllabi, Model Question Papers and Guidelines for question paper setters in Commerce for the 4th Semester of **II B.Com., (general & computer)** for the Academic year 2021-2022.
3. Discussed and recommended that no changes are required in syllabi, but some minor changes are required in Model Question Papers and Guidelines for question paper setters in Commerce for the 6th Semester of **III B.Com., (general & computer)** for the Academic year 2021-2022.
4. It is resolved to continue the same blue prints of II, IV, & VI Semesters of Degree B.Com. (general & computer) for the Academic year 2021-2022.
5. It is resolved to continue following Teaching and Evaluation methods for Academic year 2022-2023.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. using of LCD projector, display on U boards etc, for better understanding of concepts.

Evaluation of a student is done by the following procedure:

Internal Assessment (IA) I B.Com (General, Computers & e-Commerce)

- Out of maximum 100 marks in each paper 25 marks shall be allocated for internal assessment for I.B.Com (General, Computers & e-Commerce). Out of these 25 marks, 20 Marks are allocated for announced tests (i.e. IA-1 & IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, and remaining 5 marks are allocated for the assignment. There is no minimum passing for IA.

Internal Assessment (IA) II & III B.Com (General & Computers)

- Out of maximum 100 marks in each paper 30 marks shall be allocated for internal assessment B.Com (General & Computers). Out of these 30 marks, 20 Marks are allocated for announced tests (i.e. IA-1 & IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5 marks allocated on the basis of candidate's percentage of attendance and remaining 5 marks are allocated for the assignment. There is no minimum passing for IA.

Semester Examinations (SE)

- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration, with maximum 70 marks, irrespective of the number of credits allotted to it.
 - Even though the candidate is absent for two IA exams/obtained zero marks, the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'
 - The pass mark shall be 30 out of 75 in the Semester end examination for I B.Com (General ,Computers & e-Commerce)
 - The pass mark shall be 28 out of 70 in the Semester end examination for II& III.B.Com and (General & Computers)
 - The maximum marks for each Paper shall be 100.(Internal 30 + External 70)
6. Discussed and recommended to organize certificate course online/offline, seminars, Guest lectures, Online Examinations and Workshops to upgrade the knowledge of students for Competitive Examinations for the approval of the Academic Council.
 7. It is resolved to follow further changes if any in the Syllabus by the Competent Authority


Chairman

Programme Specific Outcomes (PSO)

PSO1. Getting the knowledge and the importance of accounting and auditing Standards for the reliability of financial statements.

PSO2 Interpret the legal and environmental aspects of business and Analyze quantitative data in order to take business decisions

PSO3. Empowering the student to understand the accounting practices and Procedures followed by different business entities.

PSO4. Promising the Practical skills for a bright career as accounting officers, computer professionals, audit assistants, businessmen, entrepreneurs, managers with required knowledge in computers.

PSO5. Knowledge of major theories and models in key areas which motivate them to pursue higher studies / face competitive exams like SSC,P.C,BANK,R.R.B/ professional courses like CA,CS, ICWA and other courses.

Program outcomes (Pos)

PO1. Critical Thinking: Knowledgeable in the core disciplines of Commerce, Economics and Business through a number of specializations and practical exposure enables them to face the challenges in the field of Commerce

PO2. Effective Communication: Demonstrate proficiency in communicating competently in groups and organizations in English and in one Indian language,

PO3. Effective Citizenship: Ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO4. Value- based development: Recognize values such as justice, trust, equity, fairness, kindness and, understand the moral Dimensions of your decisions, and accept responsibility for them.

PO5. Environment and Sustainability: Understand the issues of environmental contexts and Sustainable development.

PO6. Self-directed and Life-long Learning: promoting continuous development and improvement of the knowledge and skills needed for employment and personal fulfillment

SEMESTER- II

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
COMT21A	Financial Accounting(Gen , CA & EC)	5	4	25	75	3 Hrs.
ECOT22B	BUSINESS ECONOMICS (Gen , CA)	5	4	25	75	3 Hrs.
COMT22B	Banking Theory &Practice (Gen)	5	4	25	75	3 Hrs.
CAD 201G/C	Advertising (Gen, CA & E-Com)	2	2	10	40	2Hrs

SEMESTER- IV

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
CCA-401 G/C	Corporate Accounting (Gen & CA)	5	4	30	70	3 Hrs.
CCMA-402G/C	Cost and Management Accounting (Gen & CA)	5	4	30	70	3 Hrs.
CIT-403G/C	Income Tax (Gen & CA)	5	4	30	70	3 Hrs.
CBL-404G/C	Business Laws (Gen & CA)	5	4	30	70	3 Hrs.
CAUD-405G	Auditing (Gen)	5	4	30	70	3 Hrs.
CGST-406 G	Goods and Service Tax (Gen)	5	4	30	70	3 Hrs.

SEMESTER – VI

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
CEM-601 G/C C	Event Management	2	2		50	2 Hrs.
CM-602 GEG/C C	Marketing	5	4	30	70	3 Hrs.
CAU-603 GE G/C C	Auditing	5	4	30	70	3 Hrs.
CMA 604 GE G/C C	Management Accounting	5	4	30	70	3 Hrs.
CFS 605 CE G/C	Financial Services	5	4	30	70	3Hrs
CMFS 606 CE G/C	Marketing of Financial Services	5	4	30	70	3Hrs
COM 607P	Project	3	4	--	100	--



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Financial Accounting
Semester: II

Course Code	COMT21A	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	5	Semester End Exam Marks	75
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	I.B.COM., (gen/computer/e-commerce)		

COURSE OUTCOMES:

CO1 Determine the useful life and value of the depreciable assets. and maintenance of Reserves in business entities.

CO2 Demonstrate the applicability of the concept of Provisions and reserves to understand the managerial Decisions and financial statements

CO3 Appreciate the need for negotiable instruments and procedure of accounting for bills honored and dishonored

CO4 Understand the concept of Consignment and learn the accounting treatment of the various aspects of consignment

CO5 Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture

Learning Objective:

1. This course will enable the students to combine practice and theoretical knowledge of financial accounting.
2. The students of this course will be active learners and develop awareness of emerging trends in financial accounting.
3. The course will provide decision making skills to the students in the financial analysis context.
4. The students of this course will have the ability to identify and analyze financial accounting problems and opportunities in real life situations.

Syllabus Financial Accounting

Course Details

Unit	Learning Units	Lecture Hours
I	Depreciation: Meaning and Causes of Depreciation - Methods of Depreciation: Straight Line – Written Down Value – Annuity and Depletion Method (including Problems).	15
II	Provisions and Reserves: Meaning – Provision vs. Reserve – Preparation of Bad Debts Account – Provision for Bad and Doubtful Debts – Provision for Discount on Debtors – Provision for Discount on Creditors - Repairs and Renewals Reserve A/c (including Problems).	15
III	Bills of Exchange: Meaning of Bill – Features of Bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the Books of Drawer and Drawee (including Problems).	15
IV	Consignment Accounts: Consignment - Features - Proforma Invoice - Account Sales – Del-credere Commission - Accounting Treatment in the Books of Consigner and Consignee - Valuation of Closing Stock - Normal and Abnormal Losses (including Problems).	15
V	Joint Venture Accounts: Joint Venture - Features - Difference between Joint Venture and Consignment – Accounting Procedure – Methods of Keeping Records– One Vendor Keeps the Accounts and Separate Set off Books Methods (including Problems).	15

Test Book Prefer:

1. Financial Accounting By: S.P.Jain& K.L. Narang. Kalyani Publishers – New Delhi.

Reference text books:

1. Financial Accounting – Himalaya Publishers
2. Financial Accounting – Pragthiprakesh Publishers

Suggested Co-Curricular Activities:

1. Quiz Programs
2. Problem Solving Exercises
3. Seminar
4. Group Discussions on problems relating to topics covered by syllabus
5. Collection of proforma of bills and promissory notes
6. Examinations (Scheduled and surprise test)

Web Links:

1. <https://www.vedantu.com/commerce/difference-between-provision-and-reserve>
2. <https://youtu.be/BYYR9wp2maY>
3. <https://youtu.be/L1ex2P4NNiA>
4. <https://youtu.be/IYihGJ5nhQ0>



A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER:Financial Accounting
Semester: II

Time: 3Hrs

Max.Marks:75

SECTION- A

Answer any FIVE of the following.

5 x 5 = 25.

1. Explain the meaning and causes of depreciation. **CO1,L2**
2. What are the factors effecting the amount of depreciation? **CO1,L1**
3. What are the differences between Reserve and Provisions? **CO2,L1**
4. What is bill? Explain the types of bills. **CO3,L1**
5. Explain the features of Consignment. **CO4,L2**
6. Performa Invoice and Account Sales **CO4,L2**
7. Explain the essential features of Joint Venture. **CO5,L2**
8. What is Memorandum Joint Venture Account? **CO5,L1**

SECTION- B

Answer ALL the following questions.

5 x 10 = 50

9. A. Explain the different methods of depreciation. **CO1,L2**

Or

B. A company whose accounting year is the calendar year, purchased on 1st April 2011 machinery costing rs. 30,000. It purchased further machinery on 1st October 2011 costing rs. 20,000 and on 1st July 2012 costing rs. 30,000. On 1st January 2013 1/3 of the machinery installed on 1st April 2011 become obsolete and was sold for rs. 3,000.

Show how machinery account would appear in the books of the company, it being given that machinery was depreciated by Fixed Installment Method at 10% p.a. **CO1,L3**

10. A. What is meant by Reserve? What are the different types of Reserves? **CO2,L1**

Or

B) A firm desires to debit its profit and loss account with a uniform figure every year in respect of repairs and renewals. In created a repairs and renewals provision by charging Rs 30000 every year. Actual repairs were Rs. 3000 in second year and Rs 8000 in second year, Rs 11000 in the third year. Show the repairs and renewal provision account for three years. **CO2,L3**

11. A) What are the difference between promissory note and Bills of Exchange? **CO3,L1**

Or

B. Jagannadh purchases goods worth Rs.15,000 from Viswanath on 1-1-15. Viswanath draws a bill on jagannadh for Rs.15,000 for 4 months, which is accepted by jagannadh. Viswanadh discounts the same for Rs.14,900. On maturity Jagannadh fails to honour the bill and requests Viswanadh to draw a new bill for 3 months for the original amount plus interest at 10% per annum plus discounting charges of the original bill. Viswanadh agrees to the proposal. Make Journal entries in the books of Viswanadh ledger accounts in the books of Jagannadh. **CO3,L3**

12. A) What is Consignment? Explain the difference between Consignment and Sale. **CO4,L1**

Or

B. On 1st Jan, 2015 B of Mumbai consigned 100 cases (cost price Rs.7, 500) at a proforma invoice of 25% profit on sale to his agent C of Chandigarh. On the same date B paid Rs. 600 as expenses. On 30th Jan, C took delivery and paid Rs. 1,200 for octroi and other duties and remitted Rs. 4,000 as an advance. On 31st Jan he sold 80 cases for Rs. 10,500; C is entitled to 5% commission on gross sales and 10% of the price in excess of invoice price. Show Consignment A/c and C's A/c in the books of B. **CO4,L3**

13. A. What is Joint Venture? What are the different methods for recording Joint Venture transactions? **CO5,L1**

Or

B. Jolly and Happy undertake jointly to construct a building for Hyderabad insurance Co. ltd., for contract price of Rs. 9,00,000 payable as to Rs. 7,20,000 by instalments in cash and Rs. 1,80,000 in fully paid shares of the company. A Joint Bank Account is opened in their names, jolly paying in Rs. 2,25,000 and Happy Rs. 1,35,000. They are to share Profit of Loss in the proportion of 2/3 and 1/3 respectively. Their transactions were as follows

	Rs.
Paid wages	2,70,000
Bought materials	6,30,000
Materials supplied by Jolly from his stock	45,000
Materials supplied by Happy from his stock	36,000
Architect's Fees paid by Jolly	18,000

The contract was completed and the Price duly received. The joint venture was closed by Jolly taking up all the shares of the company at an agreed valuation of Rs. 1,44,000 and Happy taking up the stock of materials at an agreed valuation of Rs. 27,000.

Prepare the Joint Venture Account and the accounts of Jolly and Happy, showing the final distribution of cash. **CO5,L3**

@@@@



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: BUSINESS ECONOMICS
Semester: II

Course Code	ECOT22B	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	5	Semester End Exam Marks	75
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2012-13	Year of Revision: 2021-22	Percentage of Revision: 20%
CLASS:	I.B.COM., (gen/computer)		

Course objectives:

- Co1 Students are able to acquire the knowledge about definition , nature and scope of business economics
- Co2 Students are able to acquire the knowledge about demand and supply analysis
- Co3 Students are able to acquire the knowledge about production cost and revenue analysis
- Co4 Students are able to acquire the knowledge about different market structures
- Co5 Students are able to acquire the knowledge about national income and trade cycles

Syllabus
BUSINESS ECONOMICS

Course Details

Unit	Learning Units	Lecture Hours
I	INTRODUCTION : Meaning and Definition of Economics Wealth Definition Welfare Definition Scarcity Definition Meaning and Definition of Business Economics Nature and Scope of Business Economics Micro Economics and Macro Economics	15
II	DEMAND AND SUPPLY ANALYSIS : Meaning and Definition of demand Determinants of Demand – Demand Function Law of Demand – Demand curve – exceptions Elasticity of Demand Types of Price Elasticity of Demand Methods to measure Price Elasticity of Demand Law of Supply-Exceptions to the Law	15
III	PRODUCTION, COST AND REVENUE ANALYSIS : Production Analysis – Production Function – Meaning The law of variable proportions The law of Returns to Scale Cost Analysis: Short Run Cost Curves Relationship between AC & MC Curves Revenue Analysis: Revenue Concepts & Revenue curves Meaning of Breakeven point & Breakeven chart	15
IV	MARKET STRUCTURES: Classification of markets Features of Perfect competition Price determination under perfect competition Features of Monopoly market Features of monopolistic competition market Features of Oligopoly market Kinky Demand Curve analysis	15
V	NATIONAL INCOME AND TRADE CYCLES : National Income Meaning and Definition of National Income (Marshall, Pigou, Fisher) Concepts of National Income – GDP, GNP, NDP, NMP, NNPPFC, PI, DI, PCI, RNI, RPCI National Income Measurement (Product, Income & Expenditure Methods) Problems in measuring National Income Trade Cycles Meaning and Definition of Trade cycles Phases of Trade Cycles Causes for Trade Cycles Controlling Measures of Trade Cycles	15

Text Books :

Business Economics – A.V. Ranganadhachary – Kalyani Publishers
Business Economics – Telugu Academy

Reference Books:

H.L. AHUJA – Business Economics – S.Chand & Company Publishers
P.N. CHOPRA – Business Economics – Kalyani Publishers
D.M. MITHANI-Fundamentals of Business Economics-Himalaya Publishers
DEEPASHREE – General Economics – Tata Mc. GrawHills

Revision of the syllabus 2021-22 (2,4,6)

Semester -II

Name of the Subject: **Business Economics**

Subject Code: CBE202G/C

Academic Year	2021-22
Title of the paper	Business Economics
Semester	II
Course code	CBE202G/C
CIA marks	30
Semester End marks	70
Total marks	100
Year of Introduction	2012-13
Year of Revision	2021-2022
% of revision	20%

UNIT	Syllabus	Addition	Deletion
I	INTRODUCTION: Meaning and Definition of Economics Wealth Definition Welfare Definition Scarcity Definition Meaning and Definition of Business Economics Nature and Scope of Business Economics Micro Economics and Macro Economics	Nil	Nil
II	DEMAND AND SUPPLY ANALYSIS Meaning and Definition of demand Determinants of Demand – Demand Function Law of Demand – Demand curve – exceptions Elasticity of Demand Types of Price Elasticity of Demand Methods to measure Price Elasticity of Demand Law of Supply-Exceptions to the Law	Law of Supply-Exceptions to the Law	Nil
III	PRODUCTION, COST AND REVENUE ANALYSIS :Production Analysis – Production Function – Meaning The law of variable proportions The law of Returns to Scale Cost Analysis: Short Run Cost Curves Relationship between AC & MC Curves Revenue Analysis:	Nil	Nil

	Revenue Concepts & Revenue curve Meaning of Breakeven point & Breakeven chart		
IV	MARKET STRUCTURES: Classification of markets Features of Perfect competition Price determination under perfect competition Features of Monopoly market Features of monopolistic competition market Features of Oligopoly market Kinky Demand Curve analysis	Monopolistic competition market Features of Oligopoly market Kinky Demand Curve analysis	Nil
V	NATIONAL INCOME AND TRADE CYCLES : National Income Meaning and Definition of National Income (Marshall, Pigou, Fisher) Concepts of National Income – GDP, GNP, NDP, NMP, NNPF, PI, DI, PCI, RNI, RPCI National Income Measurement (Product, Income & Expenditure Methods) Problems in measuring National Income - Trade Cycles Meaning and Definition of Trade cycles Phases of Trade Cycles Causes for Trade Cycles Controlling Measures of Trade Cycles.	Trade Cycles Meaning and Definition of Trade cycles Phases of Trade Cycles Causes for Trade Cycles Controlling Measures of Trade Cycles	Nil



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

Vuyyuru-521165.

NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: BUSINESS ECONOMICS
Semester: II

Section -A

Answer FIVE of the following

5x5=25M

- | | |
|--|----------------|
| 1. Robbins Scarcity definition to economics. | L ₁ |
| 2. Exceptions to the law of demand | L ₂ |
| 3. Explain the law of supply | L ₁ |
| 4. Law of returns to sale | L ₁ |
| 5. Break evenpoint | L ₃ |
| 6. Explain the classification of markets | L ₂ |
| 7. Features of monopoly market | L ₁ |
| 8. Controlling measures of business cycles | L ₂ |

Section -B

Answer the following

5x10=50M

- | | |
|---|----------------|
| 9. a). Explain the Nature and Scope of Business economics
(or) | L ₁ |
| b) Distinguish between micro and macroeconomics | L ₂ |
| 10. a) Explain the various types of price elasticity of demand
(or) | L ₃ |
| b) Discuss the various methods to measure price elasticity of demand. | L ₃ |
| 11. a) Explain the law of variable proportions
(or) | L ₂ |
| b) Explain the relationship between different short run cost curves. | L ₃ |
| 12. a) Explain the price determination under perfect competition. | L ₂ |
| (or) | |
| b) Explain the Kinky demand curve analysis | L ₃ |
| 13. a) Define National income and explain the various methods of measuring national income.
L ₁ | |
| (or) | |
| b) Define trade cycles and explain the various phases of trade cycles. | L ₃ |



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Banking Theory & Practice
Semester: II

Course Code	COMT22B	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	5	Semester End Exam Marks	75
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	II.B.COM., (gen)		

Course objectives:

The course will enable students to:

1. Introduce the students to the basic concepts of banking as a financial disintermediation service.
2. Discuss and evaluate the theories relating to the role of banks as financial intermediaries.
3. Describe and analyse the various bank performance measures.

Course Outcomes:

At the end of the course, the student will able to:

- CO1.** Understand the basic concepts of banks and functions of commercial banks.
- CO2.** Demonstrate an awareness of law and practice in a banking context.
- CO3.** Engage in critical analysis of the practice of banking law.
- CO4.** Organize information as it relates to the regulation of banking products and services.
- CO5.** Formulate the procedure for better service to the customers from various banking innovations.

Syllabus
Banking Theory & Practice

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction: Meaning & Definition of Bank – Functions of Commercial Banks – Credit Creation with Examples - Kinds of Banks – Central Banking Vs. Commercial Banking.	15
II	Banking Systems: Unit Banking, Branch Banking, Investment Banking - Innovations in Banking – E banking -Online and Offshore Banking, Internet Banking - Anywhere Banking - ATMs – RTGS-NEFT – Mobile Banking	15
III	Types of Banks: Indigenous Banking - Cooperative Banks, Regional Rural Banks, SIDBI, NABARD - EXIM bank	15
IV	Banker and Customer: Meaning and Definition of Banker and Customer – Types of Customers – General Relationship and Special Relationship between Banker and Customer - KYC Norms.	15
V	Collecting Banker and Paying Banker: □ Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker -Payment gateways.	15

Text Book:

Banking theory law and practice - Himalaya publishing House

Reference books:

1. Banking theory and practice - Himalaya publishing house
2. Banking - New age international publishers
3. Banking theory and practice- kalyani publishers

Curricular and co- curricular activities:

1. Debate
2. Student seminars
3. Quiz programs
4. Visit to bank premises
5. Know about KYC norms

Practical Work/suggested activities:

1. filling of Bank account opening form
2. filling of RTGS form
3. Filling of NEFT form
4. filling of cheque form

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Banking Theory & Practice
Semester: II

Time: 3Hrs

Max.Marks:75

SECTION- A

Answer Any FIVE Of The Following.

5X5=25

1. Types of deposits (CO1) (L4)
2. Discuss the signification of KYC to bank. (CO2), (L2)
3. SIDIBI (CO3) (L2)
4. Indigenous bankers (CO3) (L2)
5. ATMs (CO2) (L2)
6. Holders for value (CO5) (L2)
7. Investments banking (CO2) (L2)
8. What precaution a banker take in opening the accounts of a minor? (CO4) (L1)

SECTION-B

Answer the following .

5X10=50

9.a. Define commercial Bank. Discuss the functions of a commercial Bank. (CO1) (L1)

OR

b. Explain the difference between Central Bank and Commercial Bank. (CO1) (L2)

10.a. Define Branch Banking. Discuss its advantages and disadvantages. (CO2) (L1)

OR

b. Discuss the E-banking .Explain advantages of E- banking. (CO2) (L2)

11.a. Define Regional Rural Bank. Briefly explain the functions of RRB. (CO3) (L1)

OR

b. Explain in brief about the functions of NABARD. (CO3) (L2)

12.a. Explain briefly the general relationship between banker and customer. (CO4) (L2)

OR

b. Explain the right of lien of banker. How and when it is exercised. (CO4) (L2)

13.a. Define paying Banker. Discuss the responsibilities and duties of paying Banker. (CO5) (L1)

OR

b. Define Collecting Banker. What are the duties and legal protection of Collecting Banker?
(CO5) (L1)

@@@@@@@@



SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

**Vuyyuru-
521165.NAAC**

reaccredited at 'A' level

Autonomous-ISO9001 –2015 Certified

TITLE OF THE PAPER: ADVERTISING

Semester: II

Course Code	CAD201G/C	Course Delivery Method	Class Room/Blended Mode - Both
Credits	2	CIA Marks	10
No. of Lecture Hours/Week	2	Semester End Exam Marks	40
Total Number of Lecture Hours	30	Total Marks	50
Year of Introduction:	Year of Offering: 2021-22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	IB.COM., (gen, computer & e-com)		

Learning Outcomes: After successful completion of this course, the students are able to;

1. Understand the field of Advertising
2. Comprehend opportunities and challenges in Advertising sector
3. Prepare a primary advertising model
4. Understand applying of related skills
5. Examine the scope for making advertising a future career Syllabus

AG & SGSIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(AUTONOMOUS)

(MANAGED BY SIDDHARTHA ACADEMY OF GENERAL & TECHNICAL EDUCATION VIJAYAWADA)

<i>Commerce</i>	<i>CAD201G/C</i>	<i>2022-2023</i>	<i>I.B. Com (Gen, comp & e-com)</i>
SEMESTER-II	ADVERTISING		
	Skill Development Course		

Total 30 hrs (2 hrs/wk) credits 02

Maximum 50 Marks

UNIT I: 06hrs Introduction of advertising concepts- functions - Types of advertising - Creative advertising messages - Factors determining opportunities of a product/service/Idea

UNIT II: 10 hrs Role of advertising agencies and their responsibilities - scope of their work and functions - Ethical issues - Identifying target groups - Laws in advertising. Advertising Statutory Bodies in India - Role of AAAI (Advertising Agencies Association of India), ASCI (Advertising Standard Council of India)

UNIT III: 10hrs Types of advertising – Basic characteristics of a typical advertisement – Reaching target groups - Local advertising – Feedback on impact of advertisement - Business promotion.

Recommended Co-curricular Activities (04hrs):

1. Collection and segmentation of advertisements
2. Invited Lectures/skill training on local advertising basics and skills
3. Visit to local advertising agency
4. Model creation of advertisements in compliance with legal rules
5. Assignments, Group discussion, Quiz etc

Reference books and Websites:

1. Bhatia. K. Tej- Advertising and Marketing in Rural India - Mc Millan India

AG & SGSIDDHARTHADGREECOLLEGE OF ARTS & SCIENCE VUYYURU

(AUTONOMOUS)

**(MANAGED BY SIDDHARTHA ACADEMY OF GENERAL & TECHNICAL
EDUCATION VIJAYAWADA)**

Commerce	CAD201G/C	2021-2022	I.B.Com(Gen.comp&e-com)
----------	-----------	-----------	-------------------------

SEMESTER-II

ADVERTISING

Model Paper

Skill Development Course

DURATION: 2 HOURS

SECTION - A Max: 40

ANSWER ANY TWO OF THE FOLLOWING QUESTIONS

(2X5=10M)

1. Define Advertising
2. Describe the Functions of Advertising
3. Explain the role of advertising agencies
4. Advertising and Ethical issues

SECTION - B

ANSWER ANY THREE OF THE FOLLOWING QUESTIONS

(3x10=30M)

5. What are the factors determining opportunities of a product or an idea
6. What are the advertising statutory bodies in India
7. Write types of advertising
8. What are the basic Characteristics of advertising Local advertising
9. Write about Business promotion
10. What are the basic Characteristics of advertising



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: **Corporate Accounting**

Semester: IV

Course Code	CCA-401 G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021-22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II.B.COM., (gen/computer)		

Learning Outcomes:

At the end of the course, the student will able to

- ❖ Understand the Accounting treatment of Share Capital and aware of process of book building.
- ❖ Demonstrate the procedure for issue of bonus shares and buyback of shares.
- ❖ Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments
- ❖ Participate in the preparation of consolidated accounts for a corporate group.
- ❖ Understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions
- ❖ Communicate accounting policy choices with reference to relevant laws and accounting standards.

Syllabus

Corporate Accounting

Course Details

Unit	Learning Units	Lecture Hours
I	Accounting for Share Capital: Kinds of Shares – Types of Preference Shares – Issue of Shares at Par, Discount and Premium - Forfeiture and Reissue of Shares (including problems)	15
II	Issue and Redemption of Debentures and Issue of Bonus Shares: Accounting Treatment for Debentures Issued and Repayable at Par, Discount and Premium - Issue of Bonus Shares - Buyback of Shares - (including problems).	15
III	Valuation of Goodwill: Need and Methods - Average Profit Method, Super Profits Method – Capitalization Method and Annuity Method (Including problems).	15
IV	Valuation Shares: Need for Valuation - Methods of Valuation - Net Assets Method, Yield Basis Method, Fair Value Method (including problems).	15
V	Company Final Accounts: Provisions of the Companies Act, 2013 - Preparation of Final Accounts – Adjustments Relating to Preparation of Final Accounts – Profit and Loss Account and Balance Sheet – (including problems with simple adjustments).	15

Reference Books:

1. Corporate Accounting – T.S Reddy and Murthy, MarghamPublications, Chennai.
2. Advanced Accounts: M C Shukla, T S Grewal and S C Gupta, S Chand Publications
3. Corporate Accounting – Haneef&Mukherji, Tata McGraw Hill Publications.
4. Corporate Accounting – RL Gupta &RadhaSwami,Sultan Chand & sons

Co-Curricular Activities:

- Assignments
- Problem Solving Exercises
- Collect and fill the share application form of a limited Company
- Collect Prospectus of a company and identify its salient features
- Collect annual report of a Company and List out its assets and Liabilities.
- Collect the annual reports of company and calculate the value of goodwill under different methods
- Power point presentations on types of shares and share capital
- Group Discussions on problems relating to topics covered by syllabus



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Corporate Accounting
Semester: IV MODEL PAPER

TIME -3hrs

SECTION-A

Max. Marks: 70

Answer any Two of the following

2x5=10M

1. Define Share and Explain different types of shares?
2. Explain different types of Debentures
3. Explain methods of Valuation of Goodwill
4. What is need for valuation of shares

Section-B

Answer any FOUR of the following 4x15=60M

5. What are Preference Share Explain different types of Preference Shares?
6. Write difference between Shares and Debentures
7. Write about provision of Companies Act 2013.
8. XYZ company limited issued 5000 equity shares of 20/- each. The amount was payable as follows

:

On Application Rs.5

On Allotment Rs.5

On First call Rs.6

On Final call Rs.4

X to whom 250 shares were allotted. He failed to pay his first call money. The remaining money was duly received. Pass journal entries in the books of the company.

9. Journalise the following transactions at the time of issue and redemption of debentures.

- i. A debenture was issued at Rs.100 and repayable at Rs.100.
- ii. A debenture was issued at Rs.95 and repayable at Rs.100.
- iii. A debenture was issued at Rs.110 and repayable at Rs.100.
- iv. A debenture was issued at Rs.100 and repayable at Rs.105.
- v. A debenture was issued at Rs.95 and repayable at Rs.110

10. A business concern had earned profits for the past 3 years as follows

2007 –Rs50, 000 2008-Rs, 60, 000, 2009 –Rs70000.

Average capital employed in the business Rs.4, 00,000.

Reasonable rate of return expected in a similar business is 10%

From the above, calculate the value of goodwill under,

(a) 2 years purchase of the average profits of last three years

(b) four years purchase of super profits the basis of average profits of previous three years .

11. The Balance sheet of Deepak LTD. as on 31.03.2004 was as under.

Liabilities.	Rs.	Assets.	Rs.
4,000 Equity shares of Rs. 100 each	4,00,000	Land and buildings	
General Reserve		Machinery	2,50,000
Profit and loss Account	50,000	Investment at cost (market value Rs.60,000)	1,20,000
Creditors	50,000	Debtors	
Provision for taxation		Stock	70,000
	90,000	Cash at bank	
			100,000
	40,000		80,000
			10,000
	6,30,000		6,30,000

Additional Information:

(a) Land and Buildings and machinery are valued at Rs.2,40,000 and Rs.95,000

(b) Of the total debtors Rs.5, 000 are bad.

(c) Good will is to be taken at Rs.50, 000

(d) The normal rate of dividend declared by such type of companies is 15% on paid up capital

(e) The average rate of dividend declared and paid by this company is 20% on its paid up capital. Calculate fair value of equity shares/

12. The following Trial Balance has been extracted from the book of XYZLTD .ason31st march2001. You are required to prepare profit and loss Account and Balance sheet as on the date.

Debit Balance.	Rs.	Credit Balance	Rs.
Land and Buildings	34,000	Share capital	1,00,000
Furniture	6,000	General reserve	5,000
Plant &Machinery	15,000	10%debentures	40,000
Stock on 31 st March 2001	75,000	Sundry Creditors	4,000
Salaries	25,000	Gross profit	75,000
Debtors	10,000	Interest on investments	1,000
5% Investments	20,000	Profit and loss Account-1 st April	35,000
Bank	5,000		
Advance Income tax	2,000		
Debentures interest	2,000		
Directors fee	7,000		
Rent ,rates and insurance	24,000		
Good will	35,000		
	2,60,000		2,60,000

1. Depreciate the following assets

Land and Buildings at 10% P.a. Plant and Machinery 8% P.a.

2.Provision for bad debts at6%.

3. The Director have recommended

(a) Transfer .Rs 3,000to General Reserve Account.

(b)Eqity dividend at 10% on the paid up capital.

(c)Provision for income tax for Rs 4,000.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER:Corporate Accounting

Semester: IV

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Accounting for Share Capital: Kinds of Shares	Issue and Redemption of Debentures and Issue of Bonus Shares	Valuation of Goodwill	Valuation Shares	Promotion and Distribution
5Marks	1	1	1	1	--
15Marks	1T&1P	1T&1P	1P	1P	1T&1P
Weightage	35	35	20	20	30



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Cost and Management Accounting

Semester: IV

Course Code	CCMA-402G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	II.B.COM., (gen/computer)		

Learning Outcomes:

At the end of the course, the student will able to

- ❖ Understand various costing methods and management techniques.
- ❖ Apply Cost and Management accounting methods for both manufacturing and service industry.
- ❖ Prepare cost sheet, quotations, and tenders to organization for different works.
- ❖ Analyze cost-volume-profit techniques to determine optimal managerial decisions.
- ❖ Compare and contrast the financial statements of firms and interpret the results.
- ❖ Prepare analysis of various special decisions, using relevant management techniques

Syllabus

Cost and Management Accounting

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction: Cost Accounting: Definition – Features – Objectives – Functions – Scope – Advantages and Limitations - Management Accounting: Features – Objectives – Functions – Elements of Cost - Preparation of Cost Sheet (including problems)	15
II	Material and Labour Cost: Techniques of Inventory Control – Valuation of Material Issues: FIFO - LIFO - Simple and Weighted Average Methods Labour: Direct and Indirect Labour Cost – Methods of Payment of Wages- Incentive Schemes -Time Rate Method, Piece Rate Method, Halsey, Rowan Methods and Taylor Methods only(including problems)	15
III	Job Costing and Batch Costing: Definition and Features of Job Costing – Economic Batch Quantity (EBQ) – Preparation of Job Cost Sheet – Problems on Job Cost Sheet and Batch Costing(including problems)	15
IV	Financial Statement Analysis and Interpretation: Financial Statements - Features, Limitations. Need, Meaning, Objectives, and Process of Financial Statement Analysis- Comparative Analysis – Common Size Analysis and Trend Analysis (including problems)	15
V	Marginal Costing: Meaning and Features of Marginal Costing – Contribution – Profit Volume Ratio- Break Even Point – Margin of Safety – Estimation of Profit and Estimation of Sales(including problems)	15

References:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers.
2. M.N. Arora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand& Sons.
5. S.N. Maheswari– Principles of Management Accounting, Sultan Chand & Sons.

Co-Curricular Activities:

- ◆ Seminars
- ◆ Problem Solving Exercises
- ◆ Seminar on need and importance of financial statement analysis
- ◆ Graphs showing the breakeven point analysis
- ◆ Identification of elements of cost in services sector by Visiting any service firm
- ◆ Cost estimation for the making of a proposed product
- ◆ Listing of industries located in your area and methods of costing adopted by them
- ◆ Collection of financial statements of any two organization for two years and prepare a common Size Statements
- ◆ Collection of cost sheet and pro-forma of quotation
- ◆ Examinations (Scheduled and surprise tests)



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Cost and Management Accounting
Semester: IV

MODEL PAPER

TIME -3hrs

SECTION-A

Max. Marks: 70

Answer any Two of the following

2x5=10M

1. Define management Accounting
2. Write about Techniques of Inventory control
3. Features of Job Costing
4. Write about CVP analysis

Section-B

Answer any FOUR of the following

4x15=60

5. Define Cost Accounting Explain its Objectives?
6. Explain different methods of financial statement analysis?
7. From the following particulars you are required to prepare a cost sheet for the year ending 31.12.2009.

	Rs.
Stock of finished goods 31-12-2008	72,800.
Stock of raw materials on 31-12-2008	33,280.
Purchase of raw materials	7,59,200.
Wages	5,16,880.
Sales	15,39,200.
Stock of finished goods on 31-12-2009	78,000.
Stock of Raw materials on 31-12-2009	35,360
Works overhead charges	1,29,220
Office overheads	70,161

The company is intending to send a quotation for a large plant. The estimated material cost is Rs. 52,000 and wages Rs. 31,200. The quotation is to make a profit of 20% on selling price. Show the amount of quotation price.

8.. X Ltd has purchased and issued the material in the following order

Jan	1	Purchased	300 units @Rs.3/-per units
	4	purchased	600 <u>units@Rs.4/-per</u> units

6	Issue	500 units	
	10 Purchased		700 units @ Rs.4/ per units
	15 Issue	800 units	
	20. purchased		300 units @Rs.5/per units
	23. issue	100 units	

Ascertain the quantity of closing stock as on 31st January and state what will be its value (in each case) if issues are made under the following methods:

(a) First in first out

9. From the following information relating to a worker. Calculate which of the following methods of wage payment is beneficial to the worker:

- (a) Time rate
- (b) Piece rate
- (c) Halsey plan.
 - (I) Standard Time in a week 45 hrs
 - (ii) Standard weekly production 450 units.
 - (III) Actual time taken by the worker 40hrs.
 - (iv) Piece rate Rs.2 per units
 - (v) Hourly rate Rs.25.

10. The Costing records of Gopi Engineering Company for job 777 reveals Materials Rs 6,015

Wages:	Dept .X : 100 Hours @ Rs 4.50 per hour
	Dept .Y : 65 Hours @ Rs 3.00 per hour
	Dept .Z : 35 Hours @ Rs 7.50 per hour

Over head expenses for these three departments were estimated as follows.

Variable overheads :

Dept .X	:Rs 10,000 for 2,500 labour hours
Dept .Y	Rs 6,000 for 2,000 labour hours
Dept .Z	:Rs 4,000 for 500 labour hours

Fixed overheads: estimated at Rs 40,000 for 10,000 Normal Working Hours .you are required to calculate the cost of job No 777.

11. The following are the balance sheets of X LTD., For the years ending 31st December , 2003 and 2004

Liabilities	2003	2004	Assets	2003	2004
Equity share capital ,			Fixed Assets		
Preference share .	2,00,000	3,30,000	(Less Depreciation)	2,40,000	3,50,000
Capital	1,00,000	30,000	Stock	40,000	50,000
Reserves	20,000	20,000	Debtors	1,00,000	1,25,000
Profit and Loss A/C	15,000	20,000	Bills receivables	20,000	60,000
Bank over draft	50,000	50,000	Prepaid Expenses	10,000	12,000
Creditors	40,000	50,000	Cash in hand	40,000	53,000
Provision for taxation	20,000	25,000	Cash at bank	10,000	30,000
Proposed Dividend	15,000	25,000			
	4,60,000	6,80,000		4,60,000	6,80,000

Prepare Comparative balance Sheet

12. From the following information pertaining to the two years, calculate.

(a) P/V ratio

(b) Amount of sales to earn profit of Rs40,000

(c) profit on sales Rs.1,20,000.

Years	Sales	Profit
1996	1,40,000	15,000
1997	1,60,000	20,000



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER:Cost and Management
semester: IV

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Introduction:	Material and Labour Cost	Job Costing and Batch Costing	Financial Statement Analysis and Interpretation	Marginal Costing
5Marks	1	1	1		1
15Marks	1T&1P	1P&1P	1P	1T&1P	1P
Weightage	35	35	20	30	20



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: **Income Tax**

Semester: IV

Course Code	CIT-403G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	II.B.COM., (gen/computer)		

Learning Outcomes:

At the end of the course, the student will able to;

- ❖ Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning.
- ❖ Understand the provisions and compute income tax for various sources.
- ❖ Grasp amendments made from time to time in Finance Act.
- ❖ Compute total income and define tax complicacies and structure.
- ❖ Prepare and File IT returns of individual at his own.
- ❖ Prepare analysis of various special decisions, using relevant management techniques

Syllabus Income Tax

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction: Income Tax Act-1961 - Basic Concepts: Income, Person, Assesses - Assessment Year, Previous Year, Rates of Tax, Agricultural Income, Residential Status of Individual - Incidence of Tax – Incomes Exempt from Tax (theory only).	15
II	Income from Salaries: Basis of Charge, Tax Treatment of Different Types of Salaries Allowances, Perquisites, Profits in Lieu of Salary, Deductions from Salary Income, Computation of Salary Income (including problems).	15
III	Income from House Property and Profits and Gains from Business: Annual Value, Let-out/Self Occupied/Deemed to be Let-out house -Deductions from Annual Value - Computation of Income from House Property Definition of Business and Profession – Procedure for Computation of Income from Business – Revenue and Capital Nature of Incomes and Expenses – Allowable Expenses – Expenses Expressly Disallowed – Computation (including problems).	15
IV	Income from Capital Gains- Income from Other Sources: Meaning of Capital Asset – Types – Procedure for Computation of Long-term and Short-term Capital Gains/Losses Meaning of Other Sources - General Incomes – Specific Incomes – Computation (including problems).	15
V	Computation of Total Income of an Individual: Deductions under Section 80 - Computation of Total Income (Simple problems).	15

Reference Books:

1. Dr. Vinod; K. Singhania; Direct Taxes – Law and Practice, Taxman Publications
2. T. S. Reddy and Dr. Y. Hari Prasad Reddy - Taxation , by Margham Publications
3. Premraj and Sreedhar, Income Tax, Hamsrala Publications
4. B.B. Lal - Direct Taxes; Konark Publications
5. Dr. Mehrotra and Dr. Goyal -Direct Taxes, Law and Practice, SahityaBhavan

Co-Curricular Activities:

- Seminar on different topics of Income tax
- Quiz programs
- Problem Solving Exercises
- Debate on Tax Evasion and Avoidance
- Practice of provisions of Taxation
- Visit a Tax firm
- Talk on Finance Bill at the time of Union Budget
- Guest lecture by Chartered Accountant
- Presentation of tax rates



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Income Tax

Semester: IV

Model Question Paper

Time: 3 Hrs

Max. Marks: 70

SECTION – A

I. Answer any TWO of the following

2X 5 = 10M

1. Explain about Agricultural income
2. Describe House rent allowance
3. Explain Gross annual value
4. Surcharge

SECTION – B

II. Answer any Four of the following

4 x15 =60M

5. How would you determine the Residential status of a Person.
6. Explain different Perquisites?
7. From the following particulars of sriram, a manger of a firm, compute his taxable Income from Salary
 - a) Basic pay Rs 6000 P.M
 - b) Dearness allowance Rs400 P.M
 - c) Own contribution to R.P.F Rs 3000 P.M
 - d)Employee's contribution to R.P.F Rs 3000 P.M
 - e) Interested credited to R.P.F 13% P.A Rs 4680
 - f) House rent allowance Rs7200P.M Rent paid in Delhi Rs5000 P.M
 - g) Medical allowance Rs100 P.M
 - h) Entertainment allowance Rs. 300 P.M
8. Explain how the Income from House Property is computed under the provision of the provision under the Provision of the Income Tax Act 1961

9. Compute income from House property Municipal valuation 16,000 P A. Fair rent 1,80,000 P.A ,Standard rent 1,50,000 P.A , Rent received 1,72,000 P A Municipal taxes 10% Municipal taxes are borne by the owner. Fire insurance Rs 3000, Interest on money borrowed for construction of house property paid Rs .36, 000 The House is let-out throughout the previous year.
10. What are the General Income and Specific Incomes under head “Income from Other Sources
11. Mr. Prasad submits the following particulars about sale of assets Calculate the amount of taxable capital gain.

<u>Particulars</u>	<u>JewelleryPlot Gold</u>		
Sale Price	12, 00,000	50, 80,000	10,20,000
Expenses on sale	10,000	36,000	Nil
Cost of Acquisition	90,000	4, 20,000	1,30,000
Year of Acquisition	1989-90	1986-87	2003-04
CII	172	140	109

CII for 2019-20 is: 289

12. Compute Total Income of Sri Saibaba, an Indian resident of 30 years age

Gross Salary=86,000
 Income from house property (computed)=20,000
 Short term capital loss=10,000
 Long term capital loss(Building)=12,000
 Income from profession=5,000
 Interest on securities(Gross)=4,000
 Income from Govt. Securities(Gross)=16,750



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

**TITLE OF THE PAPER:Income Tax
Semester: IV**

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Introduction	Income from Salaries	Income from House Property and Profits and Gains from Business	Income from Capital Gains- Income from Other Sources	Computation of Total Income of an Individual:
5Marks	1	1	1	--	1
15Marks	1T	1T&1P	1T&1P	1T&1P	1P
Weightage	20	35	35	30	20



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER::Business Laws

Semester: IV

Course Code	CBL-404G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	II.B.COM., (gen/computer)		

Learning Outcomes:

At the end of the course, the student will able to;

- Understand the legal environment of business and laws of business.
- Highlight the security aspects in the present cyber-crime scenario.
- Apply basic legal knowledge to business transactions.
- Understand the various provisions of Company Law.
- Engage critical thinking to predict outcomes and recommend appropriate action on
- Issues relating to business associations and legal issues.
- Integrate concept of business law with foreign trade.

Syllabus
Business Laws

Course Details

Unit	Learning Units	Lecture Hours
I	Contract: Meaning and Definition of Contract - Essential Elements of Valid Contract - Valid, Void and Voidable Contracts - Indian Contract Act, 1872	15
II	Offer, Acceptance and Consideration: Definition of Valid Offer, Acceptance and Consideration - Essential Elements of a Valid Offer, Acceptance and Consideration.	15
III	Capacity of the Parties and Contingent Contract: Rules Regarding to Minors Contracts - Rules Relating to Contingent Contracts - Different Modes of Discharge of Contracts - Rules Relating to Remedies to Breach of Contract.	15
IV	Sale of Goods Act 1930 and Consumer Protection Act 2019: Contract of Sale - Sale and Agreement to Sell - Implied Conditions and Warranties - Rights of Unpaid Vendor- Definition of Consumer - Person - Goods - Service - Consumer Dispute - Consumer Protection Councils - Consumer Dispute Redressed Mechanism	15
V	Cyber Law: Overview and Need for Cyber Law - Contract Procedures - Digital Signature – Safety Mechanisms	15

References:

1. J. Jaysankar, Business Laws, MarghamPublication.Chennai.
2. ND Kapoor, Business Laws, S Chand Publications.
3. Balachandram V, Business law, Tata McGraw Hill.
4. Tulsian, Business Law, Tata McGraw Hill.
5. PillaiBhagavathi, Business Law,SChand Publications

Co-Curricular Activities:

- ◆ Seminar on Basics of Indian Contract Act,1872
- ◆ Quiz programs
- ◆ Co-operative learning
- ◆ Seminar on Cyber Law
- ◆ Group Discussions
- ◆ Debate on Offer, Agreement, and Contract
- ◆ Creation of Contract by abiding rules of Indian Contract Act,1872
- ◆ Making a sale by abiding rules of Sale of Goods Act,1930
- ◆ Guest lecture by a Lawyer/Police officer
- ◆ Celebrating consumers day by creating awareness among the students
- ◆ Examinations (Scheduled and surprise tests)
- ◆ Any similar activities with imaginative thinking beyond the prescribed syllabus



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Business Laws

Semester: IV

MODEL PAPER

TIME -3hrs

Max. Marks: 70

SECTION-A

I. Answer any TWO of the following

2x5=10M

1. What is a Valid Contract?
2. Acceptance
3. Contingent contracts
4. Unpaid seller

SECTION-B

II. Answer any FOUR of the following

4x15=60M

5. Define the term contract? What are the essentials of a valid contract?
6. Define consideration? What are legal rules to considerate?
7. Write about rules regarding Minors agreement?
8. What are the remedies available to an aggrieved party on the breach of Contract?
9. Define Offer? What are the essentials of a valid Offer?
10. Explain briefly the implied conditions and warranties in a contract of sale?
11. Explain the provisions regarding secure electronic records and secure digital signatures?
12. Define consumer? What are the rights of a consumer under consumer Protection act, 2019?



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Business Laws
Semester: IV

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Contract	Offer, Acceptance and Consideration	Capacity of the Parties and Contingent Contract:	Sale of Goods Act 1930 and Consumer Protection Act 2019	Cyber Laws
5Marks	1	1	1	1	-
15Marks	1	2	2	2	1
Weight age	20	35	35	35	15



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: **Auditing**

Semester: IV

Course Code	CAUD-405G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	II.B.COM., (gen)		

Course Objectives:

1. To impart knowledge pertaining to basic concepts of auditing.
2. To make the students learn the basics of rights and duties regarding auditing and audit report.
3. To acquaint oneself with auditing procedure.

Learning Outcomes:

At the end of the course, the student will able to

- ❖ Understanding the meaning and necessity of audit in modern era
- ❖ Comprehend the role of auditor in avoiding the corporate frauds
- ❖ Identify the steps involved in performing audit process
- ❖ Determine the appropriate audit report for a given audit situation
- ❖ Apply auditing practices to different types of business entities
- ❖ Plan an audit by considering concepts of evidence, risk and materiality

Syllabus Auditing

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction: Meaning – Objectives – Importance of Auditing – Characteristics - Book Keeping vs Auditing - Accounting vs Auditing – Role of Auditor in Checking Corporate Frauds.	15
II	Types of Audit: Based on Ownership, Time and Objective - Independent, Financial, Internal, Cost, Tax, Government, Secretarial Audits	15
III	Planning of Audit: Steps to be taken at the Commencement of a New Audit – Audit Programme - Audit Note Book– Audit Working Papers - Audit Evidence - Internal Check, Internal Audit and Internal Control.	15
IV	Vouching and Investigation: Definition and Importance of Vouching – Objectives of Vouching -Vouching of Cash and Trading Transactions – Investigation - Auditing vs. Investigation	15
V	Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Rights, Duties, Liabilities and Disqualifications - Audit Report: Contents –Preparation - Relevant Provisions of Companies Act, 2013.	15

References:

1. S.Vengadamani, "Practical Auditing", Margham Publications, Chennai.
2. Ghatalia, "Principles of Auditing", Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, BaldevSachdeva&Jagwant Singh, "Auditing Theory and Practice,Kalyani Publications
4. N.D. Kapoor, "Auditing", S Chand, New Delhi.
5. R.G. Saxena, "Principles and Practice of Auditing", Himalaya Publishing House New Delhi.

Co-Curricular Activities:

- Seminars
- Visit the audit firms
- Visit an audit firm, write about the procedure followed by them in Auditing the books of accounts of a firm.
- Guest lecture by an auditor
- Collect the information about types of audit conducted in any one Organization
- Collection of audit reports
- Group Discussions
- Draft an audit program.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

**TITLE OF THE PAPER: Auditing
Semester: IV**

TIME -3hrs

Max. Marks: 70

SECTION -A

I. Answer any TWO of the following question

2 x 5= 10M

1. Explain the scope of audit
2. Government Audit
3. Characteristics of Investigation.
4. Audit Report

SECTION -B

II. Answer any FOUR of the following questions

4x15=60M

5. Define auditing .Explain its features and its advantages.
6. What are the various types of audits classified on the basis of organization Structure?
7. What is internal control .Explain its advantages and disadvantages
8. What is audit program? Explain its advantages and disadvantages
9. "Vouching is the essence of auditing". Explain
10. Explain the difference between Investigation and auditing
11. Explain the rights and duties of an auditor.
12. Explain different types of Audit Reports



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Auditing
semester: IV

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Introduction:	Types of Audit:	Planning of Audit:	Vouching and Investigation:	Company Audit and Auditors Report
5Marks	1	1	---	1	1
15Marks	1	1	2	2	2
Weightage	20	20	30	35	35



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Goods and Service Taxes

Semester: IV

Course Code	CGST-406 G	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	II.B.COM., (gen)		

Learning Outcomes:

At the end of the course, the student will able to:

- ❖ Understand the basic principles underlying the Indirect Taxation Statutes.
- ❖ Examine the method of tax credit. Input and Output Tax credit and Cross Utilisation of Input Tax Credit.
- ❖ Identify and analyze the procedural aspects under different applicable statutes related to GST.
- ❖ Compute the assessable value of transactions related to goods and services for levy and determination of duty liability.
- ❖ Develop various GST Returns and reports for business transactions in Tally.

Syllabus
Goods and Service Taxes

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction: Overview of GST - Concepts –Taxes Subsumed under GST – Components of GST- GST Council- Advantages of GST-GST Registration.	15
II	GST Principles –Vijay KelkarSha Committee Recommendations - Comprehensive Structure of GST Model in India: Single, Dual GST – GST Rates - Taxes Exempted from GST- Taxes and Duties outside the purview of GST- Taxation of Services	15
III	Tax Invoice- Bill of Supply-Transactions Covered under GST-Composition Scheme- Reverse Charge Mechanism- Composite Supply -Mixed Supply	15
IV	Time of Supply of Goods & Services: Value of Supply - Input Tax Credit - Distribution of Credit -Matching of Input Tax Credit - Availability of Credit in Special Circumstances- Cross utilization of ITC between the Central GST and the State GST.	15
V	GST Returns: Regular Monthly Filing Returns-Composition Quarterly Filing Returns-GSTR-1, GSTR-2, GSTR 2A, GSTR-3, GSTR 3B -Annual Returns GSTR-9, GSTR 9A, GSTR 9B& GSTR 9C - Records to be Maintained under GST	15

References:

1. T. S. Reddy and Dr. Y. Hari Prasad Reddy, Business Taxation (Goods and Services Taxes), Margham Publications.
2. Taxmann's Basics of GST.
3. Taxmann's GST: A practical Approach.
4. Theory & Practice of GST, Srivathsala, Himalaya Publishing House.
5. Goods and Services Tax in India - Notifications on different dates. Library activities:

Co-Curricular Activities:

- Seminars
- Show the flow chart of GST Suvidha Provider (GST).
- Practice of Terminology of Goods and Service Tax
- Prepare chart showing rates of GST
- Follow GST Council meeting updates regularly
- Creation of GST Vouchers and Tax invoices
- Visit a Tax firm (Individual and Group)
- Guest lecture by GST official
- Prepare Tax invoice under the GST Act.
- Practice on how to file a Returns
- Debate on Single GS, Dual GST
- Group Discussions on Goods and Services outside the Purview of GST



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Goods and Service Taxes

Semester: IV

TIME -3hrs

Model paper

Max. Marks: 70

SECTION-A

I. Answer any TWO of the following

2x5=10M

1. What is GST?
2. Dual GST
3. Reverse Charge Mechanism
4. Write about GSTR 9C

SECTION-B

II. Answer any FOUR of the following

4x15=60M

5. What are the advantages of Goods and Services Tax
6. What is the Comprehensive Structure of GST in India?
7. Write about Vijay KelkarSha Committee Recommendations
8. Explain the Billof Supply Transactions in GST
9. Write about GST Composition Scheme?
10. What is Input Tax Credit and explain it with suitable Examples
11. What are the Records to be maintained under GST?
12. Explain about Annual Returns GSTR-9, GSTR 9A, GSTR 9B& GSTR 9C in GST



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

**TITLE OF THE PAPER: Goods and Service Taxes
semester: IV**

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Introduction	GST Principles	Tax Invoice	Time of Supply of Goods & Services:	GST Returns
5Marks	1	1	1	--	1
15Marks	1	2	2	1	2
Weight age	20	35	35	15	35



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Event management

Semester: VI

Course Code	CEM-601 G/C C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	2	CIA Marks	---
No. of Lecture Hours / Week	2	Semester End Exam Marks	50
Total Number of Lecture Hours	30	Total Marks	50
Year of Introduction:	Year of Offering: 2017-18	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	III.B.Com(gen/comp)		

COURSE OBJECTIVES:

1. Identifying events and determining corresponding control measures that events can be programmed in such a way that operational information is transferred
2. Develop and implement financial initiatives based on event objectives through methods such as sponsorship programs, grant applications, and fundraising initiatives. Plan, design, and coordinate effective site and facility operations.

COURSE OUTCOMES:

- CO1. Identify the needs of customers for organizing a corporate event and understand the types of Events.
- CO2: Examine various types of Outdoor events and Managing the risk in the events. Relate Marketing management, Human Resource Management to Event Management
- CO3: Students able to organize Shows, fashion shows, high profile charity events.

SYLLABUS

Event Management

Course Details:

Unit	Learning Units	Lecture Hours
I	Event Concept: Corporate Events and Customer's needs - Types of Events - Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets - Corporate event packages - Menu Selection - Customization.	10
II	. Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.	10
III	Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.	10

References:

1. Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga Sagar Singh - Har-and Publications Pvt. Ltd.
2. Event Management by Swarup K. Goyal - Adhyayan Publisher.
3. Event Management & Public Relations by Savita Mohan - Enkay Publishing House
4. Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
5. Special Event Production - Doug Matthews. 6. Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry. New Jersey: Pearson Prentice Hall.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Event management

Semester: VI

Model paper

Event Management

Time: 3 hrs

Max. Marks: 50

SECTION- A

I. Answer any FOUR of the following questions

4 x 5= 20M

1. Corporate Hospitality
2. Trade Fairs
3. Risk Management
4. Sponsorship
5. Fashion Shows
6. Liaising

SECTION- B

II. Answer any THREE of the following questions

3 x 10 = 30M

7. Explain Different Types of Events
8. What are the uses of Exhibitions
9. Explain Different Types of Logistics
10. What is Programming of an Event and Entertainment
11. Who would launch a Product
12. Explain about High profile Charity Events.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Event management

Semester:VI

Guidelines to the paper setter

	UNIT-I	UNIT-II	UNIT-III
	Event Concept	Out Door Events	Celebrity Events
5 Marks questions	2	2	2
10 Marks questions	2	2	2
Weight age	30	30	30



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Marketing
Semester: VI

Course Code	CM-602GE G/C C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2017-18	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	III.B.Com(gen/comp)		

Course Objective:

1. To acquire knowledge on marketing concepts, 7P's, to build applicable skills through variety internship opportunities
2. Student will gain understanding of consumer buyer behaviour, pricing strategies and ethical concept of marketing

Course Outcomes:

- C01: To introduce the concepts of marketing and understand the factors influence the market environment.
- C02: Analyze the consumer market models and enlightens consumer buyer behaviour models.
- C03: Understand the concept of product and identify the need of product mix and product line decisions.
- C04: Develop an idea about pricing strategies and pricing decisions.
- C05: Enhance the students about decisions regarding promotion and distribution channels.

Syllabus

Marketing

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction: Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.	15
II	Consumer Markets and Buyer Behavior: Buying Decision Process – Stages – Buying Behavior – Market Segmentation – Selecting Segments – Advantages of Segmentation.	15
III	Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling.	15
IV	: Pricing Decision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.	15
V	Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.	15

References:

1. Philip Kotler, Marketing Management, Prentice Hall of India.
2. Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall
3. Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill Company
4. V.S. Ramaswamy S. NamaKumari, Marketing Management – Planning, McMillan



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

**TITLE OF THE PAPER:Marketing
Semester: VI**

Model paper

Marketing

Time: 3 hrs

Max. Marks: 70

SECTION- A

I. Answer any TWO of the following questions

2x 5= 10M

1. Selling Concept
2. What is Consumer Behavior?
3. What is New Product?
4. Global marketing

SECTION- B

II. Answer any FOUR of the following questions

4 x 15 = 60M

5. Describe 4P's of Marketing
6. What are the Different Concepts of Marketing?
7. What is Market Segmentation?
8. Describe Product Life Cycle.
9. What is the Factor Influencing Price Determination?
10. What are the differences Between Personal selling and direct Marketing?
11. Advantages and disadvantages Packaging and labelling
12. What Steps are Involved in Consumer behaviour



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER:Marketing

Semester: VI

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Introduction	Consumer Markets and buyer Behavior	Product Management	Pricing decision	Promotion and Distribution
5Marks	1	1	1	--	1
15Marks	2	2	2	1	1
Weightage	35	35	35	15	20



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Auditing
Semester: VI

Course Code	CAU-603GE G/C C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2017-18	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	IIB.COM., (gen/computer)		

Course Objectives:

4. To impart knowledge pertaining to basic concepts of auditing.
5. To make the students learn the basics of rights and duties regarding auditing and audit report.
6. To acquaint oneself with auditing procedure.

Learning Outcomes:

At the end of the course, the student will able to

- ❖ Understanding the meaning and necessity of audit in modern era
- ❖ Comprehend the role of auditor in avoiding the corporate frauds
- ❖ Identify the steps involved in performing audit process
- ❖ Determine the appropriate audit report for a given audit situation
- ❖ Apply auditing practices to different types of business entities
- ❖ Plan an audit by considering concepts of evidence, risk and materiality

Syllabus

Auditing

Course Details

Unit	Learning Units	Lecture Hours
I	Introduction: Meaning – Objectives – Importance of Auditing – Characteristics - Book Keeping vs Auditing - Accounting vs Auditing – Role of Auditor in Checking Corporate Frauds.	15
II	Types of Audit: Based on Ownership, Time and Objective - Independent, Financial, Internal, Cost, Tax, Government, Secretarial Audits	15
III	Planning of Audit: Steps to be taken at the Commencement of a New Audit – Audit Program - Audit Note Book– Audit Working Papers - Audit Evidence - Internal Check, Internal Audit and Internal Control.	15
IV	Vouching and Investigation: Definition and Importance of Vouching – Objectives of Vouching -Vouching of Cash and Trading Transactions – Investigation - Auditing vs. Investigation	15
V	Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Rights, Duties, Liabilities and Disqualifications - Audit Report: Contents –Preparation - Relevant Provisions of Companies Act, 2013.	15

References:

1. S.Vengadamani, “Practical Auditing”, Margham Publications, Chennai.
2. Ghatalia, “Principles of Auditing”, Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, BaldevSachdeva&Jagwant Singh, “Auditing Theory and Practice,Kalyani Publications
4. N.D. Kapoor, “Auditing”, S Chand, New Delhi.
5. R.G. Saxena, “Principles and Practice of Auditing”, Himalaya Publishing House

New Delhi

Co-Curricular Activities:

- Seminars
- Visit the audit firms
- Visit an audit firm, write about the procedure followed by them in Auditing the books of accounts of a firm.
- Guest lecture by an auditor
- Collect the information about types of audit conducted in any one Organization
- Collection of audit reports
- Group Discussions
- Draft an audit program.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.
NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Auditing
Semester: VI

TIME -3hrs

Max. Marks: 70

SECTION -A

I. Answer any TWO of the following question

2 x 5= 10M

1. Explain the scope of audit
2. Government Audit
3. Characteristics of Investigation.
4. Audit Report

SECTION -B

II. Answer any FOUR of the following questions

4x15=60M 5.

Define auditing .Explain its features and its advantages.

6. What are the various types of audits classified on the basis of organization Structure?
7. What is audit program me. Explain its advantages and disadvantages
8. What is internal control .Explain its advantages and disadvantages
9. "Vouching is the essence of auditing". Explain
10. Explain the difference between Investigation and auditing
11. Explain the rights and duties of an auditor.
12. Explain different types of Audit Reports



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Auditing

Semester: VI

Guidelines to the paper setter

Marks	UNIT-I Auditing	UNIT-II Types of Audit	UNIT-III Planning of Audit	UNIT-IV Vouching and Investigation	UNIT-V Company audit and Auditors Reports
5Marks	1	1	---	1	1
15Marks	1	1	2	2	2
Weight age	20	20	30	35	35



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Management Accounting

Semester: VI

Course Code	CMA-604GE G/C C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2017-18	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	III.B.COM., (gen/computer)		

Course Objective:

- 1.To acquire knowledge about management accounting its applications, ratios and CVP analysis.
- 2.To acquire knowledge about preparation of various financial statements

Course Outcome:

CO1 – Students will critically understanding the financial and management accounting importance in understanding the business operations using different tools

CO2 – Students will understand the importance of changes of working capital for any Organisation and analysing the flow of fund

CO3 – Students will critically understanding the cash and fund flow concept and impact of cash flow on business operations

CO4 - Students will have the ability of assessing the solvency and profitability of any Organisation

CO5- Students will understand the profit making decisions in complex situations of any business Organisation

SYLLABUS
Management Accounting

Course Details

Unit	Learning Units	Lecture Hours
I	Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).	15
II	Ratio Analysis: Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).	15
III	Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).	15
IV	Cash Flow Statement: Concept of cash flow – Preparation of cash flow statement – Uses and limitations of cash flow analysis (including problems).	15
V	Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).	15

References:

1. S.N. Maheswari, A Textbook of Accounting for Management, S. Chand Publishing, New Delhi.
2. I.M Pandey, “Management Accounting”, Vikas Publishing House, New Delhi,
3. Shashi K. Gupta & R.K. Sharma, “Management Accounting: Principles and Practice”, KalyaniPublishers, Ludhiana.
4. JawaharLal, Accounting for Management, Himalaya Publishing House, New Delhi.
5. Charles T. Horngren, [et.al](#), “Introduction to Management Accounting” Person EducationIndia, New Delhi, 2002.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.
NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Management Accounting
Semester: VI

Time: 3 hrs

Max.Marks:70

SECTION – A

I. Answer any TWO from the following:

2x5=10M

1. Explain common – size statements
2. What are the uses of management accounting?
3. Describe the importance ratios
4. Define a fund flow statement.

SECTION – B

II. Answer any FOUR from the following:

4x15=60M

5). Following are the two balance sheets of 'A' LTD and 'B' LTD on 31-3-2008.

<i>Particulars</i>	<i>'A' ltd (Rs.)</i>	<i>'B' ltd. (Rs.)</i>
Assets:		
Cash	27	72
Sundry debtors	220	226
Stock	100	174
Prepaid expenses	11	21
Other current assets	10	21
Fixed assets (net)	635	513
Total assets	1003	1027
Liabilities & capital:		
Sundry creditors	42	154
Other current liabilities	78	62
Fixed liabilities	225	318
Capital	658	493
Total liabilities	1003	1027

From the above data, prepare a common-size statement and make comments

6).The following is the Balance sheet of Bhubaneswar Ltd., as on 30th June ,2008:

Liabilities	Rs.	Assets	Rs.
Equity share capital	3,00,000	Fixed assets	6,00,000
9% Pre f, share capital	1,00,000	Investments	50,000
10% Debentures	2,00,000	Current assets	2,50,000
Reserves and surplus	50,000		
Long- term Loans	25,000		
Current liabilities	2,25,000		
	9,00,000		9,00,000

You are required to calculate:

- Debt- equity ratio (long-term debt equity).
- Proprietary Ratio
- Solvency Ratio.
- Fixed assets to proprietor's funds ratio.
- Fixed assets ratio.
- Current assets to proprietor's funds ratio.

7). Following are the details of a company for the years 2006 and 2007, you are required to prepare Statement showing flow of funds :

Particulars	2006 Rs.	2007 Rs.
Assets:		
Cash	30,000	47,000
Debtors	1,20,000	1,15,000
Stock – in- trade	80,000	90,000
Land	50,000	66,000
	<u>2,80,000</u>	<u>3,18,000</u>
Capital and liabilities:		
Share capital	2,00,000	2,50,000
Trade creditors	70,000	45,000
Retained earnings	10,000	23,000
	2,80,000	3,18,000

		Rs.
Depreciation on Building	52,000	
Depreciation on plant and machinery	35,000	
Transfer to general reserve		10,000
Good will written off		
	8,000	
Plant and machinery having book value of Rs.14,000 was sold for		10,000
Profit on sale of investments		7,000

8). Define a cash flow statement. Distinguish between 'funds flow' and 'cash flow'.

9). X LTD, made a profit of Rs.18,00,000 for the year ended 31st march, 2008 after considering the following:

The following was the position of Current Assets and Current Liabilities of the company as on 31st march , 2007 and 31 march , 2008.

	31 st march 2007 Rs.	31 st march 2008 Rs.
Debtors	45,000	35,000
Stock	72,000	80,000
cash	12,000	21,000
creditors	56,000	62,000
outstanding expenses	7,000	5,000
Prepaid expenses	4,000	5,000
Bills payable	11,000	15,000

Calculate cash flows from operating activities.

10). From the following information pertaining to the two years, calculate.

- P/V ratio
- Amount of sales to earn profit of Rs 40, 000
- Profit on sales Rs. 1, 20,000.

Years	Sales	Profit
1996	1, 40,000	15,000
1997	1, 60,000	20,000

11). Following are the balance Sheets of sun star Industries Ltd . for the years ending December 31, 2006 and 2007

Liabilities	2006 RS	2007 RS	Assets	2006 RS	2007 RS
Equity share capital	4,00,000	6,00,000	Land & Buildings	2,70,000	1,70,000
Reserves & surplus	3,12,000	3,54,000	Plant & Machinery	3,10,000	7,86,000
Debentures	50,000	1,00,000	Furniture & Fixture	9,000	18,000
Long – term loans	1,50,000	2,55,000	Other Fixed assets	20,000	30,000
on Mortgage	2,55,000	1,17,000	Long – term Loans	46,000	59,000
Accounts Payable			Cash in hand and at Bank	1,18,000	10,000
Other Current Liabilities	7,000	10,000	Receivables	2,09,000	1,90,000
			Inventory	1,60,000	1,30,000
			Prepared Expenses	3,000	3,000
			Other current assets	29,000	40,000
	11,74,000	14,36,000		11,74,000	14,36,000

Analyze the Financial position of the company with the help of Comparative Balance sheet

12). From the given information calculate

- (a) B.E.P
 - (b) Sales to earn a profit of Rs.1, 00,000
 - (c) Margin of safety where. Sales are Rs10, 00,000
- Total sales 6, 00,000
- Total variable costs 4, 00,000
- Total fixed costs 50,000



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER:Management Accounting

Semester:VI

Guidelines to the paper setter

Marks	UNIT-I Management Accounting	UNIT-II Ratio Analysis	UNIT-III Fund Flow Statement	UNIT-IV Cash Flow Statement	UNIT-V Break-Even Analysis and Decision Making
5Marks	2	1	1	--	--
15Marks	2	1	1	1T+1P	2
Weightage	40	20	20	30	30



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC reaccruited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Financial Services
Semester: VI

Course Code	CFS-605CE G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2017-18	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	III.B.COM., (gen/computer)		

Course Objective:

- 1.To acquire knowledge about various financial services offered by banking and non-banking companies
2. Students will develop an idea of recent trends in financial services

Course Outcome:

CO1 – Students can impart knowledge about various financial services offered by banking and non-banking companies

CO2 – Students can understand various merchant banking services

CO3 – To know emergence and development of financial services in leasing and hire-purchase

CO4 – Students will acquire the knowledge of various credit rating agencies and concept of mutual funds

CO5- To understand the various financial services and their future

SYLLABUS
Financial Services

Course Details

Unit	Learning Units	Lecture Hours
I	Financial Services: Role of Financial Services - Banking and Non Banking Companies – Activities of Non Banking Finance Companies- Fund Based Activities - Fee Based Activities .	15
II	Merchant Banking Services: Scope and importance of merchant banking services - Venture Capital - Securitization –Demat services - Commercial Papers – Treasury bills	15
III	Leasing and Hire-Purchase: Types of Lease, Documentation and Legal aspects – Fixation of Rentals and Evaluation - Hire Purchasing- Securitization of debts - House Finance.	15
IV	Credit Rating: Purpose – Types – Credit Rating Symbols – Agencies: CRISIL and CARE – Equity Assessment vs. Grading – Mutual funds.	15
V	Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).	15

References:

1. B. Santhanam, Financial Services, Margham Publication, Chennai.
2. M.Y. Khan, Financial Services, Tata McGraw – Hill, New Delhi.
3. Machendra Raja, Financial Services, S.Chand Publishers, New Delhi.
4. V. A. Avdhani, Marketing of Financial Services.
5. Machiraji, “Indian Financial System”, Vikas Publishers.
6. SandeepGoel, Financial Services, PHI Learning.
7. L.M. Bhole, Financial Institutions and Markets, Tata McGraw Hill.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Financial Services
Semester: VI

Model Paper

TIME -3hrs

Max. Marks: 70

SECTION -A

I. Answer any TWO of the following question

2 x 5= 10M

1. What are Banking Companies?
2. What is Venture Capital?
3. Hire Purchasing.
4. NSDL.

SECTION -B

II. Answer any Four of the following questions

4x15=60M

5. Explain the role of Financial Services
6. Explain the activities of Non Banking Finance Companies
7. Explain the Scope and Importance of Merchant Banking
8. Explain Demat services and Securitization
9. Explain the Types of Leases
10. Explain Different Credit rating agencies
11. Describe about Mutual funds
12. What are Central Depository Systems?



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Financial Services

Semester: VI

Guidelines to the paper setter

Marks	UNIT-I Financial Services	UNIT-II Merchant Banking Services	UNIT-III Leasing and Hire-Purchase	UNIT-IV Credit Rating	UNIT-V Other Financial Services
5Marks	1	1	1	0	1
15Marks	2	2	1	2	1
Weightage	35	35	20	30	20



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER:MARKETING OF FINANCIAL SERVICES

Semester: VI

Course Code	CMFS-606CE G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction:	Year of Offering: 2017-18	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	III.B.COM., (gen)		

Course Objectives:

- 1.To acquire knowledge about various financial services offered by banking and non.banking companies
- 2.Students are able to learn basic concepts in marketing of financial servicesAnd environment

COURSE OUTCOMES:

- CO1 – Students are able to learn basic concepts in marketing of financial services
- CO2 –Students are able to learn the concepts of service environment
- CO3 –Students are able to impart knowledge about pricing strategies and promotion strategies
- CO4 – Students can impart knowledge regarding promotion and distribution
- CO5 –Students can impart knowledge about various retail financial services

SYLLABUS

Marketing of Financial Services

Course Details

Unit	Learning Units	Lecture Hours
I	Difference between Goods and Services: Managing Service Counters – Integrated Service Management – Service Elements.	15
II	:Constructing Service Environment – Managing People for service Advantage – Service Quality and Productivity – Customer Loyalty.	15
III	Pricing and Promotion Strategies: Pricing strategies – Promotion strategies – B2B Marketing – Marketing Planning and Control for services.	15
IV	Distributing Services: Cost and Revenue Management – Approaches for providing services - Channels for Service provision – Designing and managing Service Processes.	15
V	: Retail Financial Services - Investment services – Insurance services - Credit Services - Institutional Financial Services - Marketing practices in select Financial Service Firms.	15

References:

1. Aradhani “Marketing of Financial Services” Himalaya Publications
2. Sinha and Saho, Services Marketing, Himalaya Publishing House
3. Reddy Appanaiah, Anil Kumar and Nirmala, Services Marketing, Himalaya Publishing.
4. Shajahan, Services Marketing, Himalaya Publishing House.



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: MARKETING OF FINANCIAL SERVICES
Semester: VI

Model paper

TIME -3hrs

Max. Marks: 70

SECTION -A

I. Answer any TWO of the following question

2 x 5= 10M

1. What are the service elements?
2. Customer loyalty
3. Marketing Planning
4. Designing and Managing service process

SECTION -B

II. Answer any Four of the following questions

4x15=60M

5. Describe Managing Service Counters
6. Explain Service Quality and Productivity
7. Explain different Pricing strategies
8. Explain B2B Marketing
9. What are the different approaches for providing services?
10. What are the advantages of Cost and Revenue Management?
11. Explain Institutional Financial Services
12. Explain different Service Elements



**A. G & S.G. SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE**

Vuyyuru-521165.

NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER:MARKETING OF FINANCIAL SERVICES

Semester: VI

Guidelines to the paper setter

Marks	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
	Difference between Goods and Services	Constructing Service Environment	Pricing and Promotion Strategies	Distributing Services	Retail Financial Services
5Marks	1	1	1	1	---
15Marks	2	1	2	2	1
Weightage	35	20	35	35	15

PROJECT FOR CLUSTER ELECTIVE COM607P

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF COMPUTER SCIENCE

MINUTES OF BOARD OF STUDIES

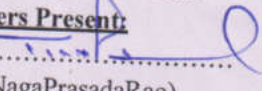

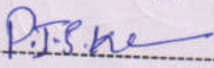
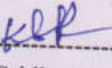
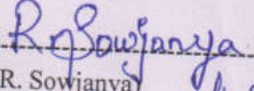
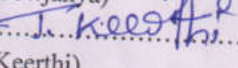

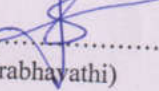
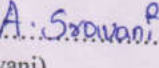


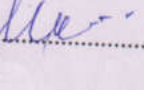

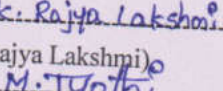
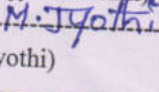
EVEN SEMESTER

07-04-2022

Minutes of the meeting of Board of Studies in Computer Science for Semester II, IV & V of I, II & III years B.Sc. (MPCs, MCCs, MSCs), B.Com. (C.A.), B.Com (e-Commerce) and Life Skill Course and Skill Development Course of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 2.30 P.M on 07-04-2022 in the Department of Computer Science.

Sri T.NagaPrasadaRao ... Presiding

Members Present:

- 1).......... Chairman Head, Department of Computer Science,
(T.NagaPrasadaRao) AG & SG Siddhartha Degree College of Arts & Science.
- 2).......... University Principal, University College of Engineering and Technology,
(Dr. M. Babu Reddy) Nomine KRU, Machilipatnam.
- 3).......... Subject Principal, A.N.R College, Gudivada,
(Dr. P. J. S Kumar) Expert Department of Computer Science
- 4).......... Subject Deputy Head, Department of Computer Science
(Mr. K. Sridhar) Expert PB Siddhartha College of Arts & Science, Vijayawada.
- 5).......... Industrial .Net Developer, Maven Soft System Pvt. Ltd
(R. Sowjanya) Expert Madaapur, Hyderabad.
- 6).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(T. Keerthi) Degree College of Arts & Science, Vuyyuru
- 7).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(K Srikanth) Degree College of Arts & Science, Vuyyuru-521165.
- 8).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(S.Prabhayathi) Degree College of Arts & Science, Vuyyuru-521165
- 9).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(A. Sravani) Degree College of Arts & Science, Vuyyuru-521165
- 10).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(V.N.MalleswaraRao) Degree College of Arts & Science, Vuyyuru-521165
- 11).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(A. Naga Srinivasa Rao) Degree College of Arts & Science, Vuyyuru-521165
- 12).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(V. Munni) Degree College of Arts & Science, Vuyyuru-521165
- 12).......... Member Lecturer in Computer Science, AG & SG Siddhartha
(V. Supriya) Degree College of Arts & Science, Vuyyuru-521165
- 13).......... Member Student in M.Sc. Computer Science, AG& SG Siddhartha
(K. Rajya Lakshmi) Degree College of Arts & Science, Vuyyuru-521165
- 14).......... Member Student in B.Sc. Computer Science, AG& SG Siddhartha
(M. Jyothi) Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To Discuss and approve the Structure and Syllabi, Model Question Paper for Second Semester of B.Sc.(MPCs, MCCs. MSCs) & B.Com (C.A), B.Com(e-commerce-computers) Programs for the student are admitted from the Academic Year 2021-22.
2. To discuss introducing B.Com (e-commerce-computers) and B.Sc.(M.S.Cs) in Second semester for the students admitted in academic year 2021 – 2022
3. To Discuss and approve the Structure and Syllabi, Model Question Paper for Fourth Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
4. To Discuss and approve the Structure and Syllabi, Model Question Paper for Six Semester of B.Sc.(MPCs, MCCs.) & B.Com (C.A) Programs for the Academic Year 2021-22.
5. To recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).
6. To recommend the teaching and evaluation methods to be followed under Autonomous status.
7. To recommend the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
8. Any other matter

Resolutions.

- 1) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for second semester of B.Sc.(MPCs, MCCs, MSCs) & B.Com (C.A), B.Com(e-Commerce-computers) Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2021-22.
- 2) **It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for Second semester of B.Sc.(MCCs) & B.Com (e-commerce-computers), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2021-22**
- 3) It is resolved and recommended to introduce new structure for *4th semester of B. Sc. (MPCS, MCCS) and B.Com(CA) programmes* in line with APSCHE guidelines for the students admitted in academic year 2020 – 2021 and onwards
- 4) It is Resolved and Recommended to adopt the structure and syllabi and Model Question Papers for six semester of B.Sc.(MPCs, MCCs) & B.Com (C.A), Programs under CBCS(Choice Based Credit System) Approved by the Academic Council from the Academic Year 2020-21
- 5) **It is Resolved and Recommend any changes in the syllabi for II, IV, VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce).**
 - **It is Resolved and Recommend change Syllabi and Model Question paper as per new regulations in IV Semester of II Year Degree B.Sc. (MPCs, MCCs) and B.Com(CA).**
 - **It is Resolved and recommend NO changes in the syllabi for VI Semester of III Year B.Sc.(MPCs, MCCs) & B.Com.(CA).**
- 6) It is resolved to continue the teaching and evaluation methods to be followed under Autonomous status.
- 7) It is resolved to continue the panel of paper setters and examiners to the controller of the examinations of autonomous courses of AG & SG Siddhartha Degree College of Arts & Science College, Vuyyuru.
- 8) Any other matter

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of LMS and LCD projector to display on power board etc..for better understanding of concepts.

Evaluation of a student is done by the following procedure:

There are two components in the Valuation and Assessment of a student – Internal Assessment (IA) Semester Examinations (SE). **For the Batch of Students Admitted from 2021-22.**

Internal Assessment (IA)

- The maximum mark for IA is 25 and SE is 75 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- The semester examination will be of 3 hours with maximum 75 marks.
- There are no passing minimum marks for IA.

Internal Assessment (IA) For the Batch of Students Admitted from 2019-20.

- The maximum mark for IA is 30 and SE is 70 for theory; and for practical marks for IA 10 and 40 Marks for External Exam.
- Each IA written examination is of 1 hour 30 minutes duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks.
- Other Innovative Components will be for 5 Marks. The innovative component is for 5 marks, conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /PPT/Online- assignments/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation.
- For attendance 5 Marks are allotted.
- The semester examination will be of 3 hours with maximum 70 marks.
- There are no passing minimum marks for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration & Foundation course 2 hours irrespective of the number of credits allotted to it.
- If a candidate fails to obtain pass marks even after the due to less mark in the IA examination, the marks of the next examination will be converted to be out of 100.
- Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/she gets 40/100) and the result shall be declared as 'PASS'.
- The maximum marks for each Paper shall be 100.

Question paper guide lines for Practical Examinations at the end of Semesters II, IV & VI Two Practical Programs to be conducted out of 15 programs at the end of Semester II, IV & VI Practical Examination time 3Hrs and Maximum Marks 50 Scheme of valuation Semesters – I, III & V B.Sc.& B.Com.(C.A),

Computer Science Practical's - External (Time: 3 hrs.)

Total Marks: 40M

1. Programs writing (2):	20 marks,
2. Viva voice :	5 marks
3. Execution & Result :	15 marks

Total Marks : : 40

Computer Science Practical's- Internal

Total Marks: 10 M

1. . Record : 10 marks

6.) Discussed and recommended for organizing Seminars, Guest lectures, Work-shops to upgrade the knowledge of students, for the approval of the Academic Council.

7) Discussed and empowered the HOD to suggest the panel of the paper setters and examiners to the controller of the examinations.

8). We implemented online certificate courses such as NPTEL, APSSDC - PYTHON, R- Programming, Amazon Web services and JAVA -----etc. To fill-the curriculum gaps from II year Degree on words

9). Suggestions


Chairman

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

DEPARTMENT OF COMPUTER SCIENCE

LIST OF THE COURSES REVISED/ INTRODUCED IN II, IV & VI SEMESTERS -2021-22

LIST OF THE COURSES REVISED/ INTRODUCED IN II, IV & VI SEMESTERS -2021-22										
S. NO	Name of the Course	Course Code	SEM No	Type of the Paper	Total Marks	IA TEST	SEE	Teaching Hours	Credits	Offered to (Name of the Programme)
1	Data Structures	CSCT21B	II	Core	100	25	75	4	3	B.Sc (MPCs, MCCs, MSCs)
2	Data Structures Lab	CSCT21B	II	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs, MSCs)
3	E-COMMERCE & WEB DESIGNING	CABT21A	II	Core	100	25	75	4	3	B.Com(CA)
4	Web Design Lab	CABT21A	II	Core Lab	50	10	40	2	1	B.Com(CA)
5	Information Technology	CABT21A	II	Core	100	25	75	4	4	B.Com(ecomm er- Computers)
6	Computer Applications	CABT22A	II	Core	100	25	75	4	3	B.Com(ecomm er- Computers)
7	Computer Application Lab	CABT22A	II	Core Lab	50	10	40	2	1	B.Com(ecomm er- Computers)
8	Digital Marketing	SDCCSC02	II	SDC	50	10	40	2	2	B.Sc (MPCs, MCCs, MSCs)
9	Oop's With JAVA	CSCT01	IV	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)
10	Oop's With JAVA Lab	CSCT01	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
11	Operating System	CSCT41C	IV	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)
12	Operating system Lab	CSCT41C	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
13	DBMS	CCSE401G	IV	Core	100	30	70	4	3	B.Com(CA)
14	DBMS Lab	CCSC401P	IV	Core Lab	50	10	40	2	1	B.Com(CA)
15	Oop's With JAVA	CCSC402G	IV	Core	100	30	70	4	3	B.Com(CA)
16	Oop's With JAVA Lab	CCSC402P	IV	Core Lab	50	10	40	2	1	B.Com(CA)
17	Web Technology	CSC601GE	VI	Core	100	30	70	4	3	B.Sc (MPCs, MCCs)

18	Web Technology Lab	CSC601GE	VI	Core Lab	50	10	40	2	2	B.Sc (MPCs, MCCs)
19	PHP & My sql, Word Press	CSC602CE	VI	Cluster	100	30	70	4	3	B.Sc (MPCs, MCCs)
20	PHP & My sql Lab	CSC602CE	VI	Cluster Lab	50	10	40	2	2	B.Sc (MPCs, MCCs)
21	Java Script/Ajax	CSC603CE	VI	Cluster	100	30	70	4	3	B.Sc (MPCs, MCCs)
22	Java Script Lab	CSC603CE	VI	Cluster Lab	50	10	40	2	2	B.Sc (MPCs, MCCs)
23	Project	CSC604CE	VI	Cluster	100	30	70	4	4	B.Sc (MPCs, MCCs)
24	Tally	CCSC605CE	VI	Core	100	30	70	4	3	B.Com(CA)
25	Tally Lab	CCSC605P	VI	Core Lab	50	10	40	2	2	B.Com(CA)
26	E-Commerce	CSC606CE	VI	Core	100	30	70	5	5	B.Com(CA)
27	PHP & MY Sql	CCSC606CE	VI	Core	100	30	70	4	3	B.Com(CA)
28	PHP & MY Sql Lab	CCSC606P	VI	Core	50	10	40	2	2	B.Com(CA)
TOTAL(Maximum)					2100	550	1550	85	66	



A.G. & S.G. Siddhartha Degree College of Arts & Science
Vuyyuru-521165, Krishna District, Andhra Pradesh
(An Autonomous institution in the jurisdiction of Krishna University, Machilipatam)
NAAC "A" Grade, ISO 9001:2015 Certified Institution

DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for UG held on 07-04-2022 in the Department of Computer Science.

Semester	: II	Programme	: MPCs,MCCS,MSCS
Course	: DATA STRUCTURES	Course Code	: 22CS2T3
Course delivery method	: Class room / Blended	Credits	: 4
Credits	: 4	CIA marks	: 25
No. of lecture hours / week	: 4	Semester end exam	: 75
Total no. of lecture hours	: 60	Total marks	: 100
Year of Introduction	: 2021-22	Year of Revision	: 2021-22
% of revision:	: 100%		

Course content suggested by APSICHE	Additions	Deletions
Unit - 1 Introduction to Data Structures , Arrays	Principles of Programming and Analysis of Algorithms	-----
Unit - 2 Linked Lists: Stacks: Queues:	**STACKS, QUEUES Topics moved to Unit-3	-----
Unit - 3 Binary Trees:	Binary Trees Topic moved to unit- 4	-----
Unit-4 Graphs:	Graphs Topic moved to unit-5	-----
Unit-5 Searching and sorting:	-----	-----

It is resolved and recommend the changes in the syllabus of course code: CSCT21B Course: Data Structures from the academic year 2021-22 onwards for IBSC(MPCS,MCCS,MSCS), II Semester.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: Data Structures

Semester: II

Course Objectives

To introduce the fundamental concept of data structures and to emphasize the importance of various data structures in developing and implementing efficient algorithms.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of the course, student will be able to:	PROGRAM OUTCOME NO
CO1	Learn the concepts of ADT and understand analysis of algorithms	PO1, PSO1, PSO2, PSO4
CO2	Understand available Data Structures for data storage and processing.	PO1, PSO1, PSO2, PSO4
CO3	Learn stacks, queues and their applications	PO1, PSO1, PSO2, PSO4
CO4	Understand trees, graphs and implement their operations	PO1, PO7, PSO1, PSO2, PSO4
CO5	Develop ability to implement different Sorting and Search methods	PO1, PO7, PSO1, PSO2, PSO4

Syllabus

UNIT – I:

11Periods

Introduction to Data Structures: Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Atomic Type, Difference between Abstract Data Types, Data Types, and Data Structures, Refinement Stages.

Principles of Programming and Analysis of Algorithms: Software Engineering, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Big ‘O’ Notation, Algorithm Analysis, Recursion.

UNIT – II:

11Periods

Linked Lists: Introduction to Lists and Linked Lists, Basic Linked List Operations, Doubly Linked List, Circular Linked List, Atomic Linked List, Linked List in Arrays, Linked List versus Arrays

UNIT – III:

14Periods

Stacks: Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks, Stacks and Recursion

Queues: Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- De-ques, Priority Queues, Application of Queues

UNIT – IV:

10Periods

Binary Trees: Introduction to Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Counting Number of nodes in Binary Trees, Applications of Binary Tree

UNIT – V:

14Periods

Searching and sorting: Sorting – An Introduction, Bubble Sort, Insertion Sort, Merge Sort, searching – An Introduction, Linear or Sequential Search, Binary Search, Indexed Sequential Search

Graphs: Introduction to Graphs, Terms Associated with Graphs, Sequential Representation of Graphs, Linked Representation of Graphs, Traversal of Graphs, Spanning Trees, Shortest Path, Application of Graphs.

BOOKS:

- “Data Structures using C”, ISRD group Second Edition, TMH
- Data Structures through C”, Yashavant Kanetkar, BPB Publications
- “Data Structures Using C” Balagurusamy E. TMH

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General

1. Group Discussion
2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Programming exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports.
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru- 521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

MODEL Question Paper: 2021-2022

TITLE: DATA STRUCTURES

COURSE CODE: CSCT21B

SECTIONS: B.Sc. (MPCS / MCCS / MSCS) SEMESTER: II

TIME: 3 Hrs.

MAX: 75M

SECTION –A

ANSWER ANY FIVE QUESTIONS

5 X 5 =25 M.

1. What is an ADT? Explain with an example. {CO₁, L2}
2. Explain about algorithm analysis. {CO₁, L2}
3. Distinguish between linked lists and arrays. {CO₂, L2}
4. Evaluate the postfix expression $2\ 3\ 1\ * +\ 9\ -$. {CO₃, L5}
5. Explain about min and max priority queues. {CO₃, L2}
6. Construct binary tree from the following in order and pre order traversals

In order: D B E A F C

Pre order: A B D E C F {CO₄, L3}

7. Explain various representations of graphs with your own example. {CO₅, L2}
8. Develop a C program for linear search. {CO₅, L3}

SECTION – B

ANSWER ALL THE QUESTIONS

5 X 10 =50 M.

- 9 a) Explain about Data structure, structured type and atomic type. {CO₁, L2}
(Or)
b) Explain about Time Complexity and Space Complexity. {CO₁, L2}
- 10 a) Explain about inserting and deleting a node in double linked list. {CO₂, L2}
(Or)
b) Explain about insertion in atomic node linked list. {CO₂, L2}
- 11 a) Develop a C program for stack's using arrays. {CO₃, L3}
(Or)
b) Develop a C program for circular queues. {CO₃, L3}
- 12 a) Explain about binary tree traversals with an example. {CO₄, L2}
(Or)
b) Demonstrate with an example deleting a node in a binary search tree. {CO₄, L2}
- 13 a) Illustrate Merge sort with an example and write code for it. {CO₅, L2}
(Or)
b) Illustrate Depth First search with an example. {CO₅, L2}

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru- 521165. NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

BLUE PRINT

TITLE: DATA STRUCTURES

COURSE CODE: CSCT21B

SECTIONS: B.SC(MPCS / MCCS / MSCS)

SEMESTER: II

TIME: 3 Hrs.

MAX: 75M

SECTION-A

ANSWER ANY FIVE QUESTIONS

5X5=25M

1. Unit 1
2. Unit 1
3. Unit 2
4. Unit 3
5. Unit 3
6. Unit 4
7. Unit 5
8. Unit 5

SECTION – B

ANSWER ALL THE QUESTIONS

5 X 10 =50 M.

- 9 a)Unit 1.
(Or)
b) Unit 1.
- 10 a) Unit 2.
(Or)
b) Unit 2.
- 11 a)Unit 3.
(Or)
b) Unit 3.
- 12 a) Unit 4.
(Or)
b) Unit 4.
- 13 a) Unit 5.
(Or)
b) Unit 5.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

Semester II	Course Code	Course Title	Hours	Credits
BSC(MPCS/MCCS/MSCS)	CSCT21B	Data Structures Lab	30	1

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to:	PROGRAM OUTCOME NO
CO1	Implement stacks, queues using arrays and linked lists.	PO1, PSO1, PSO2, PSO4
CO2	Write program for conversion from infix to postfix.	PO1, PSO1, PSO2, PSO4
CO3	Implement different sorting and searching techniques.	PO 7, PSO1, PSO2, PSO4
CO4	Construct binary trees and binary search trees.	PO 1, PSO1, PSO2, PSO4
CO5	implement binary tree and Graph traversals.	PO1,PO 7, PSO1, PSO2, PSO4

Lab Experiments List

Cycle - I

Week 1: Write a program to read 'N' numbers of elements into an array and also perform the following operation on an array

- Add an element at the beginning of an array
- Insert an element at given index of array
- Update a element using a values and index
- Delete an existing element

Week 2: Write Program to implement the Stack operations using an array.

Week 3: Write a program using stacks to convert a given infix expression to postfix.

Week 4: Write a program for arithmetic expression evaluation.

Week 5: Write Program to implement the Stack operations using Liked List.

Week 6: Write Program to implement the Queue operations using an array.

Week 7: Write Program to implement the Queue operations using Liked List.

Week 8: Write Program to implement circular Queue operations using an array.

Cycle - II

Week 9: Write a program to implement de-queues.

Week 10: Write a program to implement single linked list.

Week 11: Write a program to implement double linked list.

Week 12: Write a program for Binary Search Tree Traversals.

Week 13: Write a program to search an item in a given list using the following Searching Algorithms

- Linear Search
- Binary Search.

Week 14: Write a program for implementation of the following Sorting Algorithms

- Bubble Sort
- Insertion Sort
- Merge sort

Week 15: Write a program for implementation of the following graph traversals.

- BFS
- DFS



A.G. & S.G. Siddhartha Degree College of Arts & Science
Vuyuru-521165, Krishna District, Andhra Pradesh
 (An Autonomous institution in the jurisdiction of Krishna University, Machilipatam)
 NAAC "A" Grade, ISO 9001:2015 Certified Institution

DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for UG held on 07-04-2022 in the Department of Computer Science.

Semester	: II	Programme	: BCOM(CA)
Course	: E-COMMERCE & WEB DESIGNING	Course Code	: CABT21A
Course delivery method	: Class room / Blended	Credits	: 4
Credits	: 4	CIA marks	: 25
No. of lecture hours / week	: 4	Semester end exam	: 75
Total no. of lecture hours	: 60	Total marks	: 100
Year of Introduction	: 2021-22	Year of Revision	: 2021-22
% of revision:	: 100%		

Course content suggested by APSICHE	Additions	Deletions
Unit - 1 Introduction, Electronic Commerce	An Overview on E-Commerce Business Models for Ecommerce	-----
Unit - 2 payment System	E-Marketing & E - CRM & Electronic Payment Systems Online Marketing	-----
Unit - 3 On-line Business Transactions:	Electronic Payment Systems	-----
Unit-4 Introduction to HTML	Introduction to Web Designing HTML	-----
Unit-5 Website Designing: Hyperlinks:	Website Designing: Hyperlinks topic moved to UNIT-4 Introduction to WIX Editor Getting Started with Wix	-----

It is resolved and recommend the changes in the syllabus of course code: CABT21A Course: **E-COMMERCE & WEB DESIGNING** from the academic year 2021-22 onwards for IBCOM(CA), II Semester.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **E-COMMERCE & WEB DESIGNING**

Semester: II

COURSE OBJECTIVES:

The main objective of the course is to impart conceptual understanding on business transactions on worldwide web and electronic commerce & Electronic Customer Relationship Management and Web designing concepts for providing quality content on website.

COURSE OUTCOMES:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand the structure of HTML its basic tags
CO2	Implement various HTML tags for web page development
CO3	Understand about implementing forms and frames in web page designing
CO4	Gain knowledge in E- commerce and its business models
CO5	Differentiate traditional and e – marketing and also gain knowledge in E-CRM and EPS

UNIT I: An Overview on E-Commerce

(10periods)

Introduction E-Commerce

Definition of E- Commerce and its advantages & disadvantages

Electronic Data Interchange (EDI)

E-Commerce transactional issues and challenges

Difference between Commerce and E-Commerce

Business Models for Ecommerce

B2C -Business to consumer. B2B – Business to business C2B – Consumer to business. C2C – Consumer to consumer.

UNIT II: E-Marketing &E – CRM& Electronic Payment Systems

(10periods)

Online Marketing

Traditional Vs. E-Marketing

Online Marketing

E-Advertising

Internet marketing

E – CRM

Definition of CRM and E-CRM and its Applications

E- CRM Architectural components

Definition & characteristics of E- SCM

Benefits and goals of E – SCM 2.2.5 E-Logistics of UP

UNIT III: Electronic Payment Systems

(10periods)

Types of EPS

Traditional payment system and modern payment system

Steps for electronic payment 3.4 Payment security

UNIT IV: Introduction to Web Designing

(12periods)

4.1 HTML

4.1.1 Define HTML 4.1.2 Structure of HTML 4.1.3 Basic HTML tags

4.1.4 Formatting HTML tags

Lists

Ordered List 4.2.2 Unordered List

4.3Links

4.3.1 Link tag 4.3.2 Image tag 4.3.3 Marquee tag 4.4Tables

4.4.1 Table Creation 4.4.2 Attributes of Table

4.5forms& Frames

4.5.1 Forms creation 4.5.2 Form tag 4.5.3 Input fields of form

4.5.4 Frame Creation 4.5.5 Frameset tag 4.5.6 Frame tag

UNIT V: Introduction to WIX Editor

(18periods)

Getting Started with Wix

Adding and Editing Text

Adding a Site Title

Changing Your Text Font

Creating a Clickable URL

Adding Language Fonts

Adding Elements to Your Site

Arranging the Content on Your Site's Pages

About the Header

About the Footer

Adding an Image to Your Page Background

Uploading Your Own Background Image

Adding a Video to Your Page Background

Uploading Your Own Video Page Background

Uploading Your Own Images

Adding a Logo to Your Site

Adding a Link to an Image

Gallery and Button

Adding a Gallery

Cropping and Editing Gallery Images

Adding and Setting Up an Icon Button

Adding a Link to a Button

Video

Adding a Video from YouTube

Retrieving a YouTube URL

Menu

Adding a Site Menu

Customizing Your Menu Design

Adding and Deleting a Menu Folder

Reordering Menu Items

Changing the Direction of Menu Items

Text Book:

1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. E-Commerce- A Managerial Perspective- P. T. Joseph, Prentice- Hall of India, New Delhi, 2005.

References:

1. Kogent Learning Solutions Inc.(Author), "Black Book HTML 5.0", dramatic.
- 2.Daniel Amor, E-Business R(Evolution), Pearson Edude, New Delhi, 2005.

Weblink: <https://support.wix.com/en/the-wix-editor/editor-basics>

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru- 521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

**Title: E-Commerce Web Designing
Model Paper**

**CLASS: B.Com (Computer Applications)
Semester: II**

Course Code: CABT21A

**Max. Marks: 75M
Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS

5X5M=25M

1. Explain the E-Commerce (CO1, L2)
2. Compare Traditional marketing and E-Marketing. (CO2, L2)
3. Define Networks and its types? (CO3, L1)
4. Explain Link tags in HTML (CO4, L2)
5. Explain the steps to add a link to a button (CO5, L1)
6. Compare Commerce and E-Commerce. (CO1, L2)
7. Explain Benefits and goals of E – SCM. (CO2, L2)
8. Demonstrate concept of formatting Tags (CO4, L2)

Section-B

ANSWER THE FOLLOWING QUESTIONS

5X10M=50M

9. (A) Explain EDI. (CO1, L2)
(OR)
(B) Classify Business Models for Ecommerce. (CO1, L2)
10. (A) Illustrate E- CRM Architectural components. (CO2, L2)
(OR)
(B) Explain Electronic Payment Systems. (CO2, L2)
11. (A) Define Structure of HTML with examples (CO3, L1)
(OR)
(B) What are different types Network Topologies? (CO3, L1)
12. (A) Demonstrate the concept of Table creation with apply all Attributes. (CO4, L2)
(OR)
(B) Define forms in html and creation of form with all input types? (CO4, L1)
13. (A) Explain the steps to add elements to your site. (CO5,L1)
(OR)
(B) How to add images and logo to your site (CO5, L1)

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.

<i>Computer Science</i>	CABT21A	2021-22	B. Com (Computers Applications)
-------------------------	----------------	----------------	--

Semester - II

Credits: 1

WEB DESIGNING LAB

COURSE OBJECTIVES:

The purpose of this course is to introduce to students to the field of creation web pages using HTML language. The students will be able to enhance their analyzing and help to creation for Web Site Design

COURSE OUTCOMES:

COURSE OUTCOME NO	on successful completion of this course, students should have the knowledge and skills to
CO1	Implement HTML tags.
CO2	Implementing lists and tables in web pages.
CO3	Implementing frames in web pages.
CO4	Implementing frames in web pages.
CO5	Application of CSS in a web page.

Week 1: Write a HTML program to print text in bold and italic font.

Week 2: Write a HTML program to print Heading tags.

Week 3: Write a HTML program using Text formatting tags

Week 4: Write a HTML program to implement unordered lists. Write a HTML program to implement order lists.

Week 5: Write a html file which display 3 images at LEFT, RIGHT and CENTER respectively in the browser.

Week 6: Create a HTML file which contains hyperlinks.

Week 7: Write a HTML program to create a table

Week 8: Write a HTML program to create a table using Row Span and Cols pan.

Week 9: Write a HTML program to Create a simple form

Week 10: Create a Registration form that interacts with the user. Collect login name, password, date of birth, gender, address, qualification.

Week 11: Create a HTML page using frameset tag.

Developing Websites using WIX: <https://www.wix.com/blog/2020/05/how-to-design-a-website/>

Week 12: An online store to sell your products.

Week 13: A photography website to display and sell prints.

Week 14: A fitness website to book new clients.

Week 15: A restaurant website to help with online orders, delivery and payment.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **Information Technology**

Semester: II

Course Code	CABT21A	Course Delivery Method	Class Room / Blended Mode – Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:

It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Internet, data communication, Software, hardware and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an operating system and customizing Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in basic Network and Data Communication Concepts
CO5	Understand the need of data mining and get familiarize with basics of new concepts like KDD, OLAP

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
 (With Effect from Academic Year 2021-22)

Semester II	Course Code	Course Title	Credits	Periods
B.Com.(E-Commerce Computer)	CABT21A	Information Technology	4	75

UNIT-I: INTRODUCTION:

13Periods

Introduction to computers
 Generations of computers
 An overview of computer system - Types of computers
 Input & Output Devices.
 Hardware: Basic components of a computer system- Control unit– ALU- Input/outputfunctions.
 Memory – RAM – ROM – EPROM - PROM and Other types of memory.

UNIT-II: OPERATING SYSTEM (OS):

12Periods

Meaning - Definition & Functions.
 Types of OS - Booting process
 DOS – Commands (internal & external) - Wild card characters
 Windows: Using the Start Menu –Control Panel – Using multiple
 Windows – Customizing the Desktop – Windows accessories (Preferably latestversion of windows or Linux Ubuntu).

Unit-III: SOFTWARE:

15Periods

System software and application software.
 Operating system windows OS,
 Mobile device operating system and notebook operating systems
 Application software Types of personal application software
 Spread sheet-data management
 Word processing
 Desktop publishing
 Graphics, CAD, CAM, CIM
 Programming Languages
 Assembly language
 Procedural language, non-procedural language, natural programming language.
 Hypertext mark-up language, modeling language, object-oriented programming language.

Unit-IV: DATA COMMUNICATION:

20 Periods

Telecommunication and Networks Communication media& channel cable media

 Broad cast media channels twisted pair
 Coaxial cable, fibers optical cable, micro wave, satellite, radio, cellular radio,
 Infrared global positioning system.
 Introduction, Analog and Digital signals, modulation need of modulations, modems.
 Telecommunication System communication processors:
 Modem
 Multiplexers
 Front –end-processor.
 Networks LAN, WAN, VAN, virtual private network (VPN).
 Internet, intranet and Extranets
 The evolution of the internet, service provided by the internet, World Wide Web.

Unit-V: NEW TECHNOLOGIES:**10 Periods**

New technologies in Information Technology:

Introduction to hyper media, artificial intelligence and business intelligence, knowledgediscovery in database (KDD)
Data warehouse and data marts. Data mining and OLAP.

Student Activity:

Students have to submit assignments and give seminars on various topics allotted to them.

Total of 5 Hrs is allotted for student seminars. Student activity also includes gathering of information related to latest technologies in computers.

Library Activity:

Students will visit library in their allotted time and will refer various text books to gather information for their assignments.

TEXT/ REFERENCE BOOKS:

1. B.E.V.L.Naidu, V.V.. Devi Prasad Konti, Ganti Naga Srikanth, Himalaya publishing House.
2. Introduction to Computers: Peter Norton, McGraw Hill

@ @ @ @

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2021-22)

MODEL Question Paper:

PAPER TITLE: INFORMATION TECHNOLOGY COURSE CODE: CABT21A

CLASS: B.Com (E-Commerce-Computers)

SEMESTER: II

TIME: 3 Hrs.

MAX: 75M

SECTION – A

Answer any five of the following

5X5 =25M

1. Illustrate the characteristics of RAM and ROM. (CO1, L2)
2. Define Operating system. What are different types of OS? (CO2, L1)
3. Demonstrate application software and system software. (CO3, L2)
4. What are the different types of networks? (CO4, L1)
5. Explain the steps involved in the process of KDD. (CO5, L2)
6. Explain about input devices. (CO1, L2)
7. What are analog and digital signals? (CO4, L1)
8. Explain Data warehouse. (CO5, L2)

SECTION –B

Answer the following

5x10=50M

9. a) Explain the block diagram of computer. (CO1, L2)

OR

- b) Explain the generations of computers. (CO1, L2)

10. a) What are the functions of operating system? (CO2, L1)

OR

- b) What are DOS Internal and External commands? (CO2, L1)

11. a) Explain the characteristics of various types of programming languages. Give examples. (CO3, L2)

OR

- b) Summarize the concepts on CAD, CAM and CIM. (CO3, L2)

12. a) Define the various types of Communication media and channels. (CO4, L1)

OR

- b) What are the Advantages and Disadvantages of Internet? (CO4, L1)

13. a) Demonstrate On-Line Analytical process (OLAP). (CO5, L2)

OR

- b) Explain about Artificial Intelligence and Business Intelligence. (CO5, L2)

@@@

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **COMPUTER APPLICATIONS**

Semester: II

Course Code	CABT22A	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

COURSE OBJECTIVES:

It provides to learn computer basics and basic principles of using Windows operation system and be able to access the Ms-Office, Power Point, Excel and various new technologies in information technology.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Understand fundamental concepts of a computer and its basic components
CO2	Understand basic functioning of an Ms-Office and MS-Word Window Components Windows Desktop
CO3	Analyze type of soft ware's and programming languages
CO4	Have knowledge in MS-Excel and MS Access
CO5	Understand the need of Finding, Sorting and Displaying Data and get familiarize

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2021-'22)

COMPUTER SCIENCE	CABT22A	2021-'22	B.Com(E-Commerce-computers)
-------------------------	----------------	-----------------	------------------------------------

SEMESTER – II PAPER – II Max. Marks 75 Pass Marks 30 Total Hrs: 60

Syllabus COMPUTER APPLICATIONS NO. Of Hrs: 4 Credits: 3

Unit-I: MS-Word

10 Hrs

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-II: MS-PowerPoint

10 Hrs

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and scaling of an Object – Slide Transition – Custom Animation

Unit-III: MS-Excel

10Hrs

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

Unit-IV: MS Access:

12Hrs

Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access. Tables: table creation using design view, table wizard, data sheet view, import table, link table. Forms: The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: Finding, Sorting and Displaying Data:

12Hrs

Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. Printing Reports: Form and Database Printing..

Reference Books:

1. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill(2008)
2. Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)
3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CABT22A	2021-'22	B.Com(e-commerce-computers)
SEMESTER – II	PAPER – III	Max. Marks 75	

Model Paper: **COMPUTER APPLICATIONS** NO of Hours: 4 No Of Credits: 3 Pass Marks 30
Section-A

Answer any **FIVE** Questions. Each question carries **FIVE** Marks **5x5=25M**

1. UNIT -1 5M
2. UNIT -1 5M
3. UNIT -2 5M
4. UNIT -2 5M
5. UNIT -3 5M
6. UNIT -3 5M
7. UNIT -4 5M
8. UNIT -5 5M

Section-B

Answer All Questions. Each question carries **TEN** Marks **5X10=50M**

- 9.a) UNIT -1 10M
(Or)
- b). UNIT -1 10M
10. a) UNIT -2 10M
(Or)
- b). UNIT -2 10M
11. a) UNIT -3 10M
(Or)
- b). UNIT -3 10M
12. a) UNIT -4 10M
(Or)
- b). UNIT -4 10M
13. a) UNIT -5 10M
(Or)
- b). UNIT -5 10M

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: DIGITAL MARKETING

Course Code	SDCCSC02	Course Delivery Method	Class Room / Blended Mode – Both
Credits	2	CIA Marks	10
No. of Lecture Hours / Week	2	Semester End Exam Marks	40
Total Number of Lecture Hours	30	Total Marks	50
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Objective:

The aim of the Digital Marketing Course is to provide students with the knowledge about business advantages of the digital marketing and its importance for marketing success. The application of the gained knowledge, skills and competences will help students in forming digital marketing plan in order to manage a digital marketing performance efficiently.

Course Outcomes:

COURSE OUTCOME NO	on successful completion of this course, students should have the knowledge and skills to
CO1	Understand fundamental concepts of Digital Marketing and Channels (PO1, PO7, PSO1, PSO4)
CO2	Understand how to optimize a Web site and SEO optimization (PO1, PO7, PSO1, PSO4)
CO3	Understand Social Media Plan for measuring effects of digital marketing (PO1, PO7, PSO1, PSO4)

UNIT-I: INTRODUCTION:

5 Periods

What is Digital Marketing?

Difference between Traditional Marketing and Digital Marketing?

Benefits of Digital Marketing?

Latest Digital Marketing Trends

Digital Marketing Platforms

Digital Marketing Strategies for Websites

Career Opportunities in Digital Marketing

Difference Between Digital Marketing , Online Marketing and Internet Marketing

Functions and Types of Digital marketing

What is Marketing and how to build Online Marketing Plan

Digital Marketing Process

How to increase Visibility and People Engagement

Traffic Generation Techniques , Leads and How to gauge Performance Evaluation

Digital Marketing Techniques for Product Marketing and Service Marketing

UNIT-II: SEO Training (Search Engine Optimization)

12Periods

Introduction to SEO
What are Search engines and How Search Engines Work
Search Engine Algorithms and Latest Updates
Keyword Research
Google Trends
Purpose of website analytics
How to choose Website Analysis Tools
Installing Google Analytics in website
Competitive Analysis
 Domain Registration and Hosting Plans
 Keyword Placement
 SEO Content Writing and Rewriting
 Google Webmaster Tools
 Sitemap Creation
 Robots.txt File Creation
 Google Updates and their effects in website Rankings.
 On page Optimization strategies

Unit-III:SEM Training (Search Engine Marketing)

13Periods

Introduction to Free and Paid Marketing
What is Search Engine Marketing?
What is Link Building
Advantages and Disadvantages of Link Building
Difference Between Search engines and Directories
Directory Submission Techniques
Classified Postings
Press Release Postings
 Article Posting Techniques
 Forum Postings
 Advantages and Disadvantages of Forums
 How and when to Participate in Groups
 Trade Fairs and Trade lead Postings
 Participating in Questions and Answers sites
 What are Do Follow and No Follow Links
SMO Training (Social Media Optimization)Introduction to social media optimization and Social
Media Marketing
Twitter Marketing
Facebook Marketing, Facebook for Business , Advantages and Disadvantages
LinkedIn Account creation and LinkedIn Marketing
Social Bookmarking Sites, Advantages and Disadvantages of Submitting your website toSocial
bookmarking Sites

TEXT/ REFERENCE BOOKS:

1. The Beginner's Guide to Digital Marketing (2015). Digital Marketer. Pulizzi,J.(2014) Epic Content Marketing, Mcgraw Hill Education.
2. Ryan, D. (2014). Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation, Kogan Page Limited.
3. Chaffey, D., e-Marketing Excellence: Planning and Optimizing Your Digital Marketing, Burlington: Elsevier.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

MODEL Question Paper:

PAPER TITLE: Digital Marketing

COURSE CODE: SDCCSC02

SEMESTER: II

TIME: 2 Hrs.

MAX: 40M

SECTION – A

(Total: 4x7=28 Marks)

Answer any **four questions**. Each answer carries **7 marks**

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

SECTION – B

(Total: 6x2 = 12 Marks)

Answer any **Six questions**. Each answer carries **2 marks**

- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

Semester: IV

Course Code	CSCT01	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To introduce the fundamental concepts of Object-Oriented programming and to design & implement object oriented programming concepts in Java.

Course Outcomes:

CO ₁	Understand the benefits of a well-structured program
CO ₂	Understand different computer programming paradigms
CO ₃	Understand underlying principles of Object-Oriented Programming in Java
CO ₄	Develop problem-solving and programming skills using OOP concepts
CO ₅	Develop the ability to solve real-world problems through software development in high-level programming language like Java

Syllabus

UNIT – I; Introduction to Java: Features of Java, The Java virtual Machine, Parts of Java

Naming Conventions and Data Types: Naming Conventions in Java, Data Types in Java, Literals

Operators in Java: Operators, Priority of Operators

Control Statements in Java: if... else Statement, do... while Statement, while Loop, for Loop, switch Statement, break Statement, continue Statement, return Statement

Input and Output: Accepting Input from the Keyboard, Reading Input with Java.util.Scanner Class, Displaying Output with System.out.printf(), Displaying Formatted Output with String.Format ()

Arrays: Types of Arrays, Three Dimensional Arrays (3D array), arrayname.length, Command Line Arguments

UNIT – II

Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings

Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object-Oriented Programming System (OOPS)

Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors

Methods in Java: Method Header or Method Prototype, Method Body, Understanding Methods, Static Methods, Static Block, The keyword 'this', Instance Methods, Passing Primitive Data Types to Methods, Passing Objects to Methods, Passing Arrays to Methods, Recursion, Factory Methods

Inheritance: Inheritance, The keyword 'super', The Protected Specifier, Types of Inheritance

UNIT – III

Polymorphism: Polymorphism with Variables, Polymorphism using Methods, Polymorphism with Static Methods, Polymorphism with Private Methods, Polymorphism with Final Methods, final Class

Type Casting: Types of Data Types, Casting Primitive Data Types, Casting Referenced Data Types, the Object Class

Abstract Classes: Abstract Method and Abstract Class

Interfaces: Interface, Multiple Inheritance using Interfaces

Packages: Package, Different Types of Packages, The JAR Files, Interfaces in a Package, Creating Sub Package in a Package, Access Specifiers in Java, Creating API Document

Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions, Re – throwing an Exception

UNIT – IV

Streams: Stream, Creating a File using File Output Stream, Reading Data from a File using FileInputStream, Creating a File using File Writer, Reading a File using File Reader, Counting Number of Characters in a File, File Copy, File Class

Threads: Single Tasking, Multi Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Single Tasking Using a Thread, Multi Tasking Using Threads, Multiple Threads Acting on Single Object, Thread Class Methods, Deadlock of Threads, Thread Communication, Thread Priorities, thread Group, , Applications of Threads, Thread Life Cycle

UNIT – V

Applets: Creating an Applet, Uses of Applets, <APPLET> tag, A Simple Applet, An Applet with Swing Components, Animation in Applets, A Simple Game with an Applet, Applet Parameters

Java Database Connectivity: Database Servers, Database Clients, JDBC (Java Database Connectivity), Working with Oracle Database, Working with MySQL Database, Stages in a JDBC Program, Registering the Driver, Connecting to a Database, Preparing SQL Statements, Using jdbc–odbc Bridge Driver to Connect to Oracle Database, Retrieving Data from MySQL Database, Retrieving Data from MS Access Database, Stored Procedures and Callable Statements, Types of Result Sets

BOOKS:

1. Core Java: An Integrated Approach, Authored by Dr. R. Nageswara Rao & Kogent Learning Solutions Inc.
2. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series, TMH.
4. Deitel & Deitel. Java TM: How to Program, PHI (2007)

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CSCT01	2021-'22	B.Sc.(MPCs,MCCs)
-------------------------	---------------	-----------------	-------------------------

SEMESTER – IV

PAPER – IV

Max. Marks 70

Model Paper: 'OBJECT ORIENTATED PROGRAMMING THROUGH JAVA'

NO of Hours: 4

No Of Credits: 3

Pass Marks 28

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks

4x5=20M

1. UNIT -1..... 5M
2. UNIT -1..... 5M
3. UNIT -2..... 5M
4. UNIT -3..... 5M
5. UNIT -4..... 5M
6. UNIT -5..... 5M

Section-B

Answer any FIVE Questions. Each question carries TEN Marks

5X10=50M

7. UNIT -1 10M
8. UNIT -2 10M
9. UNIT -2 10M
10. UNIT -3 10M
11. UNIT -3 10M
12. UNIT -4 10M
13. UNIT -4 10M
14. UNIT -5 10M

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CSCT01	2021-'22	B.Sc.(MPCs,MCCs)
------------------	---------------	----------	------------------

SEMESTER – IV PAPER –IV Max. Marks 70 Pass Marks 28
Guidelines for paper setting '**OBJECT ORIENTATED PROGRAMMING THROUGH JAVA**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CSCT01P	2021-'22	B.Sc.(MPCS,MCCs)
------------------	---------	----------	------------------

SEMESTER – IV

PAPER – IV

Max. Marks 50

Lab List: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

No. of Hours per week: 2

External: 40

Internal: 10

Credits: 1

1. Write a program to read *Student Name, Regd.No, Marks [5]* and calculate Total, *Percentage, and Result*. Display all the details of students
2. Write a program to perform the following String Operations
 - a. Read a string
 - b. Find out whether there is a given substring or not
 - c. Compare existing string by another string and display status
 - d. Replace existing string character with another character
 - e. Count number of works in a string
3. Java program to implements Addition and Multiplication of two N X N matrices.
4. Java program to demonstrate the use of Constructor.
5. Calculate area of the following shapes using method overloading.
 - a. Triangle
 - b. Rectangle
 - c. Circle
 - d. Square
6. Implement inheritance between *Person (Aadhar, Surname, Name, DOB, and Age)* and *Student (Admission Number, College, Course, Year)* classes where ReadData(), Display Data() are overriding methods.
7. Java program for implementing Interfaces
8. Java program on Multiple Inheritance.
9. Java program for to display *Serial Number from 1 to N* by creating two Threads
10. Java program to demonstrate the following exception handlings
 - a. Divided by Zero
 - b. Array Index Out of Bound
 - c. File Not Found
 - d. Arithmetic Exception
 - e. User Defined Exception

11. Create an Applet to display different shapes such as Circle, Oval, Rectangle, Square and Triangle.
12. Write a program to create *Book (ISBN, Title, Author, Price, Pages, Publisher)* structure and store book details in a file and perform the following operations
 - a. Add book details
 - b. Search a book details for a given ISBN and display book details, if available
 - c. Update a book details using ISBN
 - d. Delete book details for a given ISBN and display list of remaining Books

**A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF
ARTS & SCIENCE**

Vuyyuru-521165. NAAC reaccredited at 'A' level *Autonomous*
ISO 9001 – 2015 Certified

Title of the Paper: OPERATING SYSTEM

Semester: IV

Course Code	CSCT41C	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This course aims to introduce the structure and organization of a file system. It emphasizes various functions of an operating system like memory management, process management, device management, etc.

.Course Outcomes:

CO ₁	Know Computer system resources and the role of operating system in resourcemanagement with algorithms
CO ₂	Understand Operating System Architectural design and its services
CO ₃	Gain knowledge of various types of operating systems including Unix and Android
CO ₄	Understand various process management concepts including scheduling,synchronization, and deadlocks.
CO ₅	Have a basic knowledge about multithreading.
CO ₆	Comprehend different approaches for memory management.

SYLLABUS

UNIT- I what is Operating System? History and Evolution of OS, Basic OS functions, Resource Abstraction, Types of Operating Systems– Multiprogramming Systems, Batch Systems, Time Sharing Systems; Operating Systems for Personal Computers, Workstations and Hand-held Devices, Process Control & Real time Systems.

UNIT- II Processor and User Modes, Kernels, System Calls and System Programs, System View of the Process and Resources, Process Abstraction, Process Hierarchy, Threads, Threading Issues, Thread Libraries; Process Scheduling, Non-Preemptive and Preemptive Scheduling Algorithms.

UNIT III Process Management: Deadlock, Deadlock Characterization, Necessary and Sufficient Conditions for Deadlock, Deadlock Handling Approaches: Deadlock Prevention, Deadlock Avoidance and Deadlock Detection and Recovery. Concurrent and Dependent Processes, Critical Section, Semaphores, Methods for Inter- process Communication; Process Synchronization, Classical Process Synchronization Problems: Producer-Consumer, Reader-Writer.

UNIT IV Memory Management: Physical and Virtual Address Space; Memory Allocation Strategies– Fixed and -Variable Partitions, Paging, Segmentation, Virtual Memory.

UNIT V File and I/O Management, OS security : Directory Structure, File Operations, File Allocation Methods, Device Management, Pipes, Buffer, Shared Memory, Security Policy Mechanism, Protection, Authentication and Internal Access Authorization Introduction to Android Operating System, Android Development Framework, Android Application Architecture, Android Process Management and File System, Small Application Development using Android Development Framework.

REFERENCE BOOKS:

1. Operating System Principles by Abraham Silberschatz, Peter Baer Galvin and Greg Gagne (7th Edition) Wiley India Edition.
2. Operating Systems: Internals and Design Principles by Stallings (Pearson)
3. Operating Systems by J. Archer Harris (Author), Jyoti Singh (Author) (TMH)
4. Online Resources for UNIT V

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CSCT41C	2021-'22	B.Sc.(MPCs,MCCs)
SEMESTER – IV	PAPER – V	Max. Marks 70	

Model Paper: 'OPERATING SYSTEM

NO of Hours: 4

No Of Credits: 3

Pass Marks 28

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks

4x5=20M

1. UNIT -1..... 5M
2. UNIT -1..... 5M
3. UNIT -2..... 5M
4. UNIT -3..... 5M
5. UNIT -4..... 5M
6. UNIT -5..... 5M

Section-B

Answer any FIVE Questions. Each question carries TEN Marks

5X10=50M

7. UNIT -1 10M
8. UNIT -2 10M
9. UNIT -2 10M
10. UNIT -3 10M
11. UNIT -3 10M
12. UNIT -4 10M
13. UNIT -4 10M
14. UNIT -5 10M

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CSCT41C	2021-'22	B.Sc.(MPCs,MCCs)
------------------	----------------	----------	------------------

SEMESTER – IV PAPER –V Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**OPERATING SYSTEM**'

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CSCT41C	2021-'22	B.Sc.(MPCS,MCCs)
-------------------------	----------------	-----------------	-------------------------

SEMESTER – IV

PAPER – V

Max. Marks 50

Lab List: OPERATING SYSTEM LAB USING C/JAVA

No. of Hours per week: 2

External: 40

Internal: 10

Credits: 1

1. Write a program to implement Round Robin CPU Scheduling algorithm
2. Simulate SJF CPU Scheduling algorithm
3. Write a program the FCFS CPU Scheduling algorithm
4. Write a program to Priority CPU Scheduling algorithm
5. Simulate Sequential file allocation strategies
6. Simulate Indexed file allocation strategies
7. Simulate Linked file allocation strategies
8. Simulate MVT and MFT memory management techniques
9. Simulate Single level directory File organization techniques
10. Simulate Two level File organization techniques
11. Simulate Hierarchical File organization techniques
12. Write a program for Bankers Algorithm for Dead Lock Avoidance
13. Implement Bankers Algorithm Dead Lock Prevention.
14. Simulate all Page replacement algorithms.
 - a) FIFO
 - b) LRU
 - c) LFU
15. Simulate Paging Techniques of memory management

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: Database Management System

Semester: IV

Course Code	CCSC401G	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

Course Outcomes:

CO ₁	Able to have knowledge about database, Traditional File System.
CO ₂	Be able to Design a database using Relation models and Data Modeling
CO ₃	Store, retrieve data in database using Integrity constraints and Normal Forms.
CO ₄	Be able to implement various SQL queries
CO ₅	Be able to implement various Procedural SQL queries and

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)
SEMESTER – IV	PAPER – IV		Max. Marks 70

Syllabus: 'Database Management System

UNIT-I Overview of Database Management System

Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

UNIT-2: File-Based System

File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

UNIT-III: Entity-Relationship Model:

Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

UNIT-IV: Structured Query Language

Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

UNIT-V: PL/SQL:

Introduction, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

• **References:**

- Paneer selvam: Database Management system, PHI.
- David Kuklinski, Osborne, Data management system McGraw Hill Publication.
- Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
- Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
- MARTIN, Database Management-Prentice Hall of India, New Delhi.
- Bipin C.Desai, 'An Introduction to Database System', Galgotia Publications
- Navathe, Database Management System.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2020-21)

COMPUTER SCIENCE	CCSC401G	2021-'22	B.Com.(C.A.)
-------------------------	-----------------	-----------------	---------------------

SEMESTER – IV

PAPER – IV

Max. Marks 70

Model Paper

DATA BASE MANAGEMENT SYSTEMS

NO of Hours: 5

No Of Credits: 3

Pass Marks 28

Section-A

*Answer any **FOUR** Questions. Each question carries **FIVE** Marks*

4x5=20M

1. UNIT -1..... 5M
2. UNIT -1..... 5M
3. UNIT -2..... 5M
4. UNIT -3..... 5M
5. UNIT -4..... 5M
6. UNIT -5..... 5M

Section-B

*Answer any **FIVE** Questions. Each question carries **TEN** Marks*

5X10=50M

7. UNIT -1 10M
8. UNIT -2 10M
9. UNIT -2 10M
10. UNIT -3 10M
11. UNIT -3 10M
12. UNIT -4 10M
13. UNIT -4 10M
14. UNIT -5 10M

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2020-21)

COMPUTER SCIENCE	CCSC401G	2021-'22	B.Com.(C.A.)
-------------------------	-----------------	-----------------	---------------------

SEMESTER – IV

PAPER – IV

Max. Marks 70

Guidelines for paper setting '**DATA BASE MANAGEMENT SYSTEMS**'

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2020-21)

COMPUTER SCIENCE	CCSC401P	2021-'22	B. COM(CA)
-------------------------	-----------------	-----------------	-------------------

SEMESTER –IV

PAPER – IV

Max. Marks 50

Lab List DATA BASE MANAGEMENT SYSTEMS

No. of Hours per week: 2

External: 40

Internal: 10

Credits: 1

1. Creation of college database and establish relationships between tables
2. Explain various data type in Oracle.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.
5. Explain the syntax of SELECT statement.
6. Create a query to display the name, job, hiredate and employee number from emp table.
7. Create a query to display unique jobs from the emp table.
8. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
9. Create a query to display all the data from the EMP table. Separate each column by a comma and name the column THE_OUTPUT.
10. Create a query to display the name and salary of employees earning more than 2850.
11. Create a query to display the name and salary for all employees whose salary is not in the range of 1500 and 2850.
12. Display the employee name, job and start date of employees hired between February 20 ,1981 and May 1, 1981. Order the query in ascending order of start date
13. Display the employee name and department number of all the employees in departments 10 and 30 in alphabetical order by name.
14. List the name and salary of employees who earn more than 1500 & are in department 10 or 30.
15. Display the name, salary and commissions and sort data in descending order of salary and commission.
16. Display the name and job title of all employees who do not have a manager.
17. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary is not equal to 1000, 3000 or 5000.
18. Display the names of all employees where the third letter of their name is an 'A'.
19. Display the names of all employees who have two 'L's in their name and are in department 30 or their manager is 7782.
20. Display the name , salary and commission for all employees whose commission amount is greater than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

Create Student database using the following tables.

STUDENT: Sno : primary key, numbers name : NOT NULL, varchar2 Address:
Varchar2

COURSE:Sno : Foreign key.Course Name : varchar2

Queries:

1. Alter table by adding a column fees in table COURSE.
2. Alter table by modifying the address to VARCHAR2(20)
3. Create a view on which the students who joined in one course only.

PL/SQL.

1. Write A Pl/Sql Program To Swap Two Numbers Without Using Third Variable.
2. Write A Pl/Sql Program To Generate Multiplication Tables For Numbers 2,4 And 6
3. Write A Pl/Sql Program To Display Sum Of Even Numbers And Sum Of Odd Numbers In The Given Range.
4. Write A Pl/Sql Program To Check The Given Number Is Pollinndrome Or Not.
5. Write A Pl/Sql Program To Display Top 10 Rows In Emp Table Based On Their Job And Salary.

Reference Books:

1. Oracle Pl/Sql By Example. Benjamin Rosenzweig, Elena Silvestrova,
Pearsoneducation 3rd Edition
2. Sql& Pl/Sql For Oracle 10g, Black Book, Dr.P.S. Deshpande

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: Object Oriented Programming with Java

Semester: IV

Course Code	CCSC402G	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

Course Outcomes:

CO ₁	Understanding the meaning and necessity of audit in modern era
CO ₂	Comprehend the role of auditor in avoiding the corporate frauds
CO ₃	Identify the steps involved in performing audit process
CO ₄	Determine the appropriate audit report for a given audit situation
CO ₅	Apply auditing practices to different types of business entities

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)
SEMESTER – IV	PAPER – V	Max. Marks 70	

SYLLABUS: ‘OBJECT ORIENTATED PROGRAMMING THROUGH JAVA’

Unit I: Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming

Introduction to Java: Features of Java, The Java Virtual Machine (JVM), Parts of Java program, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System. out.println (), Command Line Arguments.

Unit II: Control Statements in Java: if... else, do... while Loop, while Loop, for loop, Switch Statement, break Statement, continue Statement

Arrays: Types of Arrays, array name, length,

Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings.

Unit III: Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors

Inheritance: Inheritance, Types of Inheritance

Polymorphism: Method overloading, Operator overloading

Abstract Classes: Abstract Method and Abstract Class

Unit IV: Packages: Package, Different Types of Packages, Creating Package and Accessing a Package

Streams: Stream classes, Creating a File using File Output Stream, Reading Data from a File using File Input Stream, Creating a File using File Writer, Reading a File using File Reader

Unit V: Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions

Threads: Single Tasking, Multi-Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Thread Class Methods.

References:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao & Kogent Learning Solutions Inc.
3. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company

Online Resources:

<https://stackify.com/java-tutorials/>

<https://www.w3schools.com/java/>

<https://www.javatpoint.com/java-tutorial>

<https://www.tutorialspoint.com/java/index.html>

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)
-------------------------	-----------------	-----------------	-------------------

SEMESTER – IV

PAPER – V

Max. Marks 70

Model Paper: 'OBJECT ORIENTATED PROGRAMMING THROUGH JAVA'

NO of Hours: 4

No Of Credits: 3

Pass

Marks 28

Section-A

Answer any FOUR Questions. Each question carries FIVE Marks

4x5=20M

1. UNIT -1..... 5M
2. UNIT -1..... 5M
3. UNIT -2..... 5M
4. UNIT -3..... 5M
5. UNIT -4..... 5M
6. UNIT -5..... 5M

Section-B

Answer any FIVE Questions. Each question carries TEN Marks

5X10=50M

7. UNIT -1 10M
8. UNIT -2 10M
9. UNIT -2 10M
10. UNIT -3 10M
11. UNIT -3 10M
12. UNIT -4 10M
13. UNIT -4 10M
14. UNIT -5 10M

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CCSC402G	2021-'22	B.Com.(CA)
------------------	----------	----------	------------

SEMESTER – IV PAPER –V Max. Marks 70 Pass Marks 28
Guidelines for paper setting **‘OBJECT ORIENTATED PROGRAMMING THROUGH
JAVA**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	1
Unit-2	1	2
Unit-3	1	2
Unit-4	1	2
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2021-22)

COMPUTER SCIENCE	CCSC402P	2021-'22	B.Com.(CA)
-------------------------	-----------------	-----------------	-------------------

SEMESTER – IV

PAPER – V

Max. Marks 50

Lab List: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

No. of Hours per week: 2

External: 40

Internal: 10

Credits: 1

1. Write a program to read *Student Name, Regd.No, Marks [5]* and calculate Total, *Percentage, and Result*. Display all the details of students
2. Write a program to perform the following String Operations
 - a. Read a string
 - b. Find out whether there is a given substring or not
 - c. Compare existing string by another string and display status
 - d. Replace existing string character with another character
 - e. Count number of works in a string
3. Java program to implements Addition and Multiplication of two N X N matrices.
4. Java program to demonstrate the use of Constructor.
5. Calculate area of the following shapes using method overloading.
 - a. Triangle
 - b. Rectangle
 - c. Circle
 - d. Square
6. Implement inheritance between *Person (Aadhar, Surname, Name, DOB, and Age)* and *Student (Admission Number, College, Course, Year)* classes where ReadData(), Display Data() are overriding methods.
7. Java program on Multiple Inheritance.
8. Java program for to display *Serial Number from 1 to N* by creating two Threads
9. Java program to demonstrate the following exception handlings
 - a. Divided by Zero
 - b. Array Index Out of Bound
 - c. File Not Found
 - d. Arithmetic Exception
 - e. User Defined Exception
10. Write a program to create *Book (ISBN, Title, Author, Price, Pages, Publisher)* structure and store book details in a file and perform the following operations
 - a. Add book details
 - b. Search a book details for a given ISBN and display book details, if available
 - c. Update a book details using ISBN
 - d. Delete book details for a given ISBN and display list of remaining Books

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: WEB TECHNOLOGY

Semester: VI

Course Code	CSC-601GE	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO ₁	Understand the basic structure of a HTML design and develop a website using different text Formatting tags, images, links, lists and tables.
CO ₂	Understand to style a webpage using CSS and Basic Concepts of Java Scripts
CO ₃	Understand to style a webpage Using Objects in Java Script and DHTML.
CO ₄	Understand the Basic Concepts of XML and Defining Data for Web Applications
CO ₅	Understand the Concepts of JS.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2017-18)

COMPUTER SCIENCE	CSC-601(GE)	2021-'22	B.Sc.(MPCs & MCCs)
-------------------------	--------------------	-----------------	-------------------------------

SEMESTER – VI

PAPER – VII

Max. Marks 70

Syllabus

WEB TECHNOLOGIES

NO of Hours: 4

No of Credits: 3

Pass Marks 28

Course Objectives:

1. To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.
2. To provide skills to design interactive and dynamic web sites.

Unit -I Introduction to XHTML:

12 Hrs

Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.

Unit- II: CSS:

12 Hrs

Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers.

Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.

Unit –III: Objects in Java Script & Dynamic HTML with Java Script 12 Hrs

Objects in Java Script: Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events.

Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, writing to a different frame, Rollover buttons, Moving images, multiple pages in a single download, A text-only menu system, Floating logos.

Unit –IV: XML Defining Data for Web Applications

12 Hrs

XML: Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.

UNIT-V: JSP:

10Hr's

JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

Prescribed Books:

1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
2. Head First Servlet and JSP 2nd Edition, Bryan Basham, Kathy Sierra
3. Uttam Kumar Roy, Web Technologies from Oxford University Press

Student Activities:

1. Prepare a web site for your college
2. Prepare your personal website

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-'18)

COMPUTER SCIENCE	CSC-601(GE)	2021-'22	B.Sc.(MPCs& MCCs)
-------------------------	--------------------	-----------------	------------------------------

SEMESTER – VI

PAPER – VII

Max. Marks 70

Model Paper

WEB TECHNOLOGIES

No of Hours: 4

No of Credits: 3

Pass Marks 28

Section -A

Answer **FOUR** Questions. Each Question carries **FIVE** Marks.

4 X 5=20M

1. Write about structure of HTML Document with an example
2. Explain about lists in HTML
3. Write about properties used in Style Sheet
4. Describe Data Object
5. Describe XML Elements
6. Write the syntax of EL and EL variables

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Mark

5 X 10=50M

7. Explain about hyper links? Write about how to link another pages
8. What is Form? Explain about forms with examples
9. What is CSS? How to design Cascading style sheet
10. Explain about Mathematical Functions
11. Explain about Regular Expressions
12. Write about Data validations in DHTML
13. Explain about Document Object Model
14. Explain about JSP Lifecycle with neat diagram

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-'18)

COMPUTER SCIENCE	CSC-601(GE)	2021-22	B.Sc.(MPCs & MCCs)
SEMESTER – VI	PAPER – VII	Max. Marks 70	Pass Marks 28

Guidelines for paper setting '**WEB TECHNOLOGIES**'

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CSC-601(GE)	2021-22	B.Sc.(MPCS & MCCs)
-------------------------	--------------------	----------------	-------------------------------

SEMESTER – VI

PAPER – VII

Max. Marks 50

Lab List

WEB TECHNOLOGIES

No. of Hours per week: 2

External: 25

Internal: 25

Credits: 2

1. Write an HTML program to demonstrate text formatting, working with images and hyper links
2. Write an HTML program to create Student Marks sheet preparation.
3. Write an HTML program to explain String manipulation-using functions.
4. Write an HTML program to explain <form> events
5. Write an HTML program to perform all arithmetic operations using java script.
6. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a Multiple choice questions that validates the answer dynamically and displaying result using java script.
10. Write a java script to work with following
 - a. Date display
 - b. Calendar
 - c. Copy Selected Text
 - b. IP Address

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: PHP, MySql & WORDPRESS

Semester: IV

Course Code	CSC-602CE	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO ₁	Understand the concepts Of PHP and MY SQL Installations.
CO ₂	Able to know the basic concepts Function and Working with Functions.
CO ₃	Understand the concepts of FORMS and working with FORMS.
CO ₄	Understand the concepts of MY SQL and MY SQL Components.
CO ₅	Able to know the concepts of WORD PRESS.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCs& MCCs)
SEMESTER – VI	PAPER – VIII	Max. Marks 70	

Syllabus

PHP, MySql & Word Press

NO Of Hours:4

Credits: 3

Pass Marks 28

Course Objective: To introduce the concept of PHP and to give basic Knowledge of PHP. Learn about PHP Syntax., Arrays, PHP Loops, PHP and MySql connectivity, PHP form validation, PHP form handling. Overview of MySql and PHPMyAdmin, Understand basic concepts of how a database stores information via tables, Understanding of SQL syntax used with MySQL, Learn how to retrieve and manipulate data from one or more tables, Know how to filter data based upon multiple conditions, Updating and inserting data into existing tables, Learning how the relationships between tables will affect the SQL, The advantages of store procedures with storing data using variables and functions, How SQL can be used with programming languages like PHP to create dynamic websites for visitors, Review of some sample PHP projects interacting with MySql.

UNIT-1: Installing and Configuring MySQL:

10 Hrs

Current and Future Versions of MySQL, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Choosing the Appropriate Installation Method, Installing Apache on Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands, Trouble Shooting. Installing and Configuring PHP: Building PHP with Apache on Windows, php.ini.Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output.

Unit – II: Working with Functions:

10 Hrs

What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments. Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit – III: Working with Forms:

15 Hrs

Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users. Working with Files and Directories: Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories.

Unit – IV: Introduction to MySQL**15Hrs**

Introduction to MySQL and Interfacing with Databases through PHP Understanding the database design process: The Importance of Good Database Design, Types of Table Relationships, Understanding Normalization. Learning basic SQL Commands: Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using REPLACE Command, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL. Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data.

Unit – V: Word press**10Hrs**

Word press: Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus. Working with themes-parent and child themes, using featured images, configuring settings.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-'18)

COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCs)
-------------------------	------------------	-----------------	--------------------

SEMESTER – VI

PAPER – VIII

Max. Marks 70

Model Paper

PHP, MySql & Word Press

NO Of Hours:3

No Of Credits: 3

Pass Marks 28

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks.

4*5=25M

- 1 .Define variable and list the standard data types in PHP.
2. What is Break and Continue statements in PHP.
3. Define Function and write a program for Function?
4. Write programs to pass an argument to function by Value and Reference in PHP.
5. What is Cookie and explain how to accessing cookie in PHP.
6. Write short notes on Word Press.

Section- B

Answer FIVE Questions. Each Question carries TEN Marks

5*10=50M

7. Explain about Operators and Expressions available in PHP with examples.
8. Explain about Loops and switching statements in PHP with examples.
9. Explain about Arrays and related functions to arrays in PHP with examples.
10. Explain the following Strings functions with examples
 - a. strlen() b. strstr() c. strpos() d. substr() e. strtok()
11. Explain how to send Mail on form submission in PHP.
12. Explain how to work with Sessions in PHP.
13. Explain how to insert & retrieve data with MySql in PHP.
14. Explain how to work with Themes and also featured images in Word Press

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.

**An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-'18)**

COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCs,MCCs)
SEMESTER – VI	PAPER – VIII	Max. Marks 70	Pass Marks 28

Guidelines for paper setting **'PHP, MySql & Word Press '**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CSC-602CE	2021-'22	B.Sc.(MPCS&MCCS)
-------------------------	------------------	-----------------	-----------------------------

SEMESTER – VI

PAPER – VIII

Max. Marks 50

Lab List **PHP, MySql & Word Press Lab**

No. of Hours per week: 3

External: 25

Internal: 25

Credits: 2

MySQL Lab Cycle

Cycle -1

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.

Suppliers (sid: Integer, sname: string, address: string)

Parts (pid: Integer, pname: string, color: string)

Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier and by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that supplier by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)

Works (eid: integer, did: integer, pct_time: integer)

Dept (did: integer, budget: real, managerid: integer)

An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.

3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP Program to display the
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Write a PHP Application to perform demonstrate the college website.
8. Write a PHP application to add new Rows in a Table.
9. Write a PHP application to modify the Rows in a Table.
10. Write a PHP application to delete the Rows from a Table.
11. Write a PHP application to fetch the Rows in a Table.
12. Develop an PHP application to make following Operations
 - i. Registration of Users.
 - ii. Insert the details of the Users.
 - iii. Modify the Details.
 - iv. Transaction Maintenance.
 - a) No of times Logged in
 - b) Time Spent on each login.
 - c) Restrict the user for three trials only.
 - d) Delete the user if he spent more than 100 Hrs of transaction.

Wordpress Lab

1. Installation and configuration of word press.
2. Create a site and add a theme to it.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: JQUERY/AJAX/JSON/ANGULAR JS

Semester: VI

Course Code	CSC-603CE	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO ₁	Understand the concepts Of HTML and JQUERY
CO ₂	Understand the concepts JQUERY and CSS Methods using DOM Attributes
CO ₃	Understand the concepts of JQUERY USER INTERFACE Programs
CO ₄	Understand the concepts of AJAX and JSON Objects
CO ₅	Develop the ability to solve real-world problems through software development in high-level programming language like ANGULAR JS and ANIMATIONS

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs,MCCs)
-------------------------	------------------	-----------------	-------------------------

SEMESTER – VI

PAPER – IX

Max. Marks 70

Syllabus Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS

NO Of Hours:4

Credits: 3

Pass Marks 28

Course Objective: To impart knowledge in designing a webpage in a structured way by using advanced java script ie., using different scripting languages

UNIT-1: JQuery – Basics:

10 Hrs

String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuery Selectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. jQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. jQuery – DOM Traversing : Find Elements by index, Filtering out Elements, Locating Descendent Elements, JQuery DOM Traversing Methods.

Unit – II: jQuery – CSS Methods :

10 Hrs

Apply CSS Properties, Apply Multiple CSS Properties, Setting Element Width & Height, JQuery CSS Methods. jQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. jQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slideToggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations

Unit – III: Intro to jQuery UI

15 Hrs

, Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button Set, Date Picker, Dialog, Menu, Progress Bar, Slider, Spinner, Tabs, Tooltip, Color Animation, Easing Effects, addClass, removeClass, Effects, jQuery UI themes, Customizing jQuery UI widgets / plug-ins, jQuery UI with CDN, Consuming jQuery Plug-ins from 3rd party web sites jQuery Validations, Intro to jQuery validation plug-in, Using jQuery validation plug-in, Regular expressions.

Unit – IV: Intro to AJAX

15 Hrs

Need of AJAX in real web sites, Getting database data using jQueryAJAX, Inserting, Updating, Deleting database data using jQuery-AJAX Grid Development using jQuery-AJAX Intro to JSON JSON syntax, Need of JSON in real web sites, JSON object, JSON array, Complex JSON objects, Reading JSON objects using jQuery.

Unit – V: Intro to AngularJS

15 Hrs

Need of AngularJS in real web sites, Downloading AngularJS, AngularJS first example, AngularJS built-in directives, AngularJS expressions, AngularJS modules, AngularJS controllers, AngularJS scope AngularJS dependency injection AngularJS, bootstrapping AngularJS data bindings, AngularJS \$watch, AngularJS filters, AngularJS events, AngularJS AJAX, Ng-repeat, AngularJS with json arrays, AngularJS registration form and login form, AngularJS CRUD operations, AngularJS Animations, AngularJS validations AngularJS \$q, AngularJS custom values, AngularJS custom factories, AngularJS custom services, AngularJS custom directives, AngularJS custom providers, AngularJS Routing, AngularUI Routing.

References:

1. jQuery UI 1.8: The User Interface Library for jQuery by Dan Wellman
2. jQuery Fundamentals by Rebecca Murphey
3. Ajax: The Complete Reference by Thomas

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-'18)

COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs,MCCs)
-------------------------	------------------	-----------------	-------------------------

SEMESTER – VI

PAPER – IX

Max. Marks 70

Model Paper Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS

NO of Hours: 3

No Of Credits: 3

Pass Marks 28

Section- A

Answer FOUR Questions. Each Question carries FIVE Marks.

4*5=20M

1. What is jquery? Write a simple program to display welcome message.
2. Write a jquery-dom attributes.
3. Write a program for jquery fade in, fade out.
4. Discuss in detail about jquery UI categorization.
5. Write a need of AJAX in real websites..
6. Write a short notes angularJS built-in directives.

Section- B

Answer FIVE Questions. Each Question carries TEN Marks

5*10=50M

7. Explain in detail about DOM traversing methods.
8. Explain detail about jquery-dom manipulation methods.
9. Explain detail about jquery even handling methods.
10. Write a program for droppable, resizable using jquery UI.
11. How can we manipulate the data in a database using jquery-AJAX?
12. What is JSON object? Discuss in detail about complex JSON objects.
13. What is angular JS? Need of angular JS in real websites & write any example program.
14. Write a program for registration from and login from using Angular JS.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-'18)

COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCs)
------------------	-----------	----------	-------------

SEMESTER – VI PAPER – IX Max. Marks 70 Pass Marks: 28

Guidelines for paper setting ‘ **Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS**’

Unit wise weightage of Marks

	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1	2	1
Unit-2	2	2
Unit-3	1	1
Unit-4	2	2
Unit-5	1	2

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CSC-603CE	2021-'22	B.Sc.(MPCS&MCCs)
-------------------------	------------------	-----------------	-----------------------------

SEMESTER – VI

PAPER – IX

Max. Marks 50

Lab List Advanced java Script: JQUERY/AJAX/JSON/ANGULAR JS

No. of Hours per week: 3

External: 25

Internal: 25

Credits:2

1. Using jQuery find all textareas, and makes a border. Then adds all paragraphs to the jQuery object to set their borders red.
2. Using jQuery add the class "w3r_font_color" and w3r_background to the last paragraph element.
3. Using jQuery add a new class to an element that already has a class.
4. Using jQuery insert some HTML after all paragraphs.
5. Using jQuery insert a DOM element after all paragraphs.
6. Convert three headers and content panels into an accordion. Initialize the accordion
And specify the animate option
7. Convert three headers and content panels into an accordion. Initialize the accordion and specify the height.
8. Create a pre-populated list of values and delay in milliseconds between a keystroke occurs and a search is performed.
9. Initialize the button and specify the disable option.
10. Initialize the button and specify an icon on the button.
11. Initialize the button and do not show the label.
12. Create a simple jQuery UI Datepicker. Now pick a date and store it in a textbox.
13. Initialize the date picker and specify a text to display for the week of the year column heading.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: PROJECT (Java, PHP & MYSQL) Semester: VI

Course Code	CSC-604GE	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-'18)

COMPUTER SCIENCE	CSC PROJ-602 P	2021-'22	B.Sc.(MPCs,MCCs)
-------------------------	-----------------------	-----------------	-------------------------

SEMESTER – VI **PROJECT (Java, PHP & MYSQL)** **Max. Marks 100**

OBJECTIVE

The objective of the Project Course is to help the students to study, analyze and design software or utility for different problems or applications. This will improve the skills of software development of the students.

MARKS FOR PROJECT EVALUATION

The project course will be evaluated for **100 Marks**, of which **75** marks are meant for the practical evaluation of a project and **25** marks are allotted for attending viva-voce examination. The passing minimum in the project work will be 50% of the total mark. i.e. the student should get minimum 50% marks in the project evaluation and the viva-voce examination. Thus, the minimum mark the student is required to obtain is 50 out of 100 marks.

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: TALLY

Semester: VI

Course Code	CSC-605CE	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO ₁	Able to understand the basic concepts of TALLY
CO ₂	Able to understand the installation of TALLY Software.
CO ₃	Able to implement the concepts of ledgers
CO ₄	Able to implement the concepts of vouchers
CO ₅	Able to implement the basic concepts of final accounts

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CCSC-605CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI **PAPER – IX** **Total: 60 Hrs**

Syllabus **TALLY** **Max.Marks:70**

Credits 3 **NO Of Hours 5** **Pass Marks 28**
Unit-I: Introduction to Tally: **12Hrs**

Introduction, Software versions of Tally, Terminology related to Accounts credit & Debit, Journal, Ledger, Voucher, Group etc. Difference between Manual Accounting and Accounting Packages. Features and advantages of Tally.

Unit-II: Introduction of Tally Software **12Hrs**

Introduction of Tally Software Creation of a company, Gateway of Tally, Accounts Information, Groups, pre defined Groups, Creation of New Groups, and Creation of sub Group.

Unit-III: Ledgers **12Hrs**

Ledger Creation Single and multiple Ledgers, Displaying & altering Ledgers, configure Ledger, Stock Ledger, Ledgers and their Group Allocation.

Unit-IV: Vouchers **12Hrs**

Types of vouchers – recording of vouchers – entry of payment voucher, Receipt voucher, sales voucher, purchase voucher, Journal Voucher, Contra Voucher, Debit & Credit Note. Creating New Voucher types, customizing the Existing voucher types, Alternation of Voucher, Deletion of Voucher.

Unit-V: Final Accounts **12Hrs**

Customizing the final accounts – Profit and Loss Account, Balance Sheet. Key board shortcuts in Tally. Generating the Reports from Tally, Trial Balance, Account Books, Sales, Purchase, Journal Registers, Statement of Accounts, Day Book, List of Accounts.

Reference Books:

1. K. Kiran Kumar, Tally ERP9.
2. Tally 9 In Simple Steps, Kogent solutions Inc., John Wiley & Sons, 2008.
3. Narmata Agarwal, Financial Accounting on Computers Using Tally, Dreamtech Press, 2000.
4. Tally 9.0, Google eBook, Computer World.
5. Vikas Gupta, Comdex Computer and Financial Accounting with Tally 9.0, 2007.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CCSC-605CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI

PAPER – IX

Total: 60 Hrs

Model Paper

TALLY

Max.Marks:70

Credits 3

NO Of Hours 5

Pass Marks: 28

Answer **FIVE** Questions. Each Question carries **FIVE** Marks.

5x5=25M

1. Differentiate between Manual Accounting and Accounting Packages?
2. What are the features of Tally?
3. How to maintain account information? Explain
4. Explain how to create a stock ledger?
5. Explain contra Voucher
6. Write a short note on Day Book

Section- B

Answer **FIVE** the Questions. Each Question carries **TEN** Marks

5 X 10=50M

7. Explain evolution of Tally and what are the features and advantages of Tally
8. Explain versions of Tally software
9. Explain about Gateway of Tally
10. Explain about Group and predefined Groups
11. Explain ledger creation
12. How to create a single and multiple ledgers
13. Explain different types of vouchers?
14. Explain how to generate the reports from Tally?

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect From Academic Year 2017-'18)

COMPUTER SCIENCE	CCSC-605CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI PAPER – IX Max. Marks 70 Pass Marks 28

Guidelines for paper setting '**TALLY**'

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect From Academic Year 2017-'18)

COMPUTER SCIENCE	CCSC-605P	2021-22	B.Com.(C.A.)
-------------------------	------------------	----------------	---------------------

SEMESTER – VI

PAPER – V

Max. Marks:50
Pass Mark: 20

TALLY

No. Of Hours per week: 3
Lab list

External: 25 Internal: 25

Credits: 2

1. Architecture and customization of Tally
2. Configuration of Tally
3. Tally Screens and Menus
4. Creation of new company and groups.
5. Preparation of voucher entries.
 - a. Payment voucher creation
 - b. Receipt voucher creation
 - c. Sales voucher creation
 - d. Purchase voucher creation
 - e. Contra voucher creation
 - f. Journal voucher creation
6. Ledger Creation.
7. Preparation of VAT
8. Preparation of TDS
7. Preparation of Trail balance
8. Preparation of Profit and loss statement.
9. Preparation of Balance Sheet
10. Preparation of Bank Reconciliation Statement.
11. Example Exercise

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: E-COMMERCE

Semester: VI

Course Code	CSC-606CE	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO ₁	Understand the benefits of a well-structured program
CO ₂	Understand different computer programming paradigms
CO ₃	Understand underlying principles of Object-Oriented Programming in Java
CO ₄	Develop problem-solving and programming skills using OOP concepts
CO ₅	Develop the ability to solve real-world problems through software development in high-level programming language like Java

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect From Academic Year 2017-2018)

COMPUTER SCIENCE	CCSC-606CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI

PAPER – X

Total: 60 Hrs

Syllabus

E-COMMERCE

Max.Marks:70

Credits 3

NO Of Hours 5

Pass Marks 28

Unit-I: Introduction to E-Commerce

Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage – Sustainable Competitive Advantage, Competitive Advantage using E-Commerce – Business Strategy.

Unit-II: Business-to-Business Electronic Commerce

Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts EDI and Business.

Unit-III: Internet and Extranet

Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges .

Unit-IV: Public Policy:

From Legal Issues to Privacy : Legal Incidents, Ethical and Other public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V: Infrastructure For EC

Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce",
5. Pearson Education, 2000.

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect From Academic Year 2017-2018)

COMPUTER SCIENCE	CCSC-606CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI

PAPER – X

Total: 60 Hrs

Syllabus

E-COMMERCE

Max.Marks:70

Credits 3

NO Of Hours5

Pass Marks 28

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks.

5*5=25M

1. Explain Electronic data interchange?
2. Write about Value Chain Model
3. What are the characteristics of B2B Electronic Commerce
4. Write about applications of Intranet?
5. Explain encryption policies?
6. Write about Internet protocols?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks.

5*10=50M

7. What are the advantages and limitations of E-commerce?
8. Write Business Strategy in an Electronic age
9. Explain Electronic Data Interchange(EDI)
10. Explain different Models of B2B Electronic Commerce?
11. Explain the Architecture of Internet?
12. Explain Business Models of Extranet Applications?
13. Explain Ethical and Other public Policy Issues?
14. Explain about the future of EC

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect From Academic Year 2017-2018)

COMPUTER SCIENCE	CCSC-606CE	2021-22	B.Com (C.A)
------------------	------------	---------	-------------

SEMESTER –VI

PAPER – X

Max. Marks 70

Pass Marks 28

Guidelines for paper setting '**E-COMMERCE**'

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by us

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: PHP & MySql

Semester: IV

Course Code	CSC-607CE	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2017-18	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Objectives:

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services.

Course Outcomes:

CO ₁	Understand the benefits of a well-structured program
CO ₂	Understand different computer programming paradigms
CO ₃	Understand underlying principles of Object-Oriented Programming in Java
CO ₄	Develop problem-solving and programming skills using OOP concepts
CO ₅	Develop the ability to solve real-world problems through software development in high-level programming language like Java

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect From Academic Year 2017-'18)

COMPUTER SCIENCE	CCSC-607CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI

PAPER – XI

Syllabus

PHP& MY SQL

Max.Marks:70

Credits 3

NO Of Hours 5

Pass Marks 28

Unit-I: Building blocks of PHP:

Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from UserDefined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.

Unit-II: Working with Arrays:

Arrays, Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance. Working with Strings, Dates and Time: Formatting Strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit-III: Working with Forms:

Creating Forms, Accessing Form – Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session Ids in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.

Unit-IV: Working with Files and Directories:

Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system () or passthru (). Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

Unit-V: Interacting with MySQL using PHP:

MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach Yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The Web Warrior Guide to Web Programming, Thomson (2006).

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect From Academic Year 2017-2018)

COMPUTER SCIENCE	CCSC-607CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI

PAPER – XI

Total: 60

Hrs

Syllabus

PHP & MYSQL

Max.Marks:70

Credits 3

NO Of Hours 5

Pass Marks 28

Section-A

Answer **FIVE** Questions. Each Question carries **FIVE** Marks.

5*5=25M

1. Explain about different data types available in PHP?
2. Define function? Explain how to call the function?
3. Write a short note on Creating Objects
4. Explain about date and time functions?
5. Explain about cookies?
6. Describe how to create the Record Addition Mechanism?

Section-B

Answer **FIVE** Questions. Each Question carries **TEN** Marks.

5*10=50M

7. Explain different types of Operators in PHP?
8. Explain flow control functions in PHP?
9. What is an Array? Explain about array related functions.
10. Explain different string functions in PHP?
11. Explain about how to create and access a form in PHP?
12. Describe the working with session variables?
13. Explain working with Directories?
14. Explain about how to insert and retrieve the data in PHP?

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES – VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.
(With Effect from Academic Year 2017-2018)

Computer Science	CCSC-607CE	2021-22	B.Com (C.A)
------------------	------------	---------	-------------

SEMESTER –VI

PAPER – XI

Max. Marks 70

Pass Marks 28

Guidelines for paper setting '**PHP & MYSQL**'

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	1	1
Unit-5	1	1

- Each Short answer question carries 5 marks in Section –A
- Each Essay question carries 10 marks in Section –B
- The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weight age given by

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.

An Autonomous college within the jurisdiction of Krishna University A.P, India.

(With Effect from Academic Year 2017-2018)

COMPUTER SCIENCE	CCSC-607CE	2021-22	B.Com (C.A)
-------------------------	-------------------	----------------	--------------------

SEMESTER –VI

PAPER – VI

Total: 60 Hrs

Lab List PHP, MySQL

Pass Marks 20

No. of Hours per week: 2

External: 25

Internal: 25

Credits: 2

MySQL Lab Cycle

Cycle -1

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.

Suppliers (sid: Integer, sname: string, address: string)

Parts (pid: Integer, pname: string, color: string)

Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier and by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that supplier by part located from London.

Cycle – 2

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real)

Works (eid: integer, did: integer, pct_time: integer)

Dept (did: integer, budget: real, managerid: integer)

An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department.

Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.

2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.
3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

PHP Lab Cycle

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP Program to read the employee details.
4. Write a PHP program to prepare the student marks list.
5. Write a PHP program to generate the multiplication of two matrices.
6. Write a PHP Application to perform demonstrate the college website.
7. Write a PHP application to add new Rows in a Table.
8. Write a PHP application to modify the Rows in a Table.
9. Write a PHP application to delete the Rows from a Table.
10. Write a PHP application to fetch the Rows in a Table.
11. Develop an PHP application to make following Operations
 - i. Registration of Users.
 - ii. Insert the details of the Users.
 - iii. Modify the Details.
 - iv. Transaction Maintenance.
 - a) No of times Logged in
 - b) Time Spent on each login.
 - c) Restrict the user for three trials only.
 - d) Delete the user if he spent more than 100 Hrs of transaction.

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF ECONOMICS

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

06-04-2022


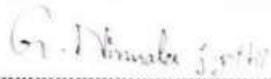
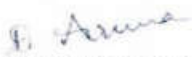

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE
(AUTONOMOUS) VUYYURU

ACEDAMIC YEAR - 2021 - 2022

Minutes of the meeting of the Board of Studies in Economics of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 10.30 a.m on 06 – 04 – 2022 In the Department of Economics Through online Mode.

Sri.N.RamaRaol, HOD, Economics has Presided over the BOS meeting

Members Present:

- 1)  Chairman Head, Department of Economics
(Sri.N.RamaRao) AG & SG S Degree College of Arts & Science
Vuyyuru-521165
- 2)  University Head Department of Economics
(MrsG.NirmalaJyothi) Nominee S.A.S. Government Degree College
NarayanaPuram
- 3)  Academic Council Head, Department of Economics
(D.Aruna) Nominee SDMS MahilaKalasala, Vijayawada
- 4)  Academic Council Lecturer in Economics ,
(G.SureshBabu) Nominee V.S.R. Government Degree College,

Movva

AGENDA

1. To Review and recommend any changes in the syllabi , Model Question Papers and Guidelines of 2nd, 4th and 6th Semesters of I, II and III Year B.A Economics Papers for the Academic Year 2021-2022.
2. To Discuss and recommend the pattern of internal Assessment , Guidelines and Model Question Papers in 2nd, 4th and 6th Semesters of B.A Degree Economics papers for the Academic Year 2021-2022.
3. To Recommend the guidelines to be followed by the Question Paper Setters in Economics for the 2nd, 4th and 6th Semester-end exams.
4. To Recommend the teaching and evaluation methods to be followed under the Autonomous Status.
5. To Propose the panel of Question paper setters and Examiners.
7. Any other matter.

RESOLUTIONS:

- 1) It is resolved to continue the same syllabi under CBC System approved by the Academic council of 2020- 2021 for I and III B,A Papers in the II and VI Semester of I and III B.A classes.

The APSHE was introduced Two New Subjects and New syllabus in the IV Semester of II Degree B.A from the Academic year 2021 – 2022.

- 2) Out of maximum 100 marks in each paper 30 marks shall be allocated for Internal Assessments regarding IV and VI Semesters.
 - A) To implement 30 marks for internal assessment and 70 marks for External Assessment from the academic year 2019-20 and that is also implemented to the IV and VI Semesters from 2020-21 Academic year and 2021 – 2022 Academic year also.
 - B) Out of these 30 marks, 20 marks are allocated for internal tests, 5 marks are allocated for assignment for IV and VI Semesters. The two tests will be conducted and average of these two tests shall be deemed as the marks obtained by a student, and remaining 5 marks are allocated for attendance.
 - C) Out of maximum 100 marks 25 Marks shall be allocated for Internal Assessments regarding the II Semester from the Academic year 2021 – 2022.**
 - D) To implement 25 Marks for Internal Assessments and 75 Marks for External Assessment regarding the II Semester from the Academic year 2021 – 2022.**
 - E) Out of these 25 marks, 20 Marks are allocated for internal tests, 5 marks are Allocated for assignment/ attendance Regarding the II Semester from the Academic year 2021 – 2022.**
- 3) Discussed and recommended the syllabi, Model question papers under CBC system and guidelines to be followed by the question paper setters of II,IV and VI semesters of B.A Classes for the Academic year 2021-2022.
- 4) To follow the teaching and evaluation methods, it is also resolved to use various other methods like Group discussions, Quiz, Organizing Seminars, Guest Lectures and Workshops to upgrade the knowledge of the students and impart new skills of learning as frequently as possible.

- 5) Resolved to authorize the chairman of Board of studies to suggest the panel of paper setters and Examiners to the controller of Examinations as for the requirement.
- 6) **The APSHE was introduced Two New Subjects i.e Economic Development in India and ANDHRA PRADESH and Statistical Methods for Economics in the IV Semester of II Degree B.A from the Academic year 2021 – 2022. It is resolved to Follow the APSCHE New syllabus in the IV Semester of II Degree B.A from the Academic year 2021 – 2022.**

It is resolved to follow further changes if any in the syllabus by the competent Authority.


Chairman

SEMESTER -II

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
		MARKS			DURATION	
ECOT 21B	MACROECONOMIC ANALYSIS	5	4	25	75	3 Hrs.

SEMESTER –IV

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
		MARKS			DURATION	
ECO – 401C	ECONOMIC DEVELOPMENT-INDIA AND ANDHRA PRADESH	5	4	25	75	3 Hrs.
ECO – 402C	STATISTICAL METHODS FOR ECONOMICS	5	4	25	75	3 Hrs.

SEMESTER -VI

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
ECO – 601GE	AGRICULTURAL ECONOMICS	5	4	25	75	3 Hrs.
ECO – 602CE	Agribusiness Environment in Andhra Pradesh	5	4	25	75	3 Hrs.
ECO – 603CE	AGRICULTURAL OUTPUT MARKETING	5	4	25	75	3 Hrs.
ECO – 604	PROJECT WORK	-	-	-	-	-

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE
(AUTONOMOUS) VUYYURU
ACEDAMIC YEAR 2021 - 2022

(An Autonomous college in the jurisdiction of Krishna University, Machilipatnam)

Economics	ECOT21B	2021-2022	B.A.(E.M)
-----------	---------	-----------	-----------

MACROECONOMIC ANALYSIS

B.A SEMESTER-II

UNIT – I INTRODUCTION AND NATIONAL INCOME

1.1 AN INTRODUCTION TO MACRO ECONOMICS

- 1.1.1 Definition, scope and importance of Macro Economics
- 1.1.2 Evolution of Macro Economics
- 1.1.3 Macro Economics Paradoxes
- 1.1.4 Circular Flow of Income and Expenditure in Two, Three and Four sector Economy

1.2 NATIONAL INCOME

- 1.2.1 Meaning and definition of National Income – Marshall, Pigou, Fisher
- 1.2.2 National Income Aggregates – GDP, GNP, NDP, NNP, NNP_{fc}, PI, DI, P.CI, RNI, RPIC
- 1.2.3 Measurement of National Income – Product, Income and Expenditure methods
- 1.2.4 Concepts of Green Accounting

UNIT – II THEORIES OF EMPLOYMENT

2.1 THEORIES OF EMPLOYMENT

- 2.1.1 Classical Theory of Employment
- 2.1.2 Say's Law of Markets
- 2.1.3 Keynesian Theory of Employment

2.2 THEORIES OF CONSUMPTION

- 2.2.1 Average and Marginal propensity to consume
- 2.2.2 Keynes psychological Law of Consumption
- 2.2.3 Brief review of Absolute, Relative, Lifecycle and Permanent income hypothesis

2.3 THEORIES OF INVESTMENT

- 2.3.1 Marginal Efficiency of Capital (MEC)
- 2.3.2 Multiplier Principle Concepts and its Working
- 2.3.3 The Acceleration principle

2.4 Aggregate Demand Function – Algebraic Explanation

2.5 IS – LM Curves – Equations

2.6 The Goods Market and Money Market Equilibrium – Algebraic Explanation

UNIT III MONEY AND BANKING

3.1 THEORY OF MONEY

- 3.1.1 Meaning, Definition and Function of Money
- 3.1.2 Gresham's Law
- 3.1.3 R.B.I Classification of Money (M₁, M₂,
- 3.1.4 Fisher's Quantity Theory of Money
- 3.1.5 Cambridge Approach (Marshall, Pigou, Robertson and Keynes Equations)

3.2 THEORY OF BANKING

- 3.2.1 Definition and Types of Banking
- 3.2.2 Functions of Commercial Banks
- 3.2.3 Functions of Central Bank
- 3.2.4 Credit Control by Central Bank
- 3.2.5 Factors Contributing to the Growth of NBFC's

UNIT IV INFLATION AND TRADE CYCLES

4.1 THEORY OF INFLATION

- 4.1.1 Meaning, Definition and Concepts of Inflation
- 4.1.2 Demand Pull and Cost-Push Inflation
- 4.1.3 Philip's Curve Hypothesis
- 4.1.4 Measurements of Inflation - C.P.I and W.P.I
- 4.1.5 Causes and Effects of Inflation

4.2 THEORY OF TRADE CYCLES

- 4.2.1 Trade Cycles Meaning and Definition
- 4.2.2 Phases of Trade Cycles
- 4.2.3 Causes of Trade Cycles
- 4.2.4 Measures to Control Trade Cycles

UNIT – V FINANCE AND INSURANCE

5.1 THEORY OF FINANCE

- 5.1.1 Financial Assets and Financial Intermediates
- 5.1.2 Structure of Financial System
- 5.1.3 Functions of Money Market
- 5.1.4 Functions of Capital Market
- 5.1.5 Functions of Stock Exchange
- 5.1.6 Bombay Stock Exchange (BSE) and National Stock Exchange (NSE)

5.2 THE THEORY OF INSURANCE

5.2.1 Concept and Origin of Insurance

5.2.2 Types of Insurance

5.2.3 Importance of Insurance

Text book:

Macro Economics – Telugu Akademi Publication

Reference Books:

1. Dillard D. The Economics of Jhon Maynard Keynes, Cross by Lock Wood and sons London
2. M. C. Vaish – Macroeconomics Theory, Vikas Publishing House, New Delhi
3. S.B Gupta – Monetary Economics, S. Chanda and Co, Delhi
4. P.N Chopra – Macroeconomics, Kalyani Publishers, Ludhiana 2014
5. D.M Mithani, Macro Economics Analysis and Policy, Oxford and IBH, New Delhi
6. MN Mishra and SB Mishra, Insurance Principles and Practice, S Chand
7. Lewis, M K and P D Mizan – Monetary Economics, Oxford University Press, New Delhi
8. Central Statistical Organisation, National Accounts Statistics
9. M.L. Seth, Macroeconomics, Lakshmi Narayan Agarwal, 2006
10. K.P.M. Sundaram, Money, Banking and International Trade, Sultan Chand, 2006
11. R.R. Paul, Monetary Economics, Kalyani Publishers, Ludhiana, 2018
12. Macroeconomics, Spectrum Publishing House, Hyderabad, 2016

Recommended Co-curricular Activities:

1. Assignments on trends in national income, money supply and inflation
2. Student Seminars/webinar on macroeconomic themes of contemporary importance for Indian economy (Eg-Covid-19 impact on aggregated demand, supply chain disruption, policy response etc)
3. Quiz to test critical understanding of the concepts and theories of macroeconomics and their application in practice
4. Group discussion on monetary policy and its effectiveness with reference to recent developments.
5. Group project work to study the trends in national income, inflation, money, supply etc.
6. Chat/poster presentation on National Income Trends, inflation, aggregated demand etc.
7. Web-based assignment on Banking/Money.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE
(AUTONOMOUS) VUYYURU
ACEDAMIC YEAR 2021 - 2022

(An Autonomous college in the jurisdiction of Krishna University, Machilipatnam)

SEMESTER- II

Model Paper
SECTION-A

Answer any Five of the Following:

5X5=25m

1. Product method.
2. J.B. Say market law
3. Investment function.
4. Types of inflation.
5. Gresmam's Law.
6. R.B.J. classification of money
7. Cambridge equation.
8. Per capita income

SECTION-B

Answer of the Following:

5X10=50m

9.(A) Explain different concepts of National Income.

(OR)

(B) Explain different methods of estimating National Income.:

10. (A) Explain the classical theory of Employment.

(OR)

(B) Explain the Keynesian consumption function.

11.(A) Explain the meaning and functions of Money.

(OR)

(B) Define Inflation. Explain its reasons.

12. (A) What are the function of the Reserve Bank of India

(OR)

(B) Explain the functions and importance of Stock Market

13 (A) What are different types of Life Insurance?

(OR)

(B) Explain about different phases of Trade Cycles.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE
(AUTONOMOUS) VUYYURU

ACEDAMIC YEAR 2021 - 2022

SEMESTER – 4 :: COURSE – 4

ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

NO. OF CREDITS: 4

LEARNING OUTCOMES FOR THE COURSE

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way (Knowledge)

a. leading issues of Indian economic development with reference to potential for growth, obstacles and policy responses

b. Objectives, outlays and achievements of economic plans and growth strategies

2. Explains (understanding)

a. Available Resources, demographic issues, general problems of poverty and unemployment and relevant policies

b. Sector specific problems, remedial policies and their effectiveness relating to Agriculture and Industrial Sectors of Indian and AP economy and infrastructure issues of AP economy

c. Indian Tax system, recent changes, issues of public expenditure and public debt, recent finance commissions and devolution of funds

d. Major issues of economic development of Andhra Pradesh after bifurcation and Central assistance

3. Critically examines using data and figures (analysis and evaluation)

a. Leading issues of current importance relating to India and AP economy, major policies and programmes

b. Covid– 19 and its impact on Indian economy

4. Uses official statistical data and reports including tables and graphs

a. To explain the achievements of Indian economy with reference to the objectives of planning and policy and make critical evaluation

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE
(AUTONOMOUS) VUYYURU

ACEDAMIC YEAR 2021 - 2022

SEMESTER – 4 :: COURSE – 4 CODE:ECO401C

ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

Module – 1 Basic Features Basic characteristics of Indian Economy as a developing economy – Economic development since independence - Objectives and achievements of planning – Planning Commission/NITIAyog and their approaches to economic development - India’s Rank in Global Human Development Index .

Module 2 National Income and Demography Trends in National income - Demographic trends - Poverty and Inequalities – Occupational Structure and Unemployment - Various Schemes of employment generation and eradication of poverty – Issues in Rural Development and Urban Development –Intra-state and Inter-state Labour Migration and unorganized sector Problems of Migrant Labour.

Module – 3 Agricultural and Industrial Developments Indian Agriculture – Agricultural Strategy and Agricultural Policy – Agrarian Crisis and land reforms – Agricultural credit – Minimum Support Prices -Malnutrition and Food Security - Indian Industry - Recent Industrial Policy – Make-in India – Start-up and Stand-up programmes – SEZs and Industrial Corridors - Economic Reforms and their impact - Economic initiatives by government of India during COVID - Atmanirbhar Bharat package.

Module –4Indian Public Finance Indian Tax System and Recent changes – GST and its impact on Commerce and Industry – Centre, States financial relations- Recommendations of Recent Finance Commission – Public Expenditure and Public Debt - Fiscal Policy and Budgetary Trends

Module- 5Andhra Pradesh Economy The basic characteristics of Andhra Pradesh economy after bifurcation in 2014 – Impact of bifurcation on the endowment of natural resources and state revenue – new challenges to industry and commerce - the new initiatives to develop infrastructure – Power and Transport - Information Technology and e-governance – Urbanization and smart cities – Skill development and employment – Social welfare programmes.

Reference Books:

1. Dhingra, I.C., Indian Economy, Sultan Chand, New Delhi, 2014.
 2. Gaurav Datt and Ashwani Mahajan, Datt and Sundharam's Indian Economy, S.Chand & Co., 2016.
 3. G. M. Meier, Leading Issues in Economic Development, Oxford University Press, New York, 3/e.
 4. M. P. Todaro and Stephen C. Smith, Economic Development, 10/e, Indian Edition Published by Dorling Kindersley India Pvt. Ltd. 2012.
 5. P. K. Dhar, Indian Economy: Its Growing Dimensions, Kalyani Publishers, Ludhiana, 2018.
 6. Reserve Bank of India, Handbook of Statistics on Indian Economy (Latest).
 7. S.K.Misra & V.K.Puri, Indian Economy, Himalaya Publishing House, 2015.
 8. R.S.Rao, V.Hanumantha Rao & N.Venu Gopal (Ed.), Fifty Years of Andhra Pradesh (1956-2006), Centre for Documentation, Research and Communications, Hyderabad, 2007.
 9. G. Omkarnath, Economics - A Primer for India - Orient Blackswan, 2012.
 10. A.P Economy- Telugu Academy, 2018
- Recommended Co-curricular Activities:

1. Assignments on specific issues of contemporary importance with reference to problems and remedial policies
2. Student Seminars on leading economic challenges, the effectiveness of relevant policies and programmes
3. Quiz to examine the knowledge and critical understanding of major policies, programmes achievements, failures relating to all sectors
4. Group discussions to promote critical understanding and evaluation capabilities of the students on major areas of Indian and AP economy
5. Group project work to study the implementation and effectiveness of major government schemes of development, poverty eradication and employment promotion etc.,
6. PPT presentation and participation in webinars to help the students acquire and adapt ITC skills in the process of learning
7. Field Visits to Agricultural farm/market/SSIs to understand the ground realities of economic situation of the country and the state

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS) VUYYURU (2021 – 2022)**

MODEL QUESTION PAPER

B. A. ECONOMICS

II Year B. A. Programme (UG) Courses – Under CBCS

Semester – IV

PAPER CODE: ECO – 401C

PAPER TITLE :-ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

Duration: 3hrs

Maximum marks:70

Pass marks:28

Section:A

Answer any TWO of the following questions:

2x5= 10M

1. what is Global Human Development Index.
2. Concepts of Poverty.
3. Start – up Programmes
4. Skill India

Section:B

Answer any FOUR of the following questions:

4x15=60M

5. Discuss about Basic Characteristics of Indian Economy as a Developing Economy?
6. Write about the establishment of NITI Ayog? Explain its objectives?
7. Define poverty? Explain the causes for poverty and remedial measures to reduce the poverty in India
8. What is unemployment? Explain the causes for Unemployment and remedial measures to reduce the Unemployment in India.
9. Explain the Importance of Indian Agriculture sector in the Indian Economy.
10. Describe the Impact of Green Revolution on Indian Economy.
11. Discuss about GST Impact on commerce and Industry.
12. Discuss about Information Technology and E- Governance.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021-2022)

ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

The Guidelines to be followed by the question paper setters
in **ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH** for the
4th semester-end exams (2021 - 2022)

PAPER TITLE : --- **ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH.**

PAPER CODE ;ECO -401C

Course – 4 Semester – IV Maximum marks : 70 Duration;3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (35Marks)	1	2
Unit-2 (35Marks)	1	2
Unit-3 (35Marks)	1	2
Unit-4 (15Marks)	---	1
Unit-5 (20Marks)	1	1
TOTAL 140	20	120

- Each short answer question carries 5 marks in Section-A
- Each Essay question carries 15 marks in Section –B

The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by US.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE
(AUTONOMOUS) VUYYURU

ACEDAMIC YEAR 2021 - 2022

COURSE– 5(Semester - IV)

STATISTICAL METHODS FOR ECONOMICS

NO. OF CREDITS: 4

LEARNING OUTCOMES FOR THE COURSE

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way (Knowledge)
 - a. the definitions, terms and their meaning relating to statistical methods
 - b. various formulae used to measure central tendency, correlation regression and Indices
2. Explains (understanding)
 - a. Importance of statistics and its applications
 - b. The method of classification of primary data
 - c. Uses of Correlation and Regression analysis, time series and index numbers in economic analysis
3. Analyses and solves using given data and information (analysis and evaluation)
 - a. different kinds of statistical problems using various principles and formulae relating to central tendency, correlation, regression, time series and indices
 - b. to interpret data and suggest solutions to economic problems
4. Draws critical diagrams and graphs.
 - a. Histogram, Frequency Polygon and Frequency Curve
 - b. More than cumulative and less than cumulative frequency curves (Ogive)
 - c. Different types of Bar diagrams
 - d. Pie Diagram and its uses in economic analysis

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE
(AUTONOMOUS) VUYYURU

ACEDAMIC YEAR 2021 - 2022

COURSE– 5(Semester - IV) ECO-402C

STATISTICAL METHODS FOR ECONOMICS

NO. OF CREDITS: 4

Module – 1: Nature and Definition of Statistics Introduction to Statistics – Definition, scope, importance and limitations of Statistics – Primary and Secondary data- Census and Sampling techniques and their merits and demerits

Module – 2:Diagrammatic Analysis Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation – diagram and graphic presentation of data – Histogram, Frequency Polygon, Cumulative Frequency Curves - Bar Diagrams and Pie Diagram

Module – 3:Measures of Central Tendency and Dispersion Measures of Central Tendency and Dispersion - Types of averages- Arithmetic Mean, Geometric Mean, Harmonic Mean – Median – Mode – Dispersion - Range, Quartile Deviation, Mean Deviation, Standard Deviation- Coefficient of Variation.

Module – 4:Correlation and Regression Correlation and Regression - Meaning, Definition and uses of Correlation- Types of Correlation- Karl Pearson's Correlation coefficient - Spearman's Rank CorrelationRegression Equations - utility of regression analysis – Demand forecasting.

Module – 5: Time Series and Index Numbers Time Series and Index Numbers: Definition and components of Time Series – Measurement of Time Series – Moving Average and the Least Squares Method – Index Numbers - Concepts of Price and Quantity Relatives – Laspeyer's, Paasche's and Fisher's Ideal Index Numbers – Uses and Limitations of Index Numbers.

Reference Books:

1. B. R. Bhat, T. Srivenkataramana and K.S. MadhavaRao (1996): Statistics: A Beginner's Text, Vol. I, New Age International (P) Ltd.
2. Goon A.M, Gupta M.K., Das Gupta B. (1991), Fundamentals of Statistics, Vol. I, World Press, Calcutta.
3. M. R. Spiegel (1989): Schaum's Outline of Theory and Problems in Statistics, Schaum's Outline Series.
4. F. E. Croxton, D. J. Cowden and S. Kelin S (1973), Applied General Statistics, Prentice Hall of India. 2.
5. S.P. Gupta, Statistical Methods , S. Chand & Co, 1985
6. S. C. Guptha, Fundamentals of Statistics, Himalaya Publishing House, Hyderabad.
7. DigambarPatri and D. N. Patri, Statistical Methods for Economics, Kalyani Publishers, Ludhiana, 2017.
8. Telugu Akademy Book, ParimanathmakaPaddathulu (For B.A.).

Recommended Co-curricular Activities:

1. Assignments of the application of various statistical methods
2. Student Seminar on themes requiring usage of tables, diagrams, statistical analysis and interpretation
3. Group project work for collection of data on locally relevant economic problems
4. Market survey on demand, supply, sales, prices of different kinds of projects like food items, FMCG, other consumable durables etc., etc., and Statistical Analysis- Mini Project and also income elasticity of demand for such products

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS) VUYYURU (2021 – 2022)

MODEL QUESTION PAPER

B. A. ECONOMICS

STATISTICAL METHODS FOR ECONOMICS

II Year B. A. Programme (UG) Courses – Under CBCS

Semester – IV

PAPER CODE: ECO – 402C

PAPER TITLE :-STATISTICAL METHODS FOR ECONOMICS

Duration: 3hrs

Maximum marks:70

Pass marks:28

Section:A

Answer any TWO of the following questions:

2x5= 10M

- 1.Characteristics of statistics
- 2.what is schedule? Explain its advantages.
3. what is meant by range? Explain its advantages and Limitations.
4. what is correlation.state it uses.

Section:B

Answer any FOUR of the following questions:

4x15=60M

5. what do you mean by primary and secondary data? What are the various methods used in collecting primary data?
6. what is mean by questionnaire? What are the features of good questionnaire?
7. write qualities or essentials of good average'

8. From the following data compute A.M

Marks :- 0 – 10 10 – 20 20 – 30 30 – 40 40 – 50 50 – 60

No.of students :- 5 10 25 30 20 10

9. Explain the need and importance of correlation?

10. Calculate the coefficient of correlation from the following data.

X :- 9 8 7 6 5 4 3 2 1

Y :- 15 16 14 13 11 12 10 8 9

11. What are the uses of Time series?

12. Compute Fisher's Ideal Index from the following data.

Commodity	1989		1990	
	price	quantity	price	quantity
A	4	40	5	50
B	8	64	9	80
C	10	70	10	70
D	2	10	4	16

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021-2022)

STATISTICAL METHODS FOR ECONO

The Guidelines to be followed by the question paper setters in **STATISTICAL METHODS FOR ECONOMICS** for the 4th semester-end exams (2021 - 2022)

PAPER TITLE : --- **STATISTICAL METHODS FOR ECONOMICS**

PAPER CODE ;ECO -402C

Course – 4 Semester – IV Maximum marks : 70 Duuration;3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (20Marks)	1	1
Unit-2 (20Marks)	1	1
Unit-3 (35Marks)	1	2
Unit-4 (35Marks)	1	2
Unit-5 (30Marks)	---	2
TOTAL 140	20	120

- Each short answer question carries 5 marks in Section-A
- Each Essay question carries 15 marks in Section –B

The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by US.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (VUYYURU (2021-2022))

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-(A) (Elective Paper VII-(A))

AGRICULTURAL ECONOMICS

Module-1

Nature and Scope of Agricultural Economics. Factors affecting agricultural development: technological, institutional and general. Interdependence between agriculture and industry.

Module-2

Concept of production function : input-output and product relationship in farm production.

Module-3

Growth and productivity trends in Indian agriculture with special reference to Andhra Pradesh. Agrarian reforms and their role in economic development.

Module-4

Systems of farming, farm size and productivity relationship in Indian agriculture with special reference to Andhra Pradesh- New agriculture strategy and Green revolution : and its Impact

Module-5

Emerging trends in production, processing, marketing and exports; policy controls and regulations relating to industrial sector with specific reference to agro-industries in agribusiness enterprises.

RECOMMENDED / REFERENCE BOOKS

1. Sadhu An, Singh Amarjit and Singh Jasbir (2014), Fundamentals of Agricultural Economics, Himalaya Publishing House, Delhi
2. Lekhi RK and Singh Joginder, Agricultural Economics, Kalyani Publishers
3. Bhaduri, A. (1984), The Economic Structure of Backward Agriculture, Macmillan, Delhi.
4. Bilgrami, S.A.R. (1996), Agricultural Economics, Himalayas publishing house, Delhi.
5. Dantwala, M.L. et.al (1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
6. Government of India (1976), Report of the National Commission on Agriculture, New Delhi. 5. Government of India, Economic Survey (Annual), New Delhi.
7. Gualti, A. and T. Kelly (1999), Trade Liberalisation and Indian Agriculture Oxford University Press, New Delhi

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS) VUYYURU (2021 – 2022)

MODEL QUESTION PAPER

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI (G.E)

PAPER CODE: ECO-601GE

Elective Paper VII-(A)

PAPER TITLE :- AGRICUTURAL ECONOMICS

Duration: 3hrs

Maximum marks:70

Pass marks:28

Section:A

Answer any TWO of the following questions:

2x5= 10M

1. objectives of Land Reforms.
2. organic farming
3. Production function
4. Rythu Bazar's

Section:B

Answer any FOUR of the following questions:

4x15=60M

5. Explain the importance of Agriculture sector in developing economies
6. what are the causes for low productivity in indian agriculture sector? Explain the actions to increase the agicultural productions.
7. what is land reform? Explain the objectives and importance of Land Reforms
8. what are the causes for low productivity in indian agriculture sector? Explain the actions to increase the agricultural productions.
9. what is Green Revolution? what are the causes for Green Revolution and explain the effects of green Revolution on Indian Economy.
10. what is cooperative forming? Explain the merits and demerits it?
11. Explain the problems in production, processing and marketing in indian agriculture sector?
12. Explain the Remedies and defects of agricultural marketing in India.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021-2022)

The Guidelines to be followed by the question paper setters in
Agricultural Economics for the 6th semester-end exams (2021 - 2022)

PAPER TITLE : --- AGRICULTURAL ECONOMICS FINAL BA.

PAPER CODE ;ECO-601GE

Paper- VII –(A)Semester – VI Maximum marks : 70 Duaration;3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (30Marks)	--	2
Unit-2 (05Marks)	1	--
Unit-3 (35Marks)	1	2
Unit-4 (35Marks)	1	2
Unit-5 (35Marks)	1	2
TOTAL 140	20	120

- Each short answer question carries 5 marks in Section-A
- Each Essay question carries 15 marks in Section –B

The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by US.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021-2022)

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-A; Cluster Elective–A: Agribusiness

Paper VIII-A-1: Agribusiness Environment in Andhra Pradesh

Module-1

Role of agriculture in development process in Andhra Pradesh vis-à-vis other developed states. Economy wide effects of agriculture in Andhra Pradesh through trickle down effects. Backward and forward linkages of agriculture with rest of economy.

Module-2

Agricultural finance-importance in modern agriculture- performance of agricultural finance in Andhra Pradesh -problems of agricultural finance – Inter linkages of agricultural credit and other input markets and product markets.

Module-3

Dynamics of agriculture-crop (horticulture, field crops), sector-livestock (poultry dairy and fisheries) sector and inter linkages among the sectors. Agribusiness sector in Andhra Pradesh-salient features, constraints, sub sectors of agribusiness-input sector, production sector, processing sector.

Module-4

Growth performance of major agricultural commodities in Andhra Pradesh-production and processing trends in exports and imports of major agricultural commodities.

Module-5

Marketing policy- structure of agri markets – regulated markets – need – activities – structure – APMC act – market legislations – Role of Farmer Groups in the marketing of Agricultural Produce.

References:

1. Adhikary M. 1986. Economic Environment of Business. S. Chand & Sons.
2. Aswathappa K. 1997. Essentials of Business Environment.Himalaya Publ.
3. Francis Cherunilam 2003. Business Environment.Himalaya Publ.
4. Agarwal Raj, 2001, Business Environment, Excel Books, New Delhi.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021 – 2022)**

MODEL QUESTION PAPER

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VIII (A - I)

PAPER CODE:ECO-602CE

PAPER TITLE - Agribusiness Environment in Andhra Pradesh

Duration: 3hrs

Maximum marks:70

Pass marks:28

Section:A

Answer any TWO of the following questions:

2x5=10M

- 1.
- 2.
- 3.
- 4.

Section:B

Answer any FOUR of the following questions:

4x15=60M

- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021-2022)

The Guidelines to be followed by the question paper setters in
Agribusiness Environment in Andhra Pradesh for the 6th semester-end
exams (2021 - 2022)

PAPER TITLE :-Agribusiness Environment in Andhra Pradesh III B.A

PAPER CODE ;ECO-602CE

PAPER –(VIII –A – I)Maximum marks : 70Duaration;3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (35Marks)	1	2
Unit-2 (35Marks)	1	2
Unit-3 (20Marks)	1	1
Unit-4 (30Marks)	--	2
Unit-5 (20Marks)	1	1
TOTAL 140	20	120

- Each short answer question carries 5 marks in Section-A
- Each Essay question carries 15 marks in Section –B

The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us .

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021 – 2022)

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-A; Cluster Elective – A:

Paper VIII-A-2: Agricultural Output Marketing

Module-1

Structure and Model of Agri-Marketing Organizations with functions: Functions of intermediaries, Marketing Practices in Primary and secondary and terminal market, Regulated markets, co-operative marketing.

Module-2

Marketing costs and margins, Marketing Finance. Marketing Structure of Major agricultural commodities, food grains: Rice, and Maize. Cash Crops; Cotton, Oil Seeds, Vegetables and Fruits, Milk, Meat and Poultry products.

Module-3:

Problems and Challenges in Agriculture Marketing - Market Yards - Support prices - Rural Warehousing.

Module-4:

State Intervention in Agricultural Marketing, Role of Various agencies (Andhra Pradesh Agro, MARKEED, State Department, and FCI, Tobacco Board, Cotton Corporation) and its impact on market efficiency. Agriculture Price Commission.

Module-5:

Inter-regional and international trade in agriculture; emerging scenario of international trade in agricultural commodities; concept of terms of trade and balance of payments, WTO and Indian agriculture with special reference to Andhra Pradesh .

References:

1. C.S.G.Krishnamacharyulu&LalithaRamakrishnan, “Rural Marketing: Text and Cases”, Pearson Education, New Delhi.
2. Awadhesh Kumar Singh &SatyaprakashPandey, Rural Marketing: Indian Perspective, New Age International Publishers, New Delhi.
3. Mamoria, C.B. &Badri Vishal: Agriculture Problems in India
4. Arora, R.C., “Integrated Rural Development”, S. Chand Limited, New Delhi.
5. Gopaldaswamy, T.P., “Rural Marketing: Environment, Problems and Strategies, Vikas Publishing House Pvt. Ltd., New Delhi.
6. Bedi&Bedi, “Rural Marketing”, Himalaya Publishing House, New Delhi.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU (2021 – 2022)

MODEL QUESTION PAPER

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI (VIII - A - 2)

PAPER CODE:ECO-603CE

PAPER TITLE – AGRICULTURAL OUTPUT MARKETING

Duration: 3hrs

Maximum marks:70

Pass marks:28

Section:A

Answer any TWO of the following questions:

2x5=10M

- 1.
- 2.
- 3.
- 4.

Section:B

Answer any FOUR of the following questions:

4x15 = 60M

- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2021 - 2022) VUYYURU

The Guidelines to be followed by the question paper setters in **AGRICULTURAL OUTPUT MARKETING** for the 6th semester-end exams (2021 - 2022)

PAPER TITLE :-AGRICULTURAL OUTPUT MARKETINGIII B.A

PAPER CODE ;ECO - 603CE

PAPER – (VIII –A – 2) Maximum marks : 70 Duaration:3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (35Marks)	1	2
Unit-2 (20Marks)	1	1
Unit-3 (15Marks)	--	1
Unit-4 (35Marks)	1	2
Unit-5 (35Marks)	1	2

TOTAL 140

20

120

- Each short answer question carries 5 marks in Section-A
- Each Essay question carries 15 marks in Section –B

The Question papers setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us .

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS) VUYYURU (2021 – 2022)

PAPER CODE :- 604CE

SEMESTER - VI

ECONOMICS CLUSTER PAPER- 3 i.e.

Project Work

SUGGESTIVE TOPICS ON CURRENT ECONOMICS PROJECT

1. EVENT ECONOMICS PROJECT [2017-18]
2. CURRENT INDIA'S ECONOMIC EVENTS – WHAT'S GOING AROUND
3. BANK RECAPITALISATION PLAN
4. MAKE IN INDIA
5. DIGITAL INDIA
6. DISINVESTMENT –MUDRA YOJANA
7. SWADESH DARSHAN YOJANA
8. START UP INDIA
9. GST
10. DEMONETISATION
11. SELF HELP GROUP
12. INCLUSIVE GROWTH STRATEGY
13. INFLATION
14. INDIA - A VIBRANT MARKET FOR SOLAR INDUSTRY
15. NATIONAL INTELLECTUAL PROPERTY RIGHT POLICY 2016
16. HUMAN DEVELOPMENT INDEX
17. MICRO AND SMALL SCALE INDUSTRIES
18. BANK'S NPA [NON PERFORMING ASSETS].
19. IMPACT OF FREQUENT RISE IN PERTROL PRICES
20. SUBSIDIES
21. FOREIGN DIRECT INVESTMENT
22. SPECIAL ECONOMIC ZONE
23. INFRASTRUCTURE
24. DIGITAL MONEY WILL REPLACE PAPER MONEY

Last page

**A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND
SCIENCE(AUTONOMOUS), VUYYURU**



DEPARTMENT OF ENGLISH

BOARD OF STUDIES

MEETING

GENERAL ENGLISH

VENUE

ENGLISH LANGUAGE LABORATORY



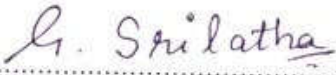


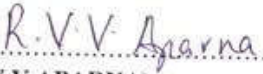

DATE

4th April, 2022

Minutes of the meeting of Board of Studies in General English for the Autonomous Courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held on 04-04 -2022 in the English Language Laboratory at 11:00 am.

Mr.B.Bulli Babu Presiding

Members Present:

- 1)  Chairman
(B.BULLI BABU) Head, Department of English
AG & SG S Degree College
Vuyyuru-521165
- 2)  University
(Dr.M.KOTESWARA RAO) Nominee Professor,
Department of English
Krishna University,
Machilipatnam.
- 3)  Academic Council
(Dr.G.SRILATHA) Nominee Head,
Department of English
P.B.S College, Vijayawada.
- 4)  Academic Council
(G.SONTI) Nominee Lecturer in English,
GDC, Ravulapalem,
- 5)  Member
(M.ROJA) Lecturer in English
A.G & S.G.S Degree College,
Vuyyuru-521165
- 6)  Member
(R.V.V.APARNA) Lecturer in English
A.G & S.G.S Degree College,
Vuyyuru – 521165
- 7)  Member
(Ms.ANEESA BEGUM) Lecturer in English,
A.G & S.G.S Degree College,
Vuyyuru-521165

Agenda for B.O.S Meeting of General English for II SEMESTER
for the Academic Year 2021-22

1. To recommend syllabi for 2nd semester of I Degree students of all disciplines for the Academic Year 2021-22.
2. To recommend the Model Question Paper of 2nd semester of I Degree of all disciplines for the Academic Year 2021-22.
3. To recommend the Guidelines to be followed by the question paper setters in General English for the 2nd semester-end exams of I Year students of all disciplines
4. To introduce Skill Development Courses as introduced by APSCHE for the admitted batch of the first year students of Semester-II for this academic year 2020-21.
5. To recommend the teaching and evaluation methods to be followed under Autonomous status.
6. To implement Certificate Course on “Competitive English” for the II year students of IV Semester.
7. Any suggestions regarding Certificate/Add-on Courses, Seminars, Workshops, Guest Lectures and student competitions to be organized.
8. Any other matter.

RESOLUTIONS

- The following is the gist of discussion took place among the members BOS – English.
1. The Curricula has to be made relevant to the local, regional, national and global developmental needs. To facilitate this exercise, an addition to the syllabus or deviation from the syllabus can be opted for. In the process of making the syllabus suitable, by means of addition and / or deviation, the structured feedback (to review and design the syllabus) has to be procured from students, teachers, employers and Alumni by IQAC and Academic coordinator. Basing on the feedback taken from these four stakeholders, the Endeavour of addition and / or deviation has to be made. As per the procedure, necessary changes are already being made in the syllabus of course II of General English (II semester) up to 20%.
 2. Since the APSCHE has revised the syllabus under CBCS framework with effect from 2020-2021, the same syllabus for General English of Semester-II (**English Praxis Course- II**) titled '**A Course in Reading & Writing Skills**' shall be implemented for the admitted batch of the first year for this academic year 2021-22 without any changes.
 3. Discussed and recommended the Question paper pattern for the 2nd Semester of I Year students of all disciplines for the approval of the Academic Council.
 4. Discussed and recommended the guidelines to be followed by the question paper setters of General English for 2nd semester of first degree students of all disciplines for the approval of the Academic Council.
 5. Unanimously resolved to introduce and implement the syllabus of **Enriching Communication Skills** under **Skill Development Courses** for the admitted batch of the first year students of Semester-II for this academic year 2021-22 without any changes as made and revised by APSCHE under CBCS framework with effect from **2020-2021**.
 6. Discussed and recommended the following teaching and evaluation methods for approval of Academic Council.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. using of an LCD projector, display on U boards etc, for better understanding of concepts.

There are two components in the Valuation and Assessment of a student – Internal Assessment (IA) and Semester Examinations (SE).

Internal Assessment (IA)

- The maximum mark for IA is 25 and SE is 75 for theory. Out of these 25 marks, 15 marks are allocated for announced tests.
- Each IA written examination is of 1 hour duration for 15 marks. The tests will be conducted centrally. The average of two such IA is calculated for 15 marks.
- Other Innovative Components will be for 5 Marks for General English and 10 Marks for Skill Development Paper – Enriching Communication Skills. The innovative component is conducted during the class hours by the staff member/ in charge of the subject, in the form of assignments/ quiz/ seminars /presentations/Online/Open Book/Viva Voce/ Group work/ Mini Project/ Exhibition, etc. The topic and time for submission/ presentation will be announced by the staff member/ in charge of the subject in advance. Each student should explain and defend his/her presentation. For attendance 5 Marks are allotted.
- There is no passing minimum for IA.

Semester Examinations (SE)

- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.

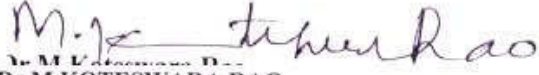
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration, with maximum 75 marks, irrespective of the number of credits allotted to it.
- The Semester Examination for Skill Development Paper will be in the form of a comprehensive examination covering entire syllabus. It will be of 2 hours duration, with maximum 40 marks, irrespective of the number of credits allotted to it.
- Even though the candidate is absent for two IA exams/obtain zero marks, the external marks are considered (if he/she gets 40/70) and the result shall be declared as 'PASS'.
- The pass mark shall be 30 out of 75 in the Semester end examination.
- The maximum marks for each Paper shall be 100.

7. Considered and approved the implementation of Pedagogy methods like Quiz, classroom seminar, Assignment or Case study, Test, puzzles, viva and few more innovative methods in classroom teaching as indicated in the curricular plans.

8. Discussed and recommended for organizing Seminars, Guest lectures, Workshops to enhance the knowledge of students besides conducting Certificate Courses on Spoken English, Soft Skills and Competitive English. It has been suggested that the Certificate Courses may be feasible to the students (interested students) of all disciplines of II years and the resource person may be a Guest Faculty to handle the classes regularly beyond the curriculum. All these recommendations are forwarded for the approval of the Academic Council.

9. Nil.


Signatures of the BOS Members:


Dr.M.KOTESWARA RAO
(University Nominee)


Dr.G.SRI LATHA
(Academic Council Nominee)


Ms.G.SONI
(Academic Council Nominee)


M.ROJA
(Member)


R.V.V.APARNA
(Member)


Ms.ANEESA BEGUM
(Member)


Chairman

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU – 521165**
(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam.)
Accredited with “A” Grade by NAAC, Bengaluru
Semester - II

ENGLISH PRAXIS COURSE-II
A COURSE IN READING AND WRITING SKILLS
Course Structure and Syllabi under CBCS

Course Code	ENGT21B	Course Delivery Method	Class Room/ Blended Mode - Both
Credits	03	CIA Marks	25
No.of Lecture Hours / Week	4	Semester End Exam Marks	75
Total No.of Lecture Hours	60	Total Marks	100
Year of Introduction: 2020-21	Year of Offering: 2021-22	Year of Revision: -----	Percentage of Revision: 0%
CLASS:	I YEAR DEGREE (ALL COURSES)		

OBJECTIVE: The main objective of this course is to facilitate the learners to acquire the linguistic competence essentially required in a variety of life situations and develop their intellectual, personal and professional abilities.

COURSE OUT COMES: At the end of the course the learners will be able to:

CO1: Acquaint the learner with some widely used words which appear to be similar but are semantically different and also help them to realize the importance of meanings, and understand the grammatical structures in writing. **PO7**

CO 2: Speak clearly, effectively and appropriately with correct pronunciation, pause and articulation of voice for a variety of audiences and purposes. **PO2**

CO 3: Analyze, interpret, appreciate and comprehend the specified text and the contexts in terms of their content, purpose, and form. **PO1**

CO 4: Think critically; convey their own interpretations, perspectives, producing new creative and artistic works following grammatical structures in oral and written assignment. **PO7**

CO 5: Write effectively for a variety of professional and social settings adapting other writer’s ideas as they explore and develop their own. **PO3**

Academic Year 2021-22
Changes made in the syllabus
 Semester-II General English

Course content suggested by APSCHE	Additions	Deletion
<p>I. UNIT Prose: 1. How to Avoid Foolish Opinions Skills: 2. Vocabulary: Conversion of Words 3. One Word Substitutes 4. Collocations</p> <p>II. UNIT Prose: 1. The Doll's House Poetry: 2. Ode to the West Wind Non-Detailed Text: 3. Florence Nightingale Skill: 4. Skimming and Scanning</p> <p>III. UNIT Prose : 1. The Night Train at Deoli Poetry: 2. Upagupta Skill: 3. Reading Comprehension 4. Note Making/Taking</p> <p>IV. UNIT Poetry: 1. Coromandel Fishers Skill: 2. Expansion of Ideas 3. Notices, Agendas and Minutes</p> <p>V.UNIT Non-Detailed Text: 1. An Astrologer's Day Skills: 2. Curriculum Vitae and Resume 3. Letters 4. E-Correspondence</p>	Nil	Nil

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCEVUYYURU -
521165**

(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam.)

Accredited with "A" Grade by NAAC, Bengaluru

ENGLISH	ENGT21B	2021-2022	B.A,B.Com & B.Sc
----------------	----------------	------------------	-----------------------------

ENGLISH PRAXIS- II
A COURSE IN READING AND WRITING SKILLS

SYLLABUS

I. UNIT

Prose: 1. How to Avoid Foolish Opinions	Bertrand Russell	12
Skills: 2. Vocabulary: Conversion of Words		
3. One Word Substitutes		
4. Collocations		

II. UNIT

Prose: 1. The Doll's House	Katherine Mansfield	
Poetry: 2. Ode to the West Wind	P B Shelley	
Non-Detailed Text: 3. Florence Nightingale	Abrar Mohsin	12
Skill: 4. Skimming and Scanning		

III. UNIT

Prose : 1. The Night Train at Deoli	Ruskin Bond	
Poetry: 2. Upagupta	Rabindranath Tagore	12
Skill: 3. Reading Comprehension		
4. Note Making/Taking		

IV. UNIT

Poetry: 1. Coromandel Fishers	Sarojini Naidu	12
Skill: 2. Expansion of Ideas		
3. Notices, Agendas and Minutes		

V.UNIT

Non-Detailed Text: 1. An Astrologer's Day	R K Narayan	12
Skills: 2. Curriculum Vitae and Resume		
3. Letters		
4. E-Correspondence		

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU - 521165
DEPARTMENT OF ENGLISH**

**Title of the Paper: English Praxis –II
Course Code: ENG T21B**

**Max. Marks: 75
Time: 03 Hours**

**MODEL PAPER
SECTION- A**

I. A. Answer the following questions. 3X2=6M

1. How does the story “The Night Train at Deoli” present the theme of adolescent infatuation?
L1 CO3
2. What happened when the train stopped at Deoli’s Station? **L2 CO3**
3. What are symbols in the prose piece the Doll’s House? **L2 CO2**
4. How does Russell begin his “how to avoid foolish opinions? **L1 CO1**

B. Answer any ONE of the following questions. 1x6=6M

1. Elaborate on the ways of avoiding foolish opinions according to Bertrand Russell? **L2 CO1**
2. What is the main theme of the lesson “The Doll’s House”? **L1CO2**

II. A. Answer the following questions. 3X2=6M

1. Why is the poet parsing West Wind so much? **L1 CO2**
2. Why the sea is called ‘The Mother in the poem’ Coromandel Fishers? **L1 CO4**
3. What prayer does Shelley make to the west wind? **L1 CO4**
4. What is the central idea of the poem “Upagupta”? **L1 CO3**

B. Answer any ONE of the following questions. 1x6=6M

1. What are the images of death in the poem “Ode to the west wind”? **L1 CO1**
2. What does the phrase ‘The leaping wealth of the Tide’ refer to? **L2 CO4**

III. Answer ANY TWO of the following questions. 1X6=6M

1. Write the summary of the lesson Florence Nightingale. **L2 CO2**
2. Sketch the character of The Astrologer. **L3 CO5**

SECTION - B

IV. A. Convert the underlined words into noun or verb form. L1 CO1 5X1=5M

1. We are at the end of the road; yet your phone call never seems -----.
2. The bends on this road are so sharp that you have ----- your body to balance your bike.

3. Everyone craves for honour. But who is ready ----- one the way that person wants?
4. One who is going ----- this meeting should manage without a chair to sit on; No chairs here.
5. I will pour water to the plants. I will water -----.

B. Write one word substitute for the following statements. L5 CO1

5x1 =5M

1. One who looks at the bright side of things. _____.
2. One who believes in God. _____.
3. One who is unable to pay off one's debt. _____
4. Certain to happen. _____.
5. A small shelter for a dog. _____.

C. Complete the following collocations using the words given in the brackets. L1 CO3

5x1=5M

(break, make, pay, catch, difficult, save, heavy)

1. _____ attention
2. _____ a record
3. _____ traffic
4. _____ money
5. _____ a cold

V. Read the following passage and make notes. L3 CO3

1 x5 =5M

There are different forms of environmental pollution. Air pollution is caused by the burning of coal and oil. It can damage the earth's vegetation and cause respiratory problems in humans. A second type of pollution is noise pollution. It is the result of the noise aircrafts and heavy traffic. Further loud music

Is also a cause if noise pollution which has been seen to effect peoples hearing and give them severe headache and high blood pressure. Another source of pollution is radio activity which occurs when there is a leak from a nuclear power station. It kills and causes irreparable harm to those exposed to it.

VI. Prepare curriculum vitae in response to the following advertisement. L3 CO5

1X5=5M

M. Suman Karthik -aged 28 years -MA(English) BEd, -good communication and problem solving skills. -MA from S V University, Tirupati, 72% marks. BA (Adv English) from Govt Degree College, Ananthapuram, 76% marks. BEd, S K University, Ananathapuram – intermediate (HEC), Govt Jr College, Ananthapuram –worked as a teacher in English for three years. Apply for the post of junior lecturer in English in St Joseph Jr. College, Ongole.

VII. Write a letter to the principal of your college requesting to organize a study hour.

L3 CO5

1X5=5M

Or

As the HR Manager of a multinational firm, draft an email to be sent to those candidates who were not selected in the interview conducted few days before. Take care not to be courteous and sympathetic while conveying the negative.

VIII. Expand any ONE of the following into a paragraph.

L4 CO5

1X5=5M

1. Honesty is the best policy.
2. Where there is a will there is a way.

IX. Read the following passage and answer the following questions. L2 CO5

5X1=5M

In every country people imagine that they are the best and the cleverest and the others are not so good as they are. The English man thinks that he and his country are the best; the French man is very proud of France. The Germans and the Italians think no less of their countries and many Indians imagine that India is in many ways the greatest country in the world. This is wrong. Everybody wants to think well of himself and his country. But really there is no person who has not got some good and some bad qualities. In the same way, there is no country which is not partly good and partly bad. We must take the good wherever we find it and try to remove the bad wherever it may be. We are off course, most concerned with our own country, India. Unhappily it is in a bad way today. Most of our people are and unhappy. They have no joy in their lives. We have to find out how we can make them happier. We have to see what is good in our ways and customs try to keep it, and whatever is bad we have to throw away. If we find anything good in other countries, we should certainly take it.

Answer the following questions.

1. What do people think in every country?
2. What must we do?
3. What should be our attitude towards other countries?
4. What is the antonym of 'Worst'?
5. What is the synonym of 'Sorrow'?

X. You are the secretary of Good Habits Club. Write an agenda for the meeting on the activities to be conducted on the eve of Independence Day, using proper format. L3 CO4

1X5=5M

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU - 521165
DEPARTMENT OF ENGLISH**

Title of the Paper: English Praxis –II
Course Code: ENG T21B

Max. Marks: 75
Time: 03 Hours

QUESTION PAPER PATTERN

SECTION – A, 30 MARKS

- I. A. ANSWER ANY THREE OF THE FOLLOWING QUESTIONS.** 3x2=6M
(Any FOUR short answer questions should be given from prose lessons in the given syllabus)
- B. ANSWER ANY ONE OF THE FOLLOWING QUESTIONS.** 1x6=6M
(Any TWO essay questions should be given from prose lessons in the given syllabus)
- II. A. ANSWER ANY THREE OF THE FOLLOWING QUESTIONS.** 3x2=6M
(Any FOUR short answer questions should be given from poetry in the given syllabus)
- B. ANSWER ANY ONE OF THE FOLLOWING QUESTIONS.** 1x6=6M
(Any TWO essay questions should be given from poetry in the given syllabus)
- III. ANSWER ANY ONE OF THE FOLLOWING QUESTIONS.** 1x6=6M
(Any TWO essay questions should be given from non-detailed text in the given syllabus)

SECTION – B, 45 Marks

- VI.A. CONVERT THE UNDERLINED WORDS INTO NOUN OR VERB FORMS.** 5x1=5M
(Any FIVE words should be given from page no 8 to 13 in the given syllabus)
- B. WRITE ONE WORD SUBSTITUTES FOR THE FOLLOWING SENTENCES.** 5x1=5M
(Any FIVE words should be given from page no 13 to 22 in the given syllabus)
- C. COMPLETE THE FOLLOWING COLLOCATIONS USING THE WORDS GIVEN IN THE BRACKETS.** 5x1=5M
(Any FIVE words should be given from page no 22 to 30 in the given syllabus)
- VII. READ THE FOLLOWING PASSAGE AND MAKE NOTES.** 1x5=5M
(Any passage should be given from page no 80 to 89 in the given syllabus)
- VIII. PREPARE CURRICULUM VITAE IN RESPONSE TO THE FOLLOWING ADVERTISEMENT.** 1x5=5M
(Any question should be given from page no 111 to 117 in the given syllabus)
- IX. LETTER WRITING.** 1x5=5M
(Any question should be given from page no 118 to 133 in the given syllabus)
- OR
- E MAIL - CORRESPONDENCE**
- X. EXPAND ANY ONE OF THE FOLLOWING INTO PARAGRAPH.** 1x5=5M
(Any question should be given from page no 93 to 96 in the given syllabus)
- XI. READ THE FOLLOWING PASSAGE AND ANSWER THE FOLLOWING QUESTIONS.** 5x1=5M
(Any passage should be given from page no 69 to 79 in the given syllabus)
- XII. NOTICES, AGENDAS AND MINUTES.** 1x5=5M
(Any passage should be given from page no 97 to 104 in the given syllabus)

Since the **APSCHE** has revised the syllabus under CBCS framework with effect from **2020-2021**, the following syllabus of **Enriching Communication Skills** under **Skill Development Courses** shall be implemented for the admitted batch of the first year of Semester-II for this academic year 2021-22 without any changes. Under A consolidated list of questions of this paper shall be prepared and sent to the Question Paper Setter. This change has been brought to the notice of the BOS Members through mail /phone call and their consent is being taken.

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU – 521165**
(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam.)
Accredited with “A” Grade by NAAC, Bengaluru
Semester - II
DEPARTMENT OF ENGLISH
ENRICHING COMMUNICATION SKILLS
Course Structure and Syllabi under CBCS

Course Code	SDCENG T01	Course Delivery Method	Class Room/ Blended Mode - Both
Credits	02	CIA Marks	10
No.of Lecture Hours / Week	2	Semester End Exam Marks	40
Total No.of Lecture Hours	30	Total Marks	50
Year of Introduction: 2020-21	Year of Offering: 2021-22	Year of Revision: -----	Percentage of Revision: 0%
CLASS:	I YEAR DEGREE (ALL COURSES)		

COS AND POS FOR SDC ENG T01 - ENRICHING COMMUNICATION SKILLS

Course Outcomes: At the end of this course, students should be able to:

CO1: create clear messages by eliminating unnecessary words and making the message relevant to the target audience. **PO1**

CO2: learn the techniques of Interview etiquette, group discussions, debates, extempore and oral presentation skills. **PO3**

CO3: learn report writing both technical and non-technical, how to research a topic and organize the thoughts into an introduction, a body and a conclusion in essay writing, to create original works of literature, culminating in a significant, extended body of poetry, fiction, and/or creative nonfiction that manifests learner’s artistic potential. **PO7**

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCEVUYYURU -
521165**

(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam.)

Accredited with “A” Grade by NAAC, Bengaluru

ENGLISH	SDCENG T01	2021-2022	B.A,B.Com & B.Sc
----------------	-------------------	------------------	-----------------------------

DEPARTMENT OF ENGLISH

ENRICHING COMMUNICATION SKILLS

SYLLABUS

CONTENTS

UNIT – I: COMMUNICATION PROFICIENCY

1. Formal and Informal conversations (Introducing oneself & others)
2. Contextual conversations (At the bus stop, market, Railway station, Bank, Airport etc)
3. Idiomatic Expressions/Cliché/foreign Expressions/Catch Phrases

UNIT – II: EMPLOYABILITY SKILLS

1. Interview etiquette
2. Group Discussions/Debates/Extempore
3. Oral presentation

UNIT – III: WRITING PROFICIENCY

1. Report Writing – Technical, Non-Technical
2. Essay Writing – Expository, Descriptive, Narrative, Argumentative.
3. Creative Writing – Introduction to Fiction (Novel & Short stories) & Nonfiction (Prose, Poetry & Drama), Anecdotes, Memoirs.

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU - 521165
DEPARTMENT OF ENGLISH**

Title of the Paper: **Enriching Communication Skills**
Course Code: **SDCENG T01**

Max. Marks: 40
Time: 2 Hours

.....
MODEL PAPER
SECTION- A

I. ANSWER ANY TWO OF THE FOLLOWING QUESTIONS. 2X5=10

1. You reach Mumbai one afternoon. You go to a hotel and ask for a single room for three days. At first, the man at the desk expresses difficulties, but agrees to give you a room, initially for two days. Write a conversation. CO1 L3
2. Salman Khadir has been asked to attend an interview. But he is ill and asks for permission on phone to attend the interview at a later date. Draft a conversation. CO2 L3
3. You have applied for a bank loan to study abroad and have been asked to attend an interview. Think of five questions that you could be asked and write them with possible responses. CO1 L1
4. Write the suitable greetings for the following occasions CO2 L6

<i>Occasion</i>	<i>Greeting</i>
a. When your friend gets first rank	_____
b. When your classmate is preparing for an examination	_____
c. When your brother/sister is leaving abroad	_____
d. When a close relative is ill	_____
e. When somebody fails to get through the interview	_____

II. ANSWER ANY THREE OF THE FOLLOWING QUESTIONS. 3X10= 30

5. What is Group Discussion and why is it conducted? CO2 L2
6. What are the benefits of Debating and why is it necessary for students? CO2 L2
7. What is an Interview? Write the Do's and Don'ts in an Interview. CO2 L3
8. What is the main difference between a report and a literary work? CO3 L4
9. Why has the importance of reports increased in our times? CO3 L1
10. Many parents ask their children to help in domestic chores. What do you think about this?
Write an argumentative essay. CO3 L5

Minutes of the meeting of Board of studies in Environmental Studies for the
Autonomous courses of AG & SG Siddhartha Degree College of Arts &
Science, Vuyyuru, held at 10.30 A.M on 29-11-2021 in the

Department of ENVIRONMENTAL STUDIES

Sri R.V. Sivarao *Presiding*

Members Present:

1)..... *R.V. Sivarao* Chairman Head, Department of Environmental Studies
(Sri.R.V. Sivarao) AG & SG S Degree College of Arts & Science
Vuyyuru-521165

2)..... *B. P. Rao* University Dept of Environmental Science
(Dr.P.Brahmaji Rao) Nominee Acharya Nagarjuna University
Guntur

3)..... *K. Lakshmi* Subject Expert Dept of Zoology
(Dr.K.Lakshmi) S.D.M.Siddhartha Mahila Kalasala
Vijyawada.

4)..... *V. Sailaja* Subject Expert Lecturer in Zoology
(V.Sailaja) KTR Women's College
Gudiwada

Agenda for B.O.S Meeting

1. To recommend the syllabi for III, semester of 2nd Degree IIInd year B.A, B.Com B.Sc , Environmental Education Paper Under CBCS for the Academic year 2021-2022
2. To recommend the Teaching and Evaluation Methods to be followed under Autonomous Status.
3. Any other matter.

RESOLUTIONS

1). Discussed and Recommended The Syllabi, Model Question Papers Under CBCS and Guidelines to be followed by the Question paper Setters of III Semester of II degree B.A,B.Com , B.Sc for the Approval of the Academic Council (enclosed) for the Academic year 2021– 2022.

2). Discussed and Recommended the Teaching and evaluation methods for approval of Academic Council.

A) Teaching methods:

Besides the conventional methods of teaching, it is also resolved to use various other methods like Group discussions, Quiz, for the better understanding of the contents.

B) Evaluation of a student is done by the following procedure:

a) There is no Internal Assessment Examinations.

b) Semester-End Examinations:

i) The maximum marks for Semester-End examinations shall be 50 and duration of the examination shall be 2 Hours.

ii) Semester-End examinations shall be conducted at the end of III semester.

3) Resolved to authorize the Chairman of Board of Studies to suggest the Panel of Paper setters and Examiners to the Controller of Examinations as per the requirement.

R.V. Sivadas
Chairman



A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

Vuyyuru-521165.

NAAC re accredited at 'A' level

Autonomous -ISO 9001 - 2015 Certified

TITLE OF THE PAPER: **ENVIRONMENTAL EDUCATION**

Semester: III

Course Code	LSCT01	Course Delivery Method	Class Room / Blended Mode - Both
Credits	2	CIA Marks	-
No. of Lecture Hours / Week	2	Semester End Exam Marks	50
Total Number of Lecture Hours	30	Total Marks	50
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision: 0%
CLASS:	2 nd YEAR BA/B.Com/BSc Programmes		

Course objective:

A Generic Course intended to create awareness that the life of human beings is an integral part of environment and to inculcate the skills required to protect environment from all sides.

Learning outcomes: On completion of this course the students will be able to

1. Understand the nature, components of an ecosystem and that humans are an integral part of nature.
2. Realize the importance of environment, the goods and services of a healthy biodiversity, dependence of humans on environment.
3. Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.
4. Discuss the laws/ acts made by government to prevent pollution, to protect biodiversity and environment as a whole.
5. Acquaint with international agreements and national movements, and realize citizen's role in protecting environment and nature.

ENVIRONMENTAL EDUCATION

Common for BA/B.Com/BSc Programmes

Semester – III

LSCT01

(Total 30 Hours)

Unit 1: Environment and Natural Resources

06 Hrs.

1. Multidisciplinary nature of environmental education; scope and importance. 2. Man as an integral product and part of the Nature. 3. A brief account of land, forest and water resources in India and their importance. 4. Biodiversity : Definition; importance of Biodiversity - ecological, consumptive, productive, social, ethical and moral, aesthetic, and option value. 5. Levels of Biodiversity: genetic, species and ecosystem diversity.

Unit-2: Environmental degradation and impacts

12Hrs

1. Human population growth and its impacts on environment; land use change, land degradation, soil erosion and desertification. 2. Use and over-exploitation of surface and ground water, construction of dams, floods, conflicts over water (within India). 3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining, forest fires and building of new habitats. 4. Non-renewable energy resources, their utilization and influences. 5. A brief account of air, water, soil and noise pollutions; Biological, industrial and solid wastes in urban areas. Human health and economic risks. 6. Green house effect - global warming; ocean acidification, ozone layer depletion, acid rains and impacts on human communities and agriculture. 7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, over exploitation, hunting and poaching, introduction of exotic species, pollution, predator and pest control.

Unit 3: Conservation of Environment

12 Hrs

1. Concept of sustainability and sustainable development with judicious use of land, water and forest resources; afforestation. 2. Control measures for various types of pollution; use of renewable and alternate sources of energy. 3. Solid waste management: Control measures of urban and industrial waste. 4. Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity. 5. Environment Laws: Environment Protection Act; Act; Wildlife Protection Act; Forest Conservation Act. 6. International agreements: Montreal and Kyoto protocols; Environmental movements: Bishnois of Rajasthan, Chipko, Silent valley.

Reference Books :

1. Environmental Studies by Dr.M.Satyanarayana, Dr.M.V.R.K.Narasimhacharyulu, Dr.G. Rambabu and Dr.V.VivekaVardhani, Published by Telugu Academy, Hyderabad.
2. Environmental Studies by R.C.Sharma, Gurbir Sangha, published by Kalyani Publishers.
3. Environmental Studies by Purnima Smarath, published by Kalyani Publishers.



AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCES –AUTONOMOUS

VUYYURU-521165

SEMESTER –III

MODEL QUESTION PAPER

COURSE CODE – LSCT01

Common for BA/B.Com/BSc Programmes

PAPER TITLE: ENVIRONMENTAL EDUCATION

DURATION :2 HOURS

SECTION – A

Max:50

ANSWER ANY FOUR OF THE FOLLOWING QUESTIONS

(4x5=20M)

1. Discuss about the Environmental Education.
2. What is Bio-Diversity
3. Deforestation
4. What is Global warming.
5. What is Ozone Layer
6. Forest Resources
7. Explain about Environmental laws
8. Write about Chipko Movement.

SECTION – B

ANSWER ANY THREE OF THE FOLLOWING QUESTIONS

(3x10=30M)

9. Write an essay on Forest Resource?
10. Explain the Scope and importance of Environmental Studies
11. Give an account of Renewable Energy Resource?
12. Write an essay on Air Pollution?
13. What is Sustainable Development?
14. Give an Account on Environmental Acts?

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCES –AUTONOMOUS

VUYYURU-521165

The guidelines to be followed by the question paper setters in **ENVIRONMENTAL EDUCATION** for the 3rd semester – end exams (2021-22)

Common for BA/B.Com/BSc Programmes

PAPER TITLE: ENVIRONMENTAL EDUCATION

PAPER-I, SEMESTER – III

MAX :50

DURATION :2 HOURS

Weightage for the question paper

Marks	UNIT-I	UNIT-II	UNIT-III
	Environment and Natural Resources	Environmental degradation and impacts	Conservation of Environment
5Marks	2	3	3
10Marks	2	2	2
Weight age	30	25	25

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYURU
(AUTONOMOUS)
(MANAGED BY SIDDHARTHA ACADEMY OF GENERAL & TECHNICAL EDUCATION VIJAYAWADA)

(2021-22)

Syllabus for I- B.A, B.com, B.com computers B.SC MPC, MPCS,
COURSES SEMESTER-II

Course Code: LSCT06

No. of Hours per Week: 2

No. of Credits: 2

Max. Marks: 50

External: 40

Internal: 10

HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)

Learning Outcome:

On completion of this course, the UG students will be able to

- ✓ Understand the significance of value inputs in a classroom and start applying them in their life and profession.
- ✓ Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.
- ✓ Understand the value of harmonious relationship based on trust and respect in their life and profession.
- ✓ Understand the role of a human being in ensuring harmony in society and nature.
- ✓ Distinguish between ethical and unethical practices and start working out the strategy to actualize a harmonious environment wherever they work.

Course Objectives :

01. Understanding Value Education, its need in modern days, the basic human aspirations of happiness and prosperity. PO1
02. Understanding harmony in the family and society PO6
03. Gaining competence in Professional Ethics. PO4

UNIT: 1 Introduction – Definition, Importance, Process & Classifications of Value Education

- ❖ Understanding the need, basic guidelines, content, and process for Value Education
- ❖ Understanding the thought provoking issues; need for Values in our daily life.
- ❖ Choices making – Choosing, Cherishing & Acting
- ❖ Classification of Value Education: understanding Personal Values, Social Values, Moral Values & Spiritual Values.

UNIT: 2 Harmony in the Family – Understanding Values in Human Relationships

- ✓ Understanding harmony in the Family- the basic unit of human interaction
- ✓ Understanding the set of proposals to verify the Harmony in the Family.
- ✓ Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship
- ✓ Present Scenario: Differentiation (Disrespect) in relationships on the basis of body, physical facilities, or beliefs.
- ✓ Understanding the Problems faced due to differentiation in Relationships
- ✓ Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals
- ✓ Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumiYawastha*)- from family to world



UNIT: 3 Professional Ethics in Education

- ✓ Understanding about Professional Integrity, Respect & Equality, Privacy, Building Trusting Relationships.
- ✓ Understanding the concepts; Positive co-operation, Respecting the competence of other professions.
- ✓ Understanding about Taking initiative and Promoting the culture of openness.
- ✓ Depicting Loyalty towards Goals and objectives.

Resolutions:

It is resolved to introduce new syllabus HVPE as life skills course to the students of all programmes BA, BSC, BCOM, who are admitted in the academic year 2020-2021 and onwards.

Text Books:

R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

Bhatia, R. & Bhatia, A (2015) Role of Ethical Values in Indian Higher Education

References:

- Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, U
- E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
- Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
- Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
- A Nagraj, 1998, Jeevan Vidya EkParichay, Divya Path Sansthan, Amarkantak.
- P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
- A N Tripathy, 2003, Human Values, New Age International Publishers.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam.

Co curricular Activities:

1. Visit to an Old Age Home and spending with the inmates for a day.
2. Conduct of Group Discussions on the topics related to the syllabus.
3. Participation in community service activities.
4. Working with a NGO like Rotary Club or Lions International, etc.

MODEL QUESTION PAPER
Title : Human Values and Professional Ethics

COURSE CODE: LSCT06

SEMESTER-II

Max. Marks: 40

Time: 2 hours

Section – A

I. Answer any **TWO** of the following questions

2x5=10 Marks

1. What are the basic guidelines for Value Education? CO1, L1
2. What are human values? What is their significance? CO2, L2
3. What do you mean by professional ethics? Explain. CO2, L2
4. What are the values in human relationship? CO3, L1

SECTION – B

II. Answer any **THREE** of the following questions.

3x10=30 Marks

5. What is the need for value education in the present day professional oriented education? CO1, L4
6. What are the basic requirements to fulfill human aspirations of happiness and prosperity? CO1, L2
7. "Family is a natural laboratory to understand human relationships." Explain. CO3, L2
8. What do you mean by understanding values in human relationships? CO3, L3
9. What is the need and importance of professional ethics? CO2, L4
10. "If a country is to be free of corruption and a nation of beautiful minds, I strongly feel there are three key societal members who can make a difference. They are the father, the mother and the teacher"- A. P. J. Abdul Kalam. Discuss. CO4, L3

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



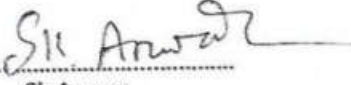

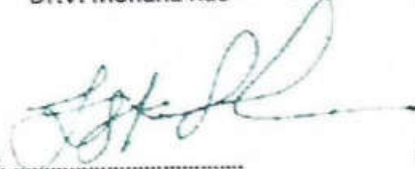
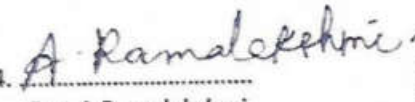
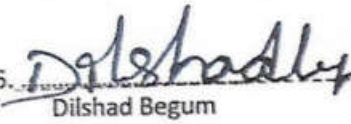
**DEPARTMENT OF HINDI
MINUTES OF BOARD OF STUDIES**

EVEN SEMESTER

07-04-2022

Minutes of the meeting of Board of Studies in Hindi for the Autonomous Courses of A.G. & S.G Siddhartha Degree College of Arts & Science, Vuyyuru at 11.00AM on 07-04-2022 in the Department of Hindi through online.

Members Present:

1. 
Sk. Anwar Chairman
Head of the Department of Hindi
AG & SGS Degree College of
Arts & Science, Vuyyuru.
2. 
Dr. V. Mohana Rao University
Representative
Principal
KRK Govt. Degree College
Singarakondapalem, Addanki-
523201, Prakasam District.
3. 
Dr. Kakani Srikrishna Academic Council
Nominee
Assistant Professor
Department of Hindi
Acharya Nagarjuna University,
Nagarjuna Nagar-522510.
4. 
Smt. A. Ramalakshmi Academic Council
Nominee
Assistant Professor
Department of Hindi
Sri Durga Malleswara Siddhartha
Mahila Kalasala, Vijayawada-10.
5. 
Dilshad Begum Student's
Representative
Lecturer in Chemistry
AG & SGS Degree College of
Arts & Science, Vuyyuru.

Agenda for BOS Meeting

1. To discuss about the Syllabus, Model Question Papers and guidelines of II semester of I degree in Hindi for the Academic year 2021-2022.
2. To discuss about the change of Question Papers of II semester for the academic year 2021-2022.

- 3.To discuss about the II semester syllabus for the Academic year 2021-2022.
- 4.Any other matter.

Resolutions

- 1.It is unanimously resolved that there is no change in the syllabi of II semester of I degree in Hindi for the Academic year 2021-2022.
- 2.It is unanimously resolved that there is no change in the model question papers of II semester of I degree in Hindi for the Academic year 2021-2022.
- 3.It is unanimously resolved that there is no change in the syllabus and the model question paper of II semester for the academic year 2021-2022.
- 4.It is unanimously resolved to follow the evaluation ratio 75:25(External and Internal) for the II semester.

Sri. Anwar



**A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF
ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: GENERAL HINDI

Semester: II

Course Code	HINT21A	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision:10%

HINDI	HINT21A	2021-'22	B.A., B.Com.& B.Sc.
-------	---------	----------	---------------------

SEMESTER-II

Credits – 3

HINDI - II

COURSE OUTCOMES:

- CO1 - मानव मूल्यों को पहचानकर समाज कल्याण हेतु देने के लिए तैयार रहना ।
CO2 - आधुनिक युग की भावनाओं को पहचानकर सामाजिक समस्याओं का सामना करते हुए, निरंतर आगे बढ़ना ।
CO3 - विषय का विश्लेषण करके, विषयों को अपना अनुकूल बनाकर समाज में आगे बढ़ने के लिए प्रयास करना ।
CO4 - ग्रहण किये गये पाठ्याशों के द्वारा विद्यार्थियों का ज्ञान मापन किया जाता सकता है ।
CO5 - हमारी भाषा का उपयोग, हम किस भाषा का प्रयोग करते हैं, उसके द्वारा समाज कल्याण, विद्यार्थियों के उज्वल भविष्य हेतु उपयोगी होना चाहिए ।

I. गद्य संदेश :

1. साहित्य और संस्कृति का परस्पर संबंध
2. भारत एक है ।
3. हेच.आई.वी / एड्स

II. कथा - लेख :

1. जरिया
2. भूख हड़ताल
3. परमात्मा का कुत्ता

III. व्याकरण : कार्यालयीन हिन्दी शब्दावली

(हिन्दी से अंग्रेजी में बदलना तथा अंग्रेजी से हिन्दी में बदलना)

IV. व्याकरण : संधि-विच्छेद, वाक्य प्रयोग

V. पत्र-लेखन : आवेदन पत्र, पुस्तक विक्रेता के नाम पत्र

Recommended Books:

1. गद्य संदेश - Dr. V.L.Narasimham Siva Koti
2. कथा लेख - Dr. Ghana Shyam



AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU.
(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam.)

HINDI

2021-2022

B. A / B. Com. / B. Sc. All First Year Degree

Semester - II

Unit	II Semester
1. गद्य संदेश	1. साहित्य और संस्कृति का परस्पर संबंध 2. भारत एक है 3. हेच.आई.वी / एड्स
2. कथा लेख	1. जरिया 2. भूख हड़ताल 3. परमात्मा का कुत्ता
3. व्याकरण	कार्यालयीन हिन्दी शब्दावली (हिन्दी से अंग्रेजी में बदलना तथा अंग्रेजी से हिन्दी में बदलना)
4. व्याकरण	संधि-विच्छेद, वाक्य प्रयोग
5. पत्र-लेखन	आवेदन पत्र, पुस्तक विक्रेता के नाम पत्र

Recommended Books :

1. गद्य संदेश -Dr. V.L.Narasimham Siva Koti
2. कथा लोक - Dr. Ghana Shyam

12. (अ) किन्हीं पाँच का वाक्यों में प्रयोग कीजिए ।

- | | | | |
|---------------|-------------------|-------------------|---------------|
| (i) विरासत | (ii) आज्ञानांधकार | (iii) इकट्टा करना | (iv) बसर करना |
| (v) दुर्भिक्ष | (vi) इकट्टा करना | (vii) पथ प्रदर्शक | (viii) हवन |

अथवा

(आ) किन्हीं पाँच का संधि-विच्छेद कीजिए ।

- | | | | |
|-------------|---------------|--------------|---------------|
| (i) रामवतार | (ii) परमौषद | (iii) यद्यपि | (iv) नायक |
| (v) उन्नति | (vi) प्रत्येक | (vii) यशोधरा | (viii) निराशा |

13. (अ) हिन्दी प्रध्यापक की नौकरी के लिए प्रधानाचार्य के नाम पर लिखिए ।

अथवा

(आ) किसी पुस्तक विक्रेता के नाम पत्र लिखिए ।





**A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF
ARTS & SCIENCE**

Vuyyuru-521165.

NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: GENERAL HINDI

Semester: II

Course Code	HINT21A	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2020-21	Year of Offering: 2021 - 22	Year of Revision: ---	Percentage of Revision:10%

HINDI	HINT21A	2021-'22	B.A., B.Com.& B.Sc.
-------	---------	----------	---------------------

SEMESTER-II

Credits – 3

HINDI - II

COURSE OUTCOMES:

- CO1 - मानव मूल्यों को पहचानकर समाज कल्याण हेतु देने के लिए तैयार रहना ।
CO2 - आधुनिक युग की भावनाओं को पहचानकर सामाजिक समस्याओं का सामना करते हुए, निरंतर आगे बढ़ना ।
CO3 - विषय का विश्लेषण करके, विषयों को अपना अनुकूल बनाकर समाज में आगे बढ़ने के लिए प्रयास करना ।
CO4 - ग्रहण किये गये पाठ्याशों के द्वारा विद्यार्थियों का ज्ञान मापन किया जाता सकता है ।
CO5 - हमारी भाषा का उपयोग, हम किस भाषा का प्रयोग करते हैं, उसके द्वारा समाज कल्याण, विद्यार्थियों के उज्वल भविष्य हेतु उपयोगी होना चाहिए ।

I. गद्य संदेश :

1. साहित्य और संस्कृति का परस्पर संबंध
2. भारत एक है ।
3. हेच.आई.वी / एड्स

II. कथा - लेख :

1. जरिया
2. भूख हड़ताल
3. परमात्मा का कुत्ता

III. व्याकरण : कार्यालयीन हिन्दी शब्दावली

(हिन्दी से अंग्रेजी में बदलना तथा अंग्रेजी से हिन्दी में बदलना)

IV. व्याकरण : संधि-विच्छेद, वाक्य प्रयोग

V. पत्र-लेखन : आवेदन पत्र, पुस्तक विक्रेता के नाम पत्र

Recommended Books:

1. गद्य संदेश - Dr. V.L.Narasimham Siva Koti
2. कथा लेख - Dr. Ghana Shyam



AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU.
(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam.)

HINDI

2021-2022

B. A / B. Com. / B. Sc. All First Year Degree

Semester - II

Unit	II Semester
1. गद्य संदेश	1. साहित्य और संस्कृति का परस्पर संबंध 2. भारत एक है 3. हेच.आई.वी / एड्स
2. कथा लेख	1. जरिया 2. भूख हड़ताल 3. परमात्मा का कुत्ता
3. व्याकरण	कार्यालयीन हिन्दी शब्दावली (हिन्दी से अंग्रेजी में बदलना तथा अंग्रेजी से हिन्दी में बदलना)
4. व्याकरण	संधि-विच्छेद, वाक्य प्रयोग
5. पत्र-लेखन	आवेदन पत्र, पुस्तक विक्रेता के नाम पत्र

Recommended Books :

1. गद्य संदेश -Dr. V.L.Narasimham Siva Koti
2. कथा लोक - Dr. Ghana Shyam

12. (अ) किन्हीं पाँच का वाक्यों में प्रयोग कीजिए ।

- | | | | |
|---------------|-------------------|-------------------|---------------|
| (i) विरासत | (ii) आज्ञानांधकार | (iii) इकट्टा करना | (iv) बसर करना |
| (v) दुर्भिक्ष | (vi) इकट्टा करना | (vii) पथ प्रदर्शक | (viii) हवन |

अथवा

(आ) किन्हीं पाँच का संधि-विच्छेद कीजिए ।

- | | | | |
|-------------|---------------|--------------|---------------|
| (i) रामवतार | (ii) परमौषद | (iii) यद्यपि | (iv) नायक |
| (v) उन्नति | (vi) प्रत्येक | (vii) यशोधरा | (viii) निराशा |

13. (अ) हिन्दी प्रध्यापक की नौकरी के लिए प्रधानाचार्य के नाम पर लिखिए ।

अथवा

(आ) किसी पुस्तक विक्रेता के नाम पत्र लिखिए ।



**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF HISTORY

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

31-03-2022



A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE, VUYYURU

(An Autonomous College in the Jurisdiction of Krishna University)
Accredited at the level 'A' by the NAAC

Sponsors: Siddhartha Academy of General & Technical Education

DEPARTMENT OF HISTORY

Minutes of the meeting of Board of Studies in Political Science of A.G. & S.G Siddhartha Degree College of Arts & Science, Vuyyuru held at 10:30 A.M on 31/03/2022 in the Department of History

Members Present		
Name of the Member	Role	Signature
Sri. T.Narasimha rao, HOD, Dept. of History, A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru-521165.	Chairman	
Dr.M.Suseela Rao, Head, Department of History Government Degree College, Thiruvuru	University Nominee, Krishna University	
Dr.D.Rajyalakshmi, Lecturer in History Government degree College, Avunigadda	Subject Expert	
Smt.N.Jhausi, Head, Department of History S.D.M.S Mahila Kalasala, Vijayawada.	Subject Expert	

AGENDA

1. To review and recommend changes to syllabi, model paper and guidelines in the 2nd, 4th and 6th semesters of B.A
2. To discuss about and recommend the pattern of assessment i.e., internal and external assessment percentage to be followed for Third Semester from academic year 2021-2022
3. To recommend the guidelines to be followed by the Question Paper Setters in History for all semester-end exams.
4. To recommend the teaching and the evaluation methods to be followed under the Autonomous System.
5. To Suggest innovative methods of teaching
6. To propose the panel of Question Paper Setters and Examiners.

RESOLUTIONS

Following resolutions are made in the Board of Studies in History :

- 1) It is resolved to include Later Medieval Indian History in the place of Medieval Indian History for Semester-II for the 1st Degree from the Academic Year 2021-2022.
- 2) It is resolved to introduce history and culture of Andhra India in the place of Social Reform movement and freedom struggle for semester-IV for the 2nd Degree from the Academic Year 2021-2022.
- 3) It is resolved to introduce History of Modern World for semester-IV for the 2nd Degree from the Academic Year 2021-2022.
- 4) To continue with the existing syllabi for 6th semester without any change for the Academic Year 2021-2022.
- 5) To adapt 25 marks for internal assessment and 75 marks for external assessment for 1st Degree and 30 marks for internal assessment and 70 marks for external assessment for 2nd and 3rd year Degree from the Academic Year 2021-2022.
- 6) To follow the new model question paper from the Academic Year 2021-2022 for all the B.A Students
- 7) To adapt the following teaching and evaluation methods:

Teaching Methods:

Besides the conventional methods of teaching, it is also resolved to use various other methods like group discussions, quiz, developing power point presentation etc., for the better understanding of the contents.

Evaluation Method for Internal Theory Examination for 1st B.A students

First Internal Exam	Second Internal Exam	Average	Attendance	Total
A	B	$C=(A+B) / 2$	D	(C+D)
20 Marks	20 Marks	20 Marks	5 Marks	25 Marks

Evaluation Method for Internal Theory Examination for 2nd and 3rd B.A students

First Internal Exam	Second Internal Exam	Average	Assignment	Attendance	Total
A	B	$C=(A+B) / 2$	D	E	(C+D+E)
20 Marks	20 Marks	20 Marks	5 Marks	5 Marks	30 Marks

- 8) Semester End Examinations:
- 9) The maximum marks of sem-end examinations for 1st B.A are 75 and for 2nd and 3rd B.A students are 70 Marks from the Academic Year 2021-2022 for all the B.A Students and the duration of the examination shall be 3 Hours.
- 10) To Organize Seminars, Guest Lectures and Workshops to upgrade the knowledge of the students and to impart new skills of learning as frequently as possible.
- 11) To authorize the chairman of board of studies to suggest the panel of paper setters and examiners to the controller of examinations as per the requirement.

A.G and S.G. Siddhartha Degree College of Arts & Science, Vuvuru - 521165.

(An Autonomous College in the jurisdiction of Krishna University :Machilipatnam)

PROGRAMME: THREE-YEAR BA

STRUCTURE OF HISTORY SYLLABUS UNDER CBCS FOR 3-YEAR B.A. PROGRAMME

YEAR	CODE	SEM	Name of course <i>(each course consists 5 units with each unit having 12 hours of class work)</i>	Hours/week	Credits	Marks	
						Internal	Sem end
I		I	Ancient Indian history and culture (From Indus valley Civil .to 13 century(A.D)	5	4	25	75
		II	Medieval Indian history and Culture(1206 A.D to 1764 A.D)	5	4	25	75
II		III	Modern Indian history and culture(1764-1947 A.D	5	4	30	70
		IV	History and Culture of Andhra(from 1512 to1956 A.D)	5	4	30	70
		V	History of modern world(from 15 th century	5	4	30	70

A.G and S.G.Siddhartha Degree College of Arts & Science, Vuyyuru.

An autonomous college in the jurisdiction of Krishna University :Machilipatnam

HISTORY	HIS-201C	2020-21	B.A/HEP
----------------	-----------------	----------------	----------------

SEMESTER-II

Course -II

No. of

Credits: 4

MEDIEVAL INDIAN HISTORY & CULTURE (1206 A.D to 1764 A.D) (NEW SYLLABUS)

Learning objectives:

1. To provide knowledge about the Delhi sultanates
2. To impart the knowledge about the Islam religion and greatness of Vijayanagara empire.
3. To make the students to understand the greatness of the Mughal rulers.
4. To provide the information of the administration and cultural contribution of the Mughals.
5. To enlighten the students regarding the advent of the Europeans

Course Outcomes:

1. Acquire the knowledge of Delhi sultanates.
2. Analyze the socio, religious consciousness in India
3. Acquire knowledge about the Mughal rulers and their policies.
4. Students will learn to understand, analyze and evaluate the administration and cultural aspects of Mughals
5. Acquainted with the advent of the Europeans and their settlements in India.

Unit- I

15 hours

Impact of Turkish Invasions– Balban, Allauddhin Khilji, Md. Bin Tughlaq- Administration, Society, Economy, Religion and Cultural developments under Delhi Sultanate (from 1206to 1526 AD)

Unit – II

15 hours

Impact of Islam on Indian Society and Culture–Bhakti Movement; Administration, Society, Economy, Religion and Cultural developments under Vijayanagara Rulers

Unit – III

15 Hours

Emergence of Mughal Empire – Babur – SurInterregnum-Expansion & Consolidation of Mughal Empire – Akbar, Jahangir, ShahJahan, Aurangazeb.

Unit – IV

15 hours

Administration, Economy, Society and Cultural Developments under the Mughals – Disintegration of Mughal Empire -Rise of Marathas under Shivaji

Unit _ V

15 hours

India under Colonial Hegemony: Beginning of European Settlements-Anglo- French Struggle – Conquest of Bengal by EIC

CO-CURRICULAR ACTIVITIES AND ASSESSMENT METHODS:

Continuous Evaluation:

1. Monitoring the student's progress of learning by Class Tests.
2. Map pointing
3. Projects, Assignments and Group Discussions, Enhances critical thinking skills and Personality.
4. Semester-end Examination: Critical indicator of students learning and teaching methods adopted by teachers throughout the semester

TEXT BOOKS:

1. Prachina Bhasha Desa Charitra – Si.K. Krishna Reddy.
2. Bharatha Desa Charitra – Telugu Academy

REFERENCES:

1. Chandra, S History of Medieval India(800– 1700)
2. Chattopadhyay, B.D The Making of Early Medieval India. (Delhi, 1994)
3. Habib, Irfan, Medieval India: The Study of a Civilization
4. Habibullah, A.B.M, The Foundation of Muslim Rule in India
5. Kumar Sunil, The Emergence of the Sultanate of Delhi
6. Nizami, K.A. Some Aspects of Religion and Politics in India in the 13th c
7. K.A. Nilakanta Sastri, A History of South India from Prehistoric Times to the Fall of Vijayanagara
8. K.A. Nilakanta Sastri, The Cholas
9. Shireen Moosvi, The Economy of the Mughal Empire
10. Stein, B Peasant, State & Society in Medieval South India
11. Yazdani, G. (ed) The Early History of the Deccan
12. R.C. Majumdar, The Age of Imperial Kanauj
13. R. Soma Reddy, *Late Medieval Andhra Pradesh, A.D. 1324-1724 A.D.*, New Delhi, 2014
14. Harbans Mukhia, The Mughals of India
15. C.A. Bayly, Indian Society and the Making of the British Empire

A.G and S.G. Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.

An autonomous college in the jurisdiction of Krishna University, Machilipatnam, A.P., India

MODEL PAPER

Medieval Indian History and Culture (1206 A.D to 1764 A.D)

HISTORY Model Question Paper

(NEW MODEL PAPER)

B.A/ HEP – II

Subject Code: HIS-201C

Time : 3 hrs

Max. Marks : 75

PART– A

I) Answer any FIVE of the following: 5 x 5=25M

1. Explain the role of Balban Co1 L2
2. Illustrate the work of Razia sultan Co1 L2
3. Analyse the contributions of Ashtadiggaja's Co2 L3
4. Analyse the role of Jahangir .Co3 L3
5. How Aurangzeb was responsible for the downfall of the mughal empire Co3 L1
6. Examine the role of Tajmahal in the past and present Co5 L3
7. Explain the portuguese establishments in India Co5 L2
8. What is the role of Dupleix as governor Co5 L1

PART – B

II. Answer any FIVE of the following: 5 x 10= 50M
(one Questions to be set from each unit)

1. A) Explain the administration of the Allauddinkhilji. Co1 L2

OR

b.)What are the main reforms of Mohammad bin tughlaq Co1 L1

2. A) Explain the Bhakti movement Co2 L2

OR

b.)Define the characteristics of Vijayanagaraempire Co2 L1

3. A) Explain the administration of shersha Co3 L2

OR

b.)What are the religious reforms of Akbar Co3 L1

4. A) Analyse the administration of Mughals Co4 L3

OR

b.) Explain Shivaji'sadministration Co4 L2

5. A) Illustrate the anglo - French conflicts Co5 L2

OR

b.)What was the role of Robert cliveas governor Co5 L1

A.G and S.G. Siddhartha Degree College of Arts & Science, Vuvvuru - 521165.

An autonomous college in the jurisdiction of Krishna University :Machilipatnam

HISTORY	HIS-401C	2021-22	B.A/HEP
----------------	-----------------	----------------	----------------

SEMESTER – IV

IV

Course:

**No. of
Credits: 4**

**HISTORY & CULTURE OF ANDHRA (FROM 1512 TO 1956 AD)
(NEW SYLLABUS)**

Learning objectives:

1. To give clear picture of Qutubshahis
2. Focussing awareness on advent of europeans and their rule in Andhra
3. To give knowledge about social and religious reforms
4. To infuse the Nationalistic feelings among the studenta
5. To provide information about the AP state formation(1953) Andhra Pradesh formation

Course Outcomes:

1. Known about Nizams of Hyderabad
2. Learnt the impact of British on Andhra - Monroe- C. P Brown, Sir Arthur Cotton
3. They were aware of social reformers and their contribution
4. Acquired knowledge about the national leaders and their ideologies
5. Acquainted with the knowledge of A. P state formation & Andhra Pradesh formation

Unit – 1

12 hrs

- 1.1-Andhra through 16th& 19th Centuries AD:
- 1.2- Evolution of Composite Culture - The QutbShahis of Golkonda –Administration, Society &Economy – Literature & Architecture;
- 1.3- Advent of European and settlements in Andhra - Occupation of Northern Circars and Ceded Districts – Early revolts against the British

Unit – II

12 hrs

- 2.1 Andhra under British rule: Administration – Land Revenue Settlements – Society – Education - Religion – Impact of Industrial Revolution on Economy – Peasantry & Famines – Contribution of Sir Thomas Munroe & C. P. Brown – Impact of 1857 Revolt in Andhra

Unit – III

12 hrs

- 3.1- Social Reform & New Literary Movements: Kandukuri Veeresalingam, Raghupathi Venkata Rathnam Naidu, Guruzada Apparao, Komarraju Venkata Laxmana Rao.
- 3.2-New Literary Movements: Rayaprolu Subbarao, Viswanatha Sathyanarayana, Gurram Jashua, Boyi Bhemanna, Sri Sri

Unit – IV**12 hrs**

4.1- Freedom Movement in Andhra (1885-1947):

4.2- Vandemataram Movement– Home Rule Movement in Andhra - Non-Cooperation Movement – Alluri Seetarama Raju & Rampa Revolt (1922-24) - Civil Disobedience Movement – Quit India Movement

Unit – V**12 hrs**

5.1 Movement for separate Andhra State (1953) and AP (1956):

5.2 Causes – Andhra Maha Sabha –Conflict between Coastal Andhra & Rayalaseema – Sri Bagh Pact – work of various Committees – Martyrdom of Potti Sriramulu – Formation of separate Andhra State (1953);

5.3 Movement for formation of Andhra Pradesh (1956):

5.4 Visalandhra Mahasabha – Role of Communists – States Reorganization Committee – Gentlemen’s Agreement – Formation of Andhra Pradesh

CO-CURRICULAR ACTIVITIES AND ASSESSMENT METHODS:

Continuous Evaluation:

1. Monitoring the progress of student’s learning, Class Tests
2. Map pointing
3. Projects, Assignments and Group Discussions, Enhances critical thinking skills and Personality.
4. Semester-end Examination: Critical indicator of students learning and teaching methods adopted by teachers throughout the semester

TEXT BOOKS:

1. Bhasha Desa Charitra – Madhya yugam- Si.K. Krishna Reddy.
2. BharathaDesaCharitra – Telugu Academy

REFERENCES:

1. H.K.Sherwani, History of the KutubShahi Dynasty
2. K. Sathyanarayana, A Study of the History and Culture of Andhras
3. B. KesavaNarayana, Political and Social Factors in Modern Andhra
4. K.V.NarayanaRao, The Emergence of Andhra Pradesh
5. M. VenkataRangaiah, The Freedom Struggle in Andhra Pradesh
6. P.R.Rao, History of Modern Andhra
7. SarojiniRegani, Highlights of Freedom Movement
SarojiniRegani.
8. V. Ramakrishna, Social Reform Movement in Andhra
9. B. KesavaNarayana, Modern Andhra & Hyderabad – 1858 – 1956 A.D., 2016 11
K. Koti Reddy, History of Modern Andhra, Telugu Academy, Hyderabad

Section	Unit – I	Unit – II	Unit – III	Unit - IV	Unit-V
A 5 Marks Questions					
B 15 Marks Questions					
Weightage					

A.G and S.G. Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.
An autonomous college in the jurisdiction of Krishna University :Machilipatnam

HISTORY		2021-22	B.A/HEP
----------------	--	----------------	----------------

SEMESTER –IV

Course :V

No. of

Credits: 4

HISTORY OF MODERN WORLD (From 15th Cent. AD to 1945 AD) (NEW SYLLABUS)

Learning objectives:

1. To impart knowledge about Renaissance and reformation
2. To give information about the glorious Revolution and American revolution
3. To make them aware of unification of Italy and Germany
4. To know about world wars and their affects
5. To provide information about the role of league of Nations and U. N. O

Course Outcomes:

1. Acquired the knowledge about the evolution of changes in the modern europe
2. Learnt about revolution and their impact on world
3. Had idea about the unification of Italy and Germany
4. Learnt lessons from world war 1&2
5. Gained knowledge about the work and importance of international organizations.

Unit – 1

12hrs

Transformation from Medieval to Modern Era – Chief Characteristics; Glorious Revolution (1688) – Origin of Parliament Bill of Rights – Results

Unit – II

12hrs

American Revolution (1776); French Revolution (1789) – Causes, Course and Results

Unit - III

12 hrs

Unification of Italy; Unification of Germany

Unit – IV

12hrs

Communist Revolution in Russia; World War I: Causes – Results of the War – Paris Peace Conference; League of Nations

Unit - V

12hrs

World War II: Causes, Fascism & Nazism – Results; The United Nations Organization: Structure, Functions and Challeng

Co-curricular activities and Assessments Methods:

Continuous Evaluation:

1. Monitoring the progress of student's learning, Class Tests
2. Map pointing
3. Projects, Assignments and Group Discussions, Enhances critical thinking skills and Personality.
4. Semester-end Examination: Critical indicator of students learning and teaching methods adopted by teachers throughout the semester

TEXT BOOK:

1. BhashaDesaCharitra – Madhya yugam- Si.K. Krishna Reddy.
2. BharathaDesaCharitra – Telugu Academy

References:

- 1 Burke, Peter, The Renaissance
- 2 C.J.H. Hayes, Modern Europe up to 1870
- 3 C.D. Hazen, Modern Europe up to 1945
- 4 Christopher Hill, From Reformation to Industrial Revolution
- 5 Elton, G.R., Reformation Europe, 1517-1559
- 6 Ferguson, The Renaissance
- 7 Gilmore, M.P., The World of Humanism, 1453-1517
- 8 Hilton, Rodney, Transition from Feudalism to Capitalism
- 9 J.H. Parry, The Age of Renaissance
- 10 J.N.L. Baker, History of Geographical Discoveries and Explorations
- 11 The New Cambridge Economic History of Europe, Vol. I, VII

A.G and S.G. Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.
An autonomous college in the jurisdiction of Krishna University, Machilipatnam, A.P., India

MODEL PAPER

History of Modern World

HISTORY Model Question Paper
(NEW MODEL PAPER)
B.A/ HEP – IV

Subject Code: HIS402 C

Time: 3 hrs

Max. Marks : 70

PART– A

I) Answer any TWO of the following: 2 x 5=10M

1. What was the role of Martin Luther in reformation Co1 L1
2. Explain the contribution of Bismarck Co3 L2
3. Explain the role of Lenin in Russian revolution Co4 L2
4. What is Fascism Co5 L1.

PART – B

II. Answer any FOUR of the following: 4 x 15= 60M

5. What is Glorious revolution Co1 L1
6. Explain about American Revolution Co2 L2
7. Analyse the causes and results of French revolution Co2 L3
8. Explain the unification of Italy Co3 L2
9. Examine various factors of Unification of Germany Co3 L3
10. Explain about Russian revolution Co4 L2
11. What are the causes and results of world war I Co4 L1
12. What is the role of U. N. O Co5 L1

Section	Unit – I	Unit – II	Unit – III	Unit - IV	Unit-V
A 5 Marks Questions					
B 15 Marks Questions					
Weightage					

A.G and S.G. Siddhartha Degree College of Arts & Science, Vuvvuru - 521165.
An autonomous college in the jurisdiction of Krishna University :Machilipatnam

III BA Semester – VI (CBCS) Paper – VII (General Elective)

**Subject; History, Syllabus, Title of the Paper – History of Modern Europe (from 19th
Century to 1945 A.D)**

Paper Code; HIS-601GE (w .e. f 2020 - 21)

No. of Hours for week: 5

No. of Credits: 4

Unit – 1

Industrial Revolution: Origin, Nature and Impact. (10 Hrs)

Unit – II

Unification Movements in Italy & Germany and their Impact. (15 Hrs)

Unit – III

Communist Revolution in Russia – Causes, Course and Results – Impact on World Order.(15 Hrs)

Unit - IV

World War I: Age of Rivalry in Europe between 1870 and 1914 – Results of the War – Paris Peace Conference - League of Nations.(20 Hrs)

Unit – V

World War II: Causes, Fascism & Nazism – Results; the United Nations Organization: Structure, Functions and Challenges.(15 Hrs)

References:

- 1 J.A.Hobson, Imperialism: A Study
- 2 C.D. Hazen, Modern Europe up to 1945
- 3 H.A.L.Fisher, History of Europe
- 4 C.M.M.Ketelbey, A History of Modern Times
- 5 Grant and Temperley (ed), Europe in the 18th and 20th Centuries
- 6 David Thomson, Europe Since Napoleon
- 7 A.P.J.Taylor, The Struggle for Mastery in Europe
- 8 S.P.Nanda, History of Modern World
- 9 S.N.Dhar, International Relations and World Politics Since 1919

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU, A.P- 521165

(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam)

III BA. Semester – VI (CBCS) Paper – VII (General Elective)

Subject; History:

Title of the Paper – History of Modern Europe (from 19th Century to 1945 A.D)

Paper Code; HIS-601GE (w .e. f 2020-21)

Pass Marks: 28

Time: 3Hrs

Max. Marks: 70

Model Question Paper

SECTION – A

Answer any TWO of the following

2x5=10

1. Karl Marx
2. Blood & Iron Policy
3. Lenin
4. Wilson 14 points

SECTION – B

Answer any FOURE of the following

4x15=60

5. Write an essay on Industrial Revolution and its effects
6. Describe the main stages of unification of Italy
7. Briefly explain the different stages of unification of Germany
8. Analyze the causes for 1917 Russian Revolution
9. Give a brief account of the course of First World War
- 10 .Discuss about the causes for the failure of League of Nations
11. Estimate the rise and fall of Fascism in Italy
12. Explain about the role played by America in Second World War.

**AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU,
A.P- 521165**

(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam)

SUBJECT- History	HIS 601GE	III B.A
------------------	-----------	---------

TITLE: History of Modern Europe (from 19th Century to 1945 A.D)

Semester – VI

Guidelines to the Paper Setter

Section	Unit – I	Unit – II	Unit – III	Unit - IV	Unit-V
A 5 Marks Questions	1	1	1	1	-
B 15 Marks Questions	1	2	1	2	2
Weightage	20	35	20	35	30

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF MATHEMATICS

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

30-03-2022

Minutes of the meeting of BOS in Mathematics for B.Sc Degree Courses of
AG & SG Siddhartha Degree College of Arts & Science, Vuyuru, held at
2.30PM on 30 - 03 - 2022 through online.

N.V. Srinivasa Rao

Presiding

Members Present:

- | | | |
|--|-----------------------|---|
| 1) <u>N.V. Srinivasa Rao</u>
(N.V. Srinivasa Rao) | Chairman | Head, Department of
Mathematics,
AG & SG S Degree College. |
| 2) _____
(Dr. K. Jaya Lakshmi) | University
Nominee | Department of Mathematics,
Krishna University,
Machilipatnam. |
| 3) _____
(M. Venkateswara Rao) | Subject
Expert | Department of Mathematics,
Govt. Degree College,
Avanigadda. |
| 4) _____
(I. V. Venkateswara Rao) | Subject
Expert | Department of Mathematics,
P. B. Siddhartha College,
Vijayawada |
| 5) <u>D. Sunitha</u>
(D. Sunitha) | Member | Lecturer in Mathematics
AG & SG S Degree College. |
| 6) <u>A. Bhargavi</u>
(A. Bhargavi) | Member | Lecturer in Mathematics
AG & SG S Degree College. |
| 7) <u>Noor Mohammad</u>
(Noor Mohammad) | Member | Lecturer in Mathematics
AG & SG S Degree College. |
| 8) <u>K. Rajya Lakshmi</u>
(K. Rajya Lakshmi) | Member | Lecturer in Mathematics
AG & SG S Degree College. |
| 9) <u>B. Durga Praveen</u>
(B. Durga Praveen) | Student
Member | III B.Sc M.C.Cs
AG & SG S Degree College. |
| 10) <u>M. Rose Manasa</u>
(M. Rose Manasa) | Student
Member | III B.Sc M.P.C (E)
AG & SG S Degree College. |

Agenda of B.O.S Meeting:

1. To discuss and recommend the Syllabi, Model Question Papers and Guidelines to be followed by question paper setters in Mathematics for 2nd Semester as per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2021-22.
2. To discuss and recommend the Syllabi, Model Question Papers and Guidelines to be followed by question paper setters in Mathematics for 4th Semester as per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2021-22.
3. To discuss and recommend the Syllabi, Model Question Papers and Guidelines to be followed by question paper setters in Mathematics for 6th Semester as per the guidelines and instructions under CBCS prescribed by Krishna University from the Academic Year 2021-22.
4. Any other matter.

Resolutions.

1. Discussed and recommended that changes are required in Syllabi, Model Question Papers, Guidelines to be followed by the question paper setters in Mathematics for 2nd Semesters from Academic year 2021-22. The maximum marks for IA is 25 and SE is 75. Each IA written examination is of 1 Hr. duration for 15 marks. The tests will be conducted centrally. The average of two such IA is calculated for 15 marks. 5 marks will be allotted basing on Assignment. 5 marks will be allotted basing on performance of seminar, group discussion, surprise tests etc. There is no minimum passing for IA and there is no provision for improvement in IA. Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/ she gets out of 75) and the result shall be declared as 'PASS' from the Academic year 2021-22.
2. Discussed and recommended that changes are required in Syllabi, Model Question Papers, Guidelines to be followed by the question paper setters in Mathematics of 4th Semesters from Academic year 2021-22. The maximum marks for IA is 30 and SE is 70. Each IA written examination is of 1 Hr. 30 min duration for 20 marks. The tests will be conducted centrally. The average of two such IA is calculated for 20 marks. 5 marks will be allotted basing on Assignment. 5 marks are allotted for attendance. There is no minimum passing for IA and there is no provision for improvement in IA. Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/ she gets 40 out of 70) and the result shall be declared as 'PASS' from the Academic year 2021-22.
3. Discussed and recommended that no changes are required in syllabi, Model Question Papers, Guidelines for question paper setters in Mathematics for the 6th Semester for the Academic year 2021-22.
4. Discussed and recommended for organizing seminars, Guest lecturers, Online Examinations, Workshops to upgrade the knowledge of students for Competitive Examinations for the approval of the Academic Council.

N.V. [Signature]
Chairman

A. G & S. G Siddhartha Degree College of Arts and Science (Autonomous), Vuyyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: REAL ANALYSIS

Semester: II

Course Code	MAT T21B	Course Delivery Method	Class Room / Blended Mode - Both
Credits	5	CIA Marks	25
No. of Lecture Hours / Week	6	Semester End Exam Marks	75
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction :2021-22	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%

Course Outcomes:

After successful completion of this course, the student will be able to

1. Get clear idea about the real numbers and real valued functions.
2. Obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series.
3. Test the continuity and differentiability and Riemann integration of a function.
4. Know the geometrical interpretation of mean value theorems.

Course Syllabus:

UNIT – I (12 Hours) REAL NUMBERS:

The algebraic and order properties of \mathbb{R} , Absolute value and Real line, Completeness property of \mathbb{R} , Applications of supremum property; intervals. (No question is to be set from this portion).

Real Sequences:

Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence. The Cauchy's criterion, properly divergent sequences, Monotone sequences, Necessary and Sufficient condition for Convergence of Monotone Sequence, Limit Point of Sequence, Subsequences and the Bolzano-weierstrass theorem – Cauchy Sequences – Cauchy's general principle of convergence theorem.

UNIT –II (12 Hours) INFINITE SERIES:

Series: Introduction to series, convergence of series. Cauchy's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms.

1. P-test
2. Cauchy's n^{th} root test or Root Test.
3. D'Alembert's Test or Ratio Test.
4. Alternating Series – Leibnitz Test.

Absolute convergence and conditional convergence.

UNIT – III (12 Hours) CONTINUITY :

Limits : Real valued Functions, Bounded ness of a function, Limits of functions. Some extensions of the limit concept, Infinite Limits. Limits at infinity. (No question is to be set from this portion).

Continuous functions: Continuous functions, Combinations of continuous functions, Continuous Functions on intervals, uniform continuity.

UNIT – IV (12 Hours) DIFFERENTIATION AND MEAN VALUE THEORMS:

The derivability of a function, on an interval, at a point, Derivability and continuity of a function, Graphical meaning of the Derivative, Mean value Theorems; Rolle's Theorem, Lagrange's Theorem, Cauchy's Mean value Theorem

UNIT – V (12 Hours) RIEMANN INTEGRATION :

Riemann Integral, Riemann integral functions, Darboux theorem. Necessary and sufficient condition for R – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, integral as the limit of a sum, Mean value Theorems.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Real Analysis and its applications / Problem Solving.

Text Book:

Introduction to Real Analysis by Robert G.Bartle and Donlad R. Sherbert, published by John Wiley.

Reference Books:

1. A Text Book of B.Sc Mathematics by B.V.S.S. Sarma and others, published by S. Chand & Company Pvt. Ltd., New Delhi.
2. Elements of Real Analysis as per UGC Syllabus by Shanthi Narayan and Dr. M.D.Raisinghania, published by S. Chand & Company Pvt. Ltd., New Delhi.

A . G & S . G Siddhartha Degree College of Arts and Science (Autonomous), Vuyyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

SEMESTER – II , REAL ANALYSIS

B.Sc MATHEMATICS MODEL PAPER

Time: 3Hrs

Max.Marks:75M

SECTION - A

Answer any FIVE questions. Each question carries FIVE marks.

5x5 = 25M

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

SECTION - B

Answer ALL the questions. Each question carries TEN marks.

5 X 10 M = 50 M

9. a) OR b)
10. a) OR b)
11. a) OR b)
12. a) OR b)
13. a) OR b)

BLUE PRINT FOR QUESTION PAPER PATTERN COURSE-IV, REAL ANALYSIS

Unit	TOPIC	S.A.Q	E.Q	Total Marks
I	Real Number System and Real Sequence	1	2	25
II	Infinite Series	1	2	25
III	Limits and Continuity	2	2	30
IV	Differentiation and Mean Value Theorem	2	2	30
V	Riemann Integration	2	2	30
	TOTAL	8	10	140

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : 5 X 5 M = 25 M

Essay questions : 5 X 10 M = 50 M

Total Marks = 75 .

A. G & S. G Siddhartha Degree College of Arts and Science (Autonomous), Vuyyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

NAAC reaccruited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: REAL ANALYSIS

Semester: IV

Course Code	MAT - 401	Course Delivery Method	Class Room / Blended Mode - Both
Credits	5	CIA Marks	30
No. of Lecture Hours / Week	6	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction :2021-22	Year of Offering: 2022 - 23	Year of Revision: ----	Percentage of Revision: 0%

Course Outcomes:

After successful completion of this course, the student will be able to

1. Get clear idea about the real numbers and real valued functions.
2. Obtain the skills of analyzing the concepts and applying appropriate methods fortesting convergence of a sequence/ series.
3. Test the continuity and differentiability and Riemann integration of a function.
4. Know the geometrical interpretation of mean value theorems.

Course Syllabus:

UNIT – I (12 Hours) REAL NUMBERS:

The algebraic and order properties of \mathbb{R} , Absolute value and Real line, Completeness property of \mathbb{R} , Applications of supremum property; intervals. (No question is to be set from this portion).

Real Sequences:

Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence. The Cauchy's criterion, properly divergent sequences, Monotone sequences, Necessary and Sufficient condition for Convergence of Monotone Sequence, Limit Point of Sequence, Subsequences and the Bolzano-weierstrass theorem – Cauchy Sequences – Cauchy's general principle of convergence theorem.

UNIT –II (12 Hours) INFINITIE SERIES:

Series: Introduction to series, convergence of series. Cauchy's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms.

1. P-test
2. Cauchy's n^{th} root test or Root Test.
3. D'-Alembert's Test or Ratio Test.
4. Alternating Series – Leibnitz Test.

Absolute convergence and conditional convergence.

UNIT – III (12 Hours) CONTINUITY :

Limits : Real valued Functions, Bounded ness of a function, Limits of functions. Some extensions of the limit concept, Infinite Limits. Limits at infinity. (No question is to be set from this portion).

Continuous functions: Continuous functions, Combinations of continuous functions, Continuous Functions on intervals, uniform continuity.

UNIT – IV (12 Hours) DIFFERENTIATION AND MEAN VALUE THEORMS:

The derivability of a function, on an interval, at a point, Derivability and continuity of a function, Graphical meaning of the Derivative, Mean value Theorems; Rolle's Theorem, Lagrange's Theorem, Cauchy's Mean value Theorem

UNIT – V (12 Hours) RIEMANN INTEGRATION :

Riemann Integral, Riemann integral functions, Darboux theorem. Necessary and sufficient condition for R – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, integral as the limit of a sum, Mean value Theorems.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Real Analysis and its applications / Problem Solving.

Text Book:

Introduction to Real Analysis by Robert G.Bartle and Donlad R. Sherbert, published by John Wiley.

Reference Books:

1. A Text Book of B.Sc Mathematics by B.V.S.S. Sarma and others, published by S. Chand & Company Pvt. Ltd., New Delhi.
2. Elements of Real Analysis as per UGC Syllabus by Shanthi Narayan and Dr. M.D. Raisinghania, published by S. Chand & Company Pvt. Ltd., New Delhi.

A . G & S . G Siddhartha Degree College of Arts and Science (Autonomous), Vuyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

SEMESTER – IV , REAL ANALYSIS

B.Sc MATHEMATICS MODEL PAPER

Time: 3Hrs

Max.Marks:70M

SECTION - A

**Answer any FOUR questions. Each question carries FIVE marks.
Choosing at least ONE question from each part.**

4 X 5 M=20 M.

Part – 1

1. Unit - I
2. Unit - II
3. Unit - II
4. Unit - III

Part – 2

5. Unit - IV
6. Unit - IV
7. Unit - V
8. Unit - V

SECTION - B

**Answer any FIVE questions. Each question carries TEN marks.
Choosing at least TWO question from each part**

5 X 10 M = 50 M

Part – 1

9. Unit - I
10. Unit - II
11. Unit - II
12. Unit - III

Part – 2

13. Unit - IV
14. Unit - IV
15. Unit - V
16. Unit - V

BLUE PRINT FOR QUESTION PAPER PATTERN COURSE-IV, REAL ANALYSIS

Unit	TOPIC	S.A.Q	E.Q	Total Marks
I	Real Number System and Real Sequence	1	1	15
II	Infinite Series	2	2	30
III	Limits and Continuity	1	1	15
IV	Differentiation and Mean Value Theorem	2	2	30
V	Riemann Integration	2	2	30
	TOTAL	8	8	120

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : $4 \times 5 \text{ M} = 20 \text{ M}$

Essay questions : $5 \times 10 \text{ M} = 50 \text{ M}$

Total Marks = 70 .

A. G & S. G Siddhartha Degree College of Arts and Science (Autonomous), Vuyyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper : LINEAR ALGEBRA

Semester: IV

Course Code	MAT - 402	Course Delivery Method	Class Room / Blended Mode - Both
Credits	5	CIA Marks	30
No. of Lecture Hours / Week	6	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Year of Introduction :2021-22	Year of Offering:	Year of Revision: ----	Percentage of Revision: 0%

Course Outcomes:

After successful completion of this course, the student will be able to;

1. Understand the concepts of vector spaces, subspaces, basis, dimension and their properties
2. Understand the concepts of linear transformations and their properties
3. Apply Cayley- Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods
4. Learn the properties of inner product spaces and determine orthogonality in inner product spaces.

Course Syllabus:

UNIT – I (12 Hours) Vector Spaces-I:

Vector Spaces, General properties of vector spaces, n-dimensional Vectors, addition and scalar multiplication of Vectors, internal and external composition, Null space, Vector subspaces, Algebra of subspaces, Linear Sum of two subspaces, linear combination of Vectors, Linear span Linear independence and Linear dependence of Vectors.

UNIT –II (12 Hours) Vector Spaces-II:

Basis of Vector space, Finite dimensional Vector spaces, basis extension, co-ordinates, Dimension of a Vector space, Dimension of a subspace, Quotient space and Dimension of Quotient space.

UNIT –III (12 Hours) Linear Transformations:

Linear transformations, linear operators, Properties of L.T, sum and product of LTs, Algebra of Linear Operators, Range and null space of linear transformation, Rank and Nullity of linear transformations – Rank – Nullity Theorem.

UNIT –IV (12 Hours) Matrix :

Matrices, Elementary Properties of Matrices, Inverse Matrices, Rank of Matrix, Linear Equations, Characteristic equations, Characteristic Values & Vectors of square matrix, Cayley – Hamilton Theorem.

UNIT –V (12 Hours) Inner product space:

Inner product spaces, Euclidean and unitary spaces, Norm or length of a Vector, Schwartz inequality, Triangle Inequality, Parallelogram law, Orthogonality, Orthonormal set, complete orthonormal set, Gram – Schmidt orthogonalization process. Bessel's inequality and Parseval's Identity.

Co-Curricular Activities (15 Hours)

Seminar/ Quiz/ Assignments/ Linear algebra and its applications / Problem Solving.

Text Book:

Linear Algebra by J.N. Sharma and A.R. Vasista, published by Krishna Prakashan Mandir, Meerut- 250002.

Reference Books :

1. Matrices by Shanti Narayana, published by S.Chand Publications.
2. Linear Algebra by Kenneth Hoffman and Ray Kunze, published by Pearson Education (low priced edition), New Delhi.
3. Linear Algebra by Stephen H. Friedberg et. al. published by Prentice Hall of India Pvt. Ltd. 4th Edition, 2007.

A . G & S . G Siddhartha Degree College of Arts and Science (Autonomous), Vuyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

SEMESTER – IV , LINEAR ALGEBRA

B.Sc MATHEMATICS MODEL PAPER

Time: 3Hrs

Max.Marks:70M

SECTION - A

**Answer any FOUR questions. Each question carries FIVE marks.
Choosing at least ONE question from each part.**

4 X 5 M=20 M.

Part – 1

1. Unit - I
2. Unit - II
3. Unit - III
4. Unit - III

Part – 2

5. Unit - IV
6. Unit - IV
7. Unit - V
8. Unit - V

SECTION - B

**Answer any FIVE questions. Each question carries TEN marks.
Choosing at least TWO question from each part**

5 X 10 M = 50 M

Part – 1

9. Unit - I
10. Unit - II
11. Unit - III
12. Unit - III

Part – 2

13. Unit - IV
14. Unit - IV
15. Unit - V
16. Unit - V

BLUE PRINT FOR QUESTION PAPER PATTERN COURSE-V, LINEAR ALGEBRA

Unit	Topic	S.A.Q	E.Q	Total Marks
I	Vector spaces - I	1	1	15
II	Vector spaces - II	1	1	15
III	Linear Transformation	2	2	30
IV	Matrix	2	2	30
V	Inner product spaces	2	2	30
Total		8	8	120

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : $4 \times 5 \text{ M} = 20 \text{ M}$

Essay questions : $5 \times 10 \text{ M} = 50 \text{ M}$

Total Marks = 70 M

A.G & S.G SIDDHARTHA DEGREE COLLEGE: VUYYURU-521165
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)
Accredited with “A” Grade by NAAC, Bengaluru

MATHEMATICS	MAT-601GE	w.e.f.2020-21	III B.Sc
--------------------	------------------	----------------------	-----------------

SEMESTER-VI	PAPER-VII	Max.Marks:70
Hours/ Week: 5		No.of Credits: 5

ELECTIVE-VII-(B); NUMERICAL ANALYSIS

UNIT- I:	10 hours
-----------------	-----------------

Errors in Numerical computations: Errors and their Accuracy, Mathematical Preliminaries, Errors and their Analysis, Absolute, Relative and Percentage Errors, A general error formula, Error in a series approximation.

UNIT – II:	12 hours
-------------------	-----------------

Solution of Algebraic and Transcendental Equations: The bisection method, the iteration method, the method of false position, Newton Raphson method, Generalized Newton Raphson method.

UNIT – III:	12 hours
--------------------	-----------------

Finite Differences and Interpolation: Errors in polynomial interpolation, Finite Differences, Forward differences, Backward differences, Symbolic relations, Detection of errors by use of Differences Tables, Differences of a polynomial, Newton’s formulae for interpolation

UNIT – IV:	12 hours
-------------------	-----------------

Central Differences: Central Differences, Central Difference Interpolation Formulae, Gauss’s central difference formulae, Stirling’s central difference formula, Bessel’s Formula, Everett’s Formula.

UNIT – V:	14 hours
------------------	-----------------

Interpolation – III:

Interpolation with unevenly spaced points, Lagrange’s formula, Error in Lagrange’s formula, Divided differences and their properties, Relation between divided differences and forward differences, Relation between divided differences and backward differences Relation between divided differences and central differences, Newton’s general interpolation Formula, Inverse interpolation.

Reference Books:

1. Numerical Analysis by S.S.Sastry, published by Prentice Hall of India Pvt. Ltd., New Delhi. (Latest Edition)
2. Numerical Analysis by G. SankarRao published by New Age International Publishers, New – Hyderabad.
3. Finite Differences and Numerical Analysis by H.C Saxena published by S. Chand and Company, Pvt. Ltd., New Delhi.
4. Numerical methods for scientific and engineering computation by M.K.Jain, S.R.K.Iyengar, R.K. Jain.

Suggested Activities:

Seminar/ Quiz/ Assignments

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU – 521165, KRISHNA Dt., A.P.**
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)
Accredited with “A” Grade by NAAC, Bengaluru
EXAMINATION AT THE END OF SIXTH SEMESTER (w.e.f 2020-21)

MATHEMATICS Paper VII MAT- 601GE MAX.MARKS: 70 TIME: 3 hrs

ELECTIVE–VII-(B):NUMERICAL ANALYSIS

Section – A (short answer questions)

Answer any Four of the following questions.

4x5 = 20M

Choosing at least ONE question from each Part.

PART - I

1. Evaluate the sum $S = \sqrt{3} + \sqrt{5} + \sqrt{7}$ to four significant digits and find its absolute and relative errors.
2. Find the real root of the equation $x^3 + x - 1 = 0$ by Iteration method, given that the root lies near 1
3. Find the real root of the equation $x \log_{10} x = 1.2$ by Newton – Raphson method
4. Prove that $e^x = \left(\frac{\Delta^2}{E}\right) e^{x \frac{Ee^x}{\Delta^2 e^x}}$ the interval of differencing being unity.

PART - II

5. If $u_0 = 3, u_1 = 12, u_2 = 81, u_3 = 200, u_4 = 100, u_5 = 8$ find the value of $\Delta^5 u_0$
6. Prove that i) $\mu^2 = 1 + \frac{1}{4} \delta^2$ ii) $\Delta = \frac{1}{2} \delta^2 + \delta \sqrt{1 + \frac{1}{4} \delta^2}$
7. Apply Gauss’s Forward formula to find the value of u_9 if $u_0 = 14, u_4 = 24, u_8 = 32, u_{12} = 35, u_{16} = 40$
8. Find the third divided difference for the function $f(x) = x^3 + x + 2$ for the arguments 1, 3, 6, 11

Section – B (long answer questions)

Answer any FIVE of the following questions.

5x10 = 50M

Choosing at least TWO question from each Part.

PART - I

9. If $U = 5xy^2 / z^3$ then find relative maximum error in U, given that $\Delta x = \Delta y = \Delta z = 0.001$ and $x = y = z = 1$
10. Find the real root of the equation $x^2 - 4x - 10 = 0$ by bisection method.
11. Find the real root of the equation $x^3 - 2x - 5 = 0$ by Regula – Falsi method.
12. State and prove Newton’s Gregory forward interpolation formula

PART - II

13. The following table gives the marks obtained by 100 students in Mathematics in a certain examination

Marks obtained: 30-40 40-50 50-60 60-70 70-80

No.of Students: 25 35 22 11 7

How many students got more than 55 marks.

14. The population of town is as follows. Find the population for the year 1956 by Gauss's Backward formula from the following table

Year : 1931 1941 1951 1961 1971

Population : 15 20 27 39 52
(in thousand)

15. State and prove Stirling's formula
16. State and prove Newton's Divided difference formula

A.G & S.G SIDDHARTHA DEGREE COLLEGE: VUYYURU-521165

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

Accredited with "A" Grade by NAAC, Bengaluru

MATHEMATICS	MAT-602CE	w.e.f.2020-21	III B.Sc
-------------	-----------	---------------	----------

SEMESTER-VI

PAPER-VIII

Max.Marks:70

Hours/ Week: 5

No.of Credits: 5

Cluster Elective- VIII-A-1: INTEGRAL TRANSFORMS

UNIT-1:Application of Laplace Transform to solutions of Differential Equations 12 hrs

Solutions of ordinary Differential Equations. Solutions of Differential Equations with constants co-efficient Solutions of Differential Equations with Variable co-efficient

UNIT – 2:Application of Laplace Transform : - 12 hrs

Solution of simultaneous ordinary Differential Equations.Solutions of partial Differential Equations.

UNIT – 3:Application of Laplace Transforms to Integral Equations : - 12 hrs

Integral Equations-Abel's, Integral Equation-Integral Equation of Convolution Type, Integro Differential Equations. Application of L.T. to Integral Equations.

UNIT –4: Fourier Transforms-I : - 12 hrs

Definition of Fourier Transform – Fourier's sine Transform – Fourier cosine Transform – Linear Property of Fourier Transform – Change of Scale Property for Fourier Transform – sine Transform and cosine transform shifting property – modulation theorem.

UNIT – 5: Fourier Transform-II : - 12 hrs

Convolution Definition – Convolution Theorem for Fourier transform – parseval's Identify Relationship between Fourier and Laplace transforms – problems related to Integral Equations.

Finte Fourier Transforms : -

Finte Fourier Sine Transform – Finte Fourier Cosine Transform – Inversion formula for sine and cosine Transforms only statement and related problems.

Reference Books :-

1. Integral Transforms by A.R. Vasistha and Dr. R.K. Gupta Published by Krishna Prakashan Media Pvt. Ltd. Meerut.
2. A Course of Mathematical Analysis by ShanthiNarayana and P.K. Mittal, Published by S. Chand and Company pvt. Ltd., New Delhi.
3. Fourier Series and Integral Transforms by Dr. S. Sreenadh Published by S.Chand and Company Pvt. Ltd., New Delhi.
4. Lapalce and Fourier Transforms by Dr. J.K. Goyal and K.P. Gupta, Published by Pragathi Prakashan, Meerut.
5. Integral Transforms by M.D. Raising hania, - H.C. Saxsena and H.K. Dass Published by S.Chand and Company pvt. Ltd., New Delhi.

Suggested Activities:

Seminar/ Quiz/ Assignments

A.G & S.G SIDDHARTHA DEGREE COLLEGE: VUYYURU-521165

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

Accredited with "A" Grade by NAAC, Bengaluru

MATHEMATICS	MAT-603CE	w.e.f.2020-21	III B.Sc
--------------------	------------------	----------------------	-----------------

SEMESTER-VI	PAPER-VIII	Max.Marks:70
--------------------	-------------------	---------------------

Hours/ Week: 5

No.of Credits: 5

ELECTIVE – VIII-A-2: ADVANCED NUMERICAL ANALYSIS

Unit – I Curve Fitting: 10 Hours

Least – Squares curve fitting procedures, fitting a straight line, Polynomial fitting, Curve fitting by a power functions and exponential function.

UNIT- II Numerical Differentiation: 12 hours

Derivatives using Newton's forward difference formula, Newton's backward difference formula, Derivatives using central difference formula, Stirling's interpolation formula, Newton's divided difference formula, Maximum and minimum values of a tabulated function.

UNIT- III Numerical Integration: 12 hours

General quadrature formula, Trapezoidal rule, Simpson's 1/3 – rule, Simpson's 3/8 – rule, Boole's rule and Weddle's rules (only problems),

UNIT – IV Solutions of simultaneous Linear Systems of Equations: 14 hours

Solution of linear systems – Direct methods, Matrix inversion method, Gaussian elimination methods, Gauss-Jordan Method, Method of factorization. Iterative methods – Jacobi's method, Gauss-Seidel method.

UNIT – V Numerical solution of ordinary differential equations: 12 Hours

Introduction, Solution by Taylor's Series, Picard's method of successive approximations, Euler's method, Modified Euler's method, Runge – Kutta methods.

Reference Books :

1. Numerical Analysis by S.S.Sastry, published by Prentice Hall India (Latest Edition).
2. Numerical Analysis by G. SankarRao, published by New Age International Publishers, Hyderabad.
3. Finite Differences and Numerical Analysis by H.C Saxena published by S. Chand and Company, Pvt. Ltd., New Delhi.
4. Numerical methods for scientific and engineering computation by M.K.Jain, S.R.K.Iyengar, R.K. Jain.

Suggested Activities:

Seminar/ Quiz/ Assignments

A.G & S.G SIDDHARTHA DEGREE COLLEGE: VUYYURU-521165

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

Accredited with "A" Grade by NAAC, Bengaluru

MATHEMATICS	MAT-604CE	w.e.f.2020-21	III B.Sc
SEMESTER-VI	PAPER-VIII		Max.Marks:70
Hours/ Week: 5		No.of Credits: 5	

ELECTIVE – VIII-A-3: Project

Applications of advanced Numerical Analysis with 'C' Programme

EXAMINATION AT THE END OF SIXTH SEMESTER (w.e.f 2020-21)

MATHEMATICS Paper VIII MAT-602CE MAX.MARKS: 70 TIME: 3 hrs

Cluster Elective- VIII-A-1: INTEGRAL TRANSFORMS

Section – A (short answer questions)

Answer any **Four** of the following questions.

4x5 = 20M

Choosing at least **ONE** question from each Part.

PART – I

1. Solve $(D^2 - 2D + 2)y = 0$, $y = Dy = 1$, when $t = 0$.
2. Solve $(D^2 - 3D + 2)y = 1 - e^{2t}$, if $y = 1$, $Dy = 0$, when $t = 0$.
3. Solve $(D - 2)x + 3y = 0$, $2x + (D - 1)y = 0$ if $x(0) = 8$ and $y(0) = 3$.
4. Solve $\frac{\partial y}{\partial x} = 2\frac{\partial y}{\partial t} + y$, $y(x, 0) = 6e^{-3x}$ which is bounded for $x > 0$, $t > 0$.

PART – II

5. Convert $y''(t) - 3y'(t) + 2y(t) = 4 \sin t$, $y(0) = 1$, $y'(0) = -2$ into integral equation.
6. Solve the integral equation $F(t) = t + 2 \int_0^t \cos(t - u) F(u) du$.
7. Find the Fourier sine and cosine transform of $f(x) = x$
8. Show that $\int_0^\infty \frac{\cos \lambda x}{\lambda^2 + 1} d\lambda = \frac{\pi}{2} e^{-x}$, $x \geq 0$.

Section – B (long answer questions)

Answer any **FIVE** of the following questions.

5x10 = 50M

Choosing at least **TWO** question from each Part.

PART – I

9. Solve $(D + 1)^2 = t$, given that $y = -3$, when $t = 0$ and $y = -1$ when $t = 1$.
10. Solve $y'' - t y' + y = 1$ if $y(0) = 1$, $y'(0) = 2$.
11. Solve $(D^2 - 3)x - 4y = 0$, $x + (D^2 + 1)y = 0$, $t > 0$ if $x = y = Dy = 0$, $Dx = 2$.
12. Solve $\frac{\partial y}{\partial t} = \frac{\partial^2 y}{\partial x^2}$, $y(\frac{\pi}{2}, t) = 0$, $(\frac{\partial y}{\partial x})_{x=0} = 0$ and $y(x, 0) = \cos 3x$.

PART – II

13. Solve the integral equation $F(t) = 1 + \int_0^t F(u) \sin(t - u) du$ and verify your solution.

14. Solve the integral equation $\int_0^t \frac{F(u) du}{\sqrt{(t-u)}} = 1 + t + t^2$.

15. Find the Fourier transform of $f(x)$ defined by $f(x) = \begin{cases} 1, & |x| < a \\ 0, & |x| > a \end{cases}$ and hence evaluate

$$i \int_{-\infty}^{\infty} \frac{\sin pa \cos px}{p} dp \text{ ii) } \int_0^{\infty} \frac{\sin p}{p} dp.$$

16. Find the finite Fourier sine and cosine transforms of the function $f(x) = 2x, 0 < x < 4$.

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU – 521165, KRISHNA Dt., A.P.**

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)
Accredited with “A” Grade by NAAC, Bengaluru

EXAMINATION AT THE END OF SIXTH SEMESTER (w.e.f 2020-21)

MATHEMATICS Paper VIII MAT-603CE MAX.MARKS: 70 TIME: 3 hrs

Cluster Elective VIII-A-2: ADVANCED NUMERICAL ANALYSIS

Section – A (short answer questions)

Answer any **Four** of the following questions.

4x5 = 20M

Choosing at least **ONE** question from each Part.

PART – I

1. Find the least square line $y = a + bx$ for the data

Xi: -2 -1 0 1 2

Yi: 1 2 3 3 4

2. Find $f^{-1}(5)$ from the following table

x: 1 2 4 8 10

f(x): 0 1 5 21 27

3. Evaluate $\int_0^1 \frac{1}{1+x^2} dx$ by Trapezoidal rule

4. Evaluate $\int_0^4 e^x dx$ by Simpson's $\frac{1}{3}$ rule

PART – II

5. Solve $3x + y + 2z = 3$, $2x - 3y - z = -3$, $x + 2y + z = 4$ by Matrix inversion method

6. Solve $x + y + z = 9$, $2x + 5y + 7z = 52$, $2x + y - z = 0$ by Cramer's rule

7. Given D.E is $\frac{dy}{dx} = 1 + xy$ with $y = 1$ when $x = 0$ compute $y(0.1)$

8. Solve the equation $y' = -y$ with $y(0) = 1$ for $x = 0.04$ in four steps

Section – B (long answer questions)

Answer any **FIVE** of the following questions.

5x10 = 50M

Choosing at least **TWO** question from each Part.

PART – I

9. Find the least square power function of the form $y = ax^b$ for the data
- X_i : 1 2 3 4
 Y_i : 3 12 21 35
10. Using the given table find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ at $x = 1.2$
- x : 1.0 1.2 1.4 1.6 1.8 2.0 2.2
 y : 2.7183 3.3201 4.0552 4.9530 6.0496 7.3891 9.0250
11. Find the value of $\int_0^1 \frac{1}{1+x^2} dx$ by using Simpson's 3/8 rule and hence find the value of " π "
12. Evaluate $\int_4^{5.2} \log x dx$ by using Weddle's rule.

PART – II

13. Solve $2x + y + z = 10$, $3x + 2y + 3z = 18$, $x + 4y + 9z = 16$ by Gauss elimination method
14. Solve $3x + 2y + 4z = 7$, $2x + y + z = 7$, $x + 3y + 5z = 2$ by Factorization method
15. Solve the D.E $\frac{dy}{dx} = 1 + y^2$, $y(0) = 0$ by Picard's method
16. Given $\frac{dy}{dx} = y - x$ with $y(0) = 2$ find $y(0.1)$ and $y(0.2)$ correct to four decimal places by RK method.

**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU – 521165, KRISHNA Dt., A.P.
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)
EXAMINATION AT THE END OF SIXTH SEMESTER (w.e.f 2020-21)**

MATHEMATICS Paper VIII MAT-604CE MAX.MARKS: 70 TIME: 3 hrs

Cluster Elective- VIII-A-3: PROJECT

Applications of advanced Numerical Analysis with 'C' Programme

DEPARTMENT OF MATHEMATICS

Guidelines of III B.Sc for Question Paper Setters VI Semester-End Exams: 2020-21

Time: 3 Hrs **Elective.MAT- 601GE** Max.Marks:70

Paper Title : Numerical analysis

Note :- 1). Answer any FOUR questions out of 8 in Section-A.

Each question carries 5 marks.

(4x5=20 Marks)

2). Answer any FIVE questions out of 8 in Section-B.

Each question carries 10 marks.

(5x10 =50 marks)

Questions to be set as follows:

	Unit-1	Unit-2	Unit-3	Unit-4	Unit-5
<u>Section-A</u> (Short Answer Questions)	1	2	2	2	1
<u>Section-B</u> (Essay Questions)	1	2	2	2	1

-The End -

DEPARTMENT OF MATHEMATICS

Guidelines of III B.Sc for Question Paper Setters VI Semester-End Exams: 2020-21

Time: 3 Hrs **Cluster.MAT- 602CE**

Max.Marks:70

Paper Title: Integral Transforms

Note :- 1). Answer any FOUR questions out of 8 in Section-A.

Each question carries 5 marks.

(4x5=20 Marks)

2). Answer any FIVE questions out of 8 in Section-B.

Each question carries 10 marks.

(5x10 =50 marks)

Questions to be set as follows:

	Unit-1	Unit-2	Unit-3	Unit-4	Unit-5
<u>Section-A</u> (Short Answer Questions)	2	2	2	1	1
<u>Section-B</u> (Essay Questions)	2	2	2	1	1

-The End -

DEPARTMENT OF MATHEMATICS

Guidelines of III B.Sc for Question Paper Setters VI Semester-End Exams: 2020-21

Time: 3 Hrs **Cluster.MAT- 603CE**

Max.Marks:70

Paper Title: Advanced Numerical Analysis

Note :- 1). Answer any FOUR questions out of 8 in Section-A.

Each question carries 5 marks.

(4x5=20 Marks)

2). Answer any FIVE questions out of 8 in Section-B.

Each question carries 10 marks.

(5x10 =50 marks)

Questions to be set as follows:

	Unit-1	Unit-2	Unit-3	Unit-4	Unit-5
<u>Section-A</u> (Short Answer Questions)	1	1	2	2	2
<u>Section-B</u> (Essay Questions)	1	1	2	2	2

-The End -

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



**DEPARTMENT OF PHYSICS
MINUTES OF BOARD OF STUDIES**

EVEN SEMESTER



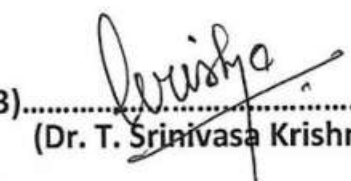
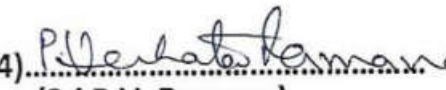


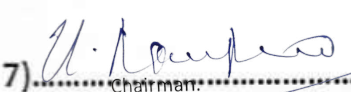

30-03-2022

Minutes of the meeting of Board of studies in Physics for the Autonomous course of A.G. & S.G. Siddhartha Degree College of Arts & Science, Vuyyuru held at 10.30 A.M on 30 - 03 - 2022 in the Department of Physics.

Sri J.Hareesh Chandra

Presiding

Members Present:

- 1).......... Chairman Head, Department of physics(I/C)
(Sri J. Hareesh Chandra) A.G. & S.G.S. Degree College of Arts&science, Vuyyuru - 521165
- 2).......... University Nominee Registrar
(Dr. M. Rami Reddy) Krishna University, Machilipatnam.
- 3).......... Academic Council Nominee Associate Professor,
(Dr. T. Srinivasa Krishna) H.O.D, Dept. of Physics,
P.B.Siddhartha college of arts & science,vijayawada Vijayawada.
- 4).......... Academic Council Nominee H.O.D, Dept. of Physics,
(Sri P.V. Ramana) A.J. Kalasala, Machilipatnam.
- 5).......... Representative from Sub Divisional Engineer, BSNL
(Sri I. Chittibabu) Industry Vijayawada.
- 6).......... Alumini Lecturer in Physics,
(Sri B. Dileep Kumar) Dept. of Physics, IIT, Nuzivid.
- 7).......... Member Lecturer in Physics,
(Sri U. Ram prasad) A.G. & S.G.S. Degree College of Arts & Science, Vuyyuru - 521165.
- 8).......... Member Lecturer in Physics,
(Sri M. Sateesh) A.G. & S.G.S.Degree College of Arts & Science, Vuyyuru - 521165.

9).....*M. Purva Durga Parimala*.....
(Smt. M.P.D. Parimala)

Member

Lecturer in Physics,
A.G. & S.G.S. Degree College of Arts
& Science, Vuyyuru - 521165.

10).....*J. Dileep*.....
(Sri J. Dileep)

Member

Lecturer in Physics,
A.G. & S.G.S. Degree College of Arts &
Science, Vuyyuru - 521165.

Agenda for B.O.S Meeting

1. To recommend the syllabi and model papers for II semester of I Degree B.Sc., Physics for the Academic year 2021-2022.
2. To recommend the syllabi and model papers for IV semester of II Degree B.Sc., Physics for the Academic year 2021-2022.
3. To recommend the syllabi and model papers for VI semester of III Degree B.Sc. Physics for the Academic year 2021-2022.
4. To recommend the Blue print of question papers for II, IV & VI semesters of B.Sc. Physics for the Academic year 2021-2022.
5. To recommend the Guidelines to be followed by the question paper setters in Physics for II, IV & VI Semester – end exams.
6. To recommend the teaching and evaluation methods to be followed under Autonomous status.
7. Any suggestions regarding seminars, workshops, Guest lecture to be organized.
8. Recommend the panel of paper setters and Examiners to the controller of Examinations of autonomous Courses of A.G. & S.G.S.Degree colleges of Arts & Science, Vuyyuru.
9. Any other matter.


Chairman.

RESOLUTIONS

- 1) It is resolved to follow the **changed syllabi and model papers for II semester of I B.Sc.** as per APSCH guidelines from the Academic year 2020-2021.
- 2) It is resolved to follow the **changed syllabi and model papers for IV semester of II B.Sc.** as per APSCH guidelines from the Academic year 2020-21.
- 3) It is resolved to follow
 - a) The same **syllabi and model papers** for elective paper “Analog and Digital Electronics” (PHY-601GE) under Choice Based Credit System (CBCS) for **VI semester of III B.Sc.**
 - b) The **same syllabi and model papers** for Cluster paper “Introduction to Microprocessor and Microcontroller” (PHY-602 CE) under Choice Based Credit System (CBCS) for **VI semester of III B.Sc.**
 - c) The same **syllabi and model papers** for Cluster paper “Computational Methods and Programming” (PHY-603 CE) under Choice Based Credit System (CBCS) for **VI semester of III B.Sc.**
 - d) The **same syllabi and model papers** for Cluster paper “Electronics Instrumentation” (PHY-604 CE) under Choice Based Credit System (CBCS) and Project work is introduced instead of Practical for 50 marks, for **VI semester of III B.Sc.**
- 4) It is resolved to follow the **changed Blue print of II semester of Degree I B.Sc.** for the Academic year 2021-2022.
 - It is resolved to follow the **changed Blue print** of IV semester of Degree II B.Sc. for the Academic year 2021-2022.
 - It is resolved to follow the **same Blue print** of VI semester of Degree III B.Sc. for the Academic year 2021-2022.
- 5) It is resolved to follow the **changed Guidelines of II semester of Degree I B.Sc.** for the Academic year 2021-2022.
 - It is resolved to follow the **changed Guidelines** of IV semester of II Degree B.Sc. for the Academic year 2021-2022.
 - It is resolved to follow the **same Guidelines** of VI semester of Degree III B.Sc. for the Academic year 2021-2022.
- 6) It is resolved to continue the following teaching and evolution methods for Academic year 2021-2022.

Teaching Methods:

Besides the conventional methods of teaching, we use modern technology i.e. using of LCD projector, U boards, virtual lab etc, for better understanding of concepts.

Evaluation of a student is done by the following procedure:

➤ **Internal Assessment Examinations:**

- For I B.Sc (sem II), out of 100 marks in each paper, 25 marks shall be allocated for internal assessment.
- For II B.Sc (sem IV) and III B.Sc (sem VI) out of 100 marks in each paper, 30 marks shall be allocated for internal assessment
- Out of these 25 marks, **20 marks are allocated for announced tests (i.e. IA-1 & IA-2)**. Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, **5 marks** are allocated for **assignment / class room seminars for II nd semester .**
- Out of these 30 marks, **20 marks are allocated for announced tests (i.e. IA-1 & IA-2)**. Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, **5 marks** are allocated on the basis of candidate’s **percentage of attendance**, **5 marks** are allocated for **assignment / class room seminars for IV and VI Semesters.**

➤ **Semester – End Examination:**

- The maximum marks for I B.Sc, II Semester – End examination shall be 75 marks and duration of the examination shall be 3 hours.
- The maximum marks for II B.Sc and III B.Sc. Semesters – End examination shall be 70 marks and duration of the examination shall be 3 hours.
 - **Semester – End examinations** in theory papers and **practical Examinations** shall be conducted at the end of every semester **II, IV & VI** and Project work for Cluster paper PHY-604 CE instead of Practical, **for I, II & III B.Sc.**
- 7) Discussed and recommended for organizing **seminars, Guest lecturers, workshops** to upgrade the knowledge of students, for the approval of the academic council.
 - 8) Discussed and empowered the Head of the department of Physics to suggest the panel of paper setters and examiners to the controller of examinations.
 - 9) Nil.


Chairman.

DEPARTMENT OF PHYSICS
A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS) , VUYYURU – 521 165

I B.Sc. 2nd Semester (2021-2022)

Paper II: Waves Optics | II SEMESTER

PHY-201C

Work load: 60 hrs per semester credits - 3 | 4 hrs/week

Course outcomes :

On successful completion of this course, the student will be able to:

- ❖ Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude.
- ❖ Distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating.
- ❖ Describe the construction and working of zone plate and make the comparison of zone plate with convex lens.
- ❖ Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity..
- ❖ Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields.
- ❖ Explain about the different aberrations in lenses and discuss the methods of minimizing them.
- ❖ Understand the basic principles of fiber optic communication and explore the field of Holography and Nonlinear optics and their applications.

UNIT-I Interference of light: (12hrs)

Division of Wave front: Introduction, Conditions for interference of light, Interference of light by division of wave front and amplitude, Phase change on reflection- Stokes' treatment, Fresnel's Bi-Prism-Determination of Wavelength of Light.

Division of Amplitude: Cosine law - colors in thin films, Newton's rings in reflected light- Theory and experiment - Determination of wavelength of monochromatic light, Michelson interferometer and determination of wavelength.

UNIT-II Diffraction of light: (12hrs)

Fraunhofer Class: Distinction between Fresnel and Fraunhofer diffraction, Fraunhofer diffraction at a single slit, Double slit and N-slits (No Derivation for N-Slits), Determination of wavelength of light using diffraction grating, Resolving power of grating,

Fresnel's Class: Fresnel's half period zones, Zone plate, comparison of zone plate with convex lens.

UNIT-III Polarisation of light: (12hrs)

Polarized light: Methods of production of plane polarized light -Polarisation by reflection (Brewster's law), Malus law, Double refraction, Nicol prism, Nicol prism as polarizer and analyzer

Types and production of polarized Light: Quarter wave plate, Half wave plate, Plane, Circularly and Elliptically polarized light-Production and detection, Optical activity, Laurent's half shade polarimeter: determination of specific rotation

UNIT-IV (12hrs)

Aberrations: Monochromatic aberrations - Spherical aberration, Methods of minimizing spherical aberration, Coma & Astigmatism -minimization methods, Chromatic aberration-the achromatic doublet; Achromatism for two lenses (i) in contact and (ii) separated by a distance.

Fibre Optics: Fibre optics: Introduction to Fibers, different types of fibers, rays and modes in an optical fiber, Principles of fiber communication (qualitative treatment only), Advantages of fiber optic communication.

UNIT-V Lasers and Holography: (12hrs)

Lasers: Introduction, Spontaneous emission, stimulated emission, Population Inversion, Laser principle, Einstein coefficients, Types of lasers-He-Ne laser, Ruby laser, Applications of lasers;

Holography: Basic principle of holography, Applications of holography

REFERENCE BOOKS:

- BSc Physics, Vol.2, Telugu Akademy, Hyderabad
- A Text Book of Optics-N Subramanyam, L Brijlal, S.Chand&Co.
- Optics-Murugesan, S.Chand&Co.
- Unified Physics Vol.IIOptics, Jai PrakashNath&Co.Ltd.,Meerut
- Optics,F.A. Jenkins and H.G.White,McGraw-Hill
- Optics,AjoyGhatak,TataMcGraw-Hill.
- Introduction of Lasers – Avadhanulu, S.Chand&Co.
- Principles of Optics- BK Mathur, Gopala Printing Press,1995

Practical Course II : Wave Optics

Workload:30hrs

2 hrs/week

Course outcomes (Practicals) :

On successful completion of this practical course the student will be able to,

1. Gain hands-on experience of using various optical instruments like spectrometer, polarimeter and making finer measurements of wavelength of light using Newton Ring experiment, diffraction grating etc.
2. Understand the principle of working of polarimeter and the measurement of specific rotatory power of sugar solution
3. Know the techniques involved in measuring the resolving power of telescope and dispersive power of the material of the prism.
4. Be familiar with the determination of refractive index of liquid by Boy's method and the determination of thickness of a thin wire by wedge method.

Minimum of 6 experiments to be done and recorded

1. Determination of radius of curvature of a given convex lens-Newton's rings.
2. Resolving power of grating.
3. Study of optical rotation-polarimeter.
4. Dispersive power of a prism.
5. Determination of wavelength of light using diffraction grating-minimum deviation method.
6. Determination of wavelength of light using diffraction grating-normal incidence method.
7. Resolving power of a telescope.
8. Refractive index of a liquid-hollow prism
9. Determination of thickness of a thin wire by wedge method
10. Determination of refractive index of liquid-Boy's method.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

MEASURABLE

Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

Student seminars (on topics of the syllabus and related aspects (individual activity))

Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

GENERAL

Group Discussion

Visit to Research Stations/laboratories and related industries

RECOMMENDED ASSESSMENT METHODS

Some of the following suggested assessment methodologies could be adopted;

The oral and written examinations (Scheduled and surprise tests),

Practical assignments and laboratory reports,

Efficient delivery using seminar presentations,

Viva voce interviews.

DEPARTMENT OF PHYSICS
A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS) , VUYYURU – 521 165
II B.Sc. 4th Semester (2021-22)

Paper IV: ELECTRICITY, MAGNETISM AND ELECTRONICS

Work load:60 hrs per semester

credits - 3 PHY401C

4 hrs/week

Course outcomes & Objectives :

On successful completion of this course, the students will be able to:

- ❖ Understand the Gauss law and its application to obtain electric field in different cases and formulate the relationship between electric displacement vector, electric polarization, Susceptibility, Permittivity and Dielectric constant.
- ❖ Distinguish between the magnetic effect of electric current and electromagnetic induction and apply the related laws in appropriate circumstances.
- ❖ Understand Biot and Savart's law and Ampere's circuital law to describe and explain the generation of magnetic fields by electrical currents.
- ❖ Develop an understanding on the unification of electric and magnetic fields and Maxwell's equations governing electromagnetic waves.
- ❖ Phenomenon of resonance in LCR AC-circuits, sharpness of resonance, Q factor, Power factor and the comparative study of series and parallel resonant circuits.
- ❖ Describe the operation of p-n junction diodes, zener diodes, light emitting diodes and transistors
- ❖ Understand the operation of basic logic gates and universal gates and their truth tables.

UNIT-I

Electrostatics: (6hrs)

Gauss's law-Statement and its proof, Electric field intensity due to (i) uniformly charged solid sphere and (ii) an infinite conducting sheet of charge, Deduction of Coulomb's law from Gauss law, Electrical potential–Equipotential surfaces, Potential due to a (i) point charge (ii) uniformly charged sphere

Dielectrics: (6 hrs)

Dielectrics-Polar and Non-polar dielectrics- Electric displacement D, electric polarization P, Relation between D, E and P, Dielectric constant and electric susceptibility.

UNIT-II

Magnetostatics: (6 hrs)

Biot-Savart's law and its applications: (i) calculation of B due to long straight wire and (ii) solenoid, Ampere's Circuital Law and its application to Solenoid, Hall effect, determination of Hall coefficient and applications.

Electromagnetic Induction: (6 hrs) Faraday's laws of electromagnetic induction, Lenz's law, Self-induction and Mutual induction, Self-inductance of a long solenoid, Mutual inductance of two coils, Energy stored in magnetic field, Eddy currents and Electromagnetic damping

UNIT-III

Alternating currents: (6 hrs) Alternating current - Relation between current and voltage in LR and CR circuits, Phasor and Vector diagrams, LCR series and parallel resonant circuit, Q-factor, Power in ac circuits, Power factor.

Electromagnetic waves-Maxwell's equations: (6 hrs) Idea of displacement current, Maxwell's Equations-Derivation, Maxwell's wave equation (with derivation), Transverse nature of electromagnetic waves, Poynting theorem (Statement and proof)

UNIT-IV

Basic Electronic devices: (12 hrs)

Diodes: PN junction diode, Zener diode and Light Emitting Diode (LED) and their I-V characteristics, Zener diode as a regulator

Transistors: Transistors and its operation, CB, CE and CC configurations, Input and output characteristics of a transistor in CE mode, Relation between alpha, beta and gamma; Hybrid parameters, Determination of hybrid parameters from transistor characteristics; Transistor as an amplifier.

UNIT-V :

Digital Electronics : (12 hrs)

Number systems, Conversion of binary to decimal system and vice versa, Binary addition & Binary subtraction (1's and 2's complement methods), Laws of Boolean algebra, Basic logic gates, DeMorgan's laws-Statements and Proofs, NAND and NOR as universal gates, Exclusive-OR gate, Half adder and Full adder circuits.

REFERENCE BOOKS

- ❖ BSc Physics, Vol.3, Telugu Akademy, Hyderabad.
- ❖ Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.
- ❖ Electricity and Magnetism, B.D.Duggal and C.L.Chhabra. Shobanlal & Co.
- ❖ Electricity, Magnetism with Electronics, K.K.Tewari, R.Chand & Co.,

- ❖ Electricity and Magnetism, R.Murugeshan, S. Chand & Co.
- ❖ Principles of Electronics, V.K. Mehta, S.Chand& Co.,
- ❖ Digital Principles and Applications, A.P. Malvino and D.P.Leach, McGrawHill Edition.

PAPER TITLE: Electricity, Magnetism and Electronics

Paper- V Semester – V Maximum marks: 70 marks Duration: 3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (25 Marks)	T	2
Unit-2 (20 Marks)	T+P	1
Unit-3 (30Marks)	T+P	2
Unit-4 (20 Marks)	T+T	1
Unit-5 (25 Marks)	T	2

Note: T means one theory question, P means one problem

- **Section-A** contains **6** short questions and **2** problems out of these **8** questions, the student has to answer any **4**, each question carries **5** marks.
- **Section –B** contains **8** essay questions, the student has to answer any **5** questions, each question carries **10** marks.
- The Question papers setters are requested to cover all the topics in the syllabus as per the weightage given by us.

SEMESTER – V	COURSE CODE : PHY-501 C
PAPER TITLE : Electricity, Magnetism and Electronics	

Duration : 3Hours Maximum marks : 70 Pass marks : 28 marks

MODEL PAPER

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), VUYYURU – 521 165

III B.Sc. (PHYSICS)- V SEMESTER
ELECTRICITY, MAGNETISM AND ELECTRONICS

TIME: 3 Hrs PHY – 501 C MAX MARKS: 70 PASS MARK : 28

.....
SECTION – A

ANSWER ANY FOUR OF THE FOLLOWING (4 X 5 = 25 M)

- 1) Write a short note on equi - potential surfaces
- 2) obtain an expression for energy stored in a magnetic field
- 3) Derive expression for power in ac circuit
- 4) Explain CE configuration of a transistor
- 5) Explain briefly how a transistor works as an amplifier
- 6) Explain about half adder circuit with truth table.
- 7) Calculate the intensity of the magnetic field at the center of a circular coil of radius 20 cm and 40 turns having a current of 2A in it.
- 8) In a series RLC circuit $R = 100 \text{ ohm}$, $L = 0.5\text{H}$ and $C = 0.4 \mu\text{F}$. calculate resonant frequency

SECTION – B

ANSWER ANY FIVE OF THE FOLLOWING QUESTIONS (5 X 10 = 50 M)

- 9) Derive an expression for the electric field due to uniformly charged sphere using Gauss law?
- 10) Define D, E and P derive the relation between them
- 11) Calculate the magnetic induction due to a long straight wire using Biot- savart's law
- 12) State and prove pointing theorem
- 13) Explain the growth and decay of charge in LR- circuit
- 14) Describe the construction and working of Zener diode.
- 15) State and prove De Morgan's theorem with examples.
- 16) Explain about basic logic gates with truth tables.

Practical CourseIV:Electricity, Magnetism and Electronics

Work load: 30 hrs 2 hrs/week Course outcomes (Practicals):

On successful completion of this practical course the student will be able to;

- ❖ Measure the current sensitivity and figure of merit of a moving coil galvanometer.Observe the resonance condition in LCR series and parallel circuit
- ❖ Learn how a sonometer can be used to determine the frequency of AC-supply.
- ❖ Observe the variation of magnetic field along the axis of a circular coil carrying current using Stewart and Gee's apparatus.
- ❖ Understand the operation of PN junction diode, Zener diode and a transistor and their V-I characteristics.
- ❖ Construct the basic logic gates, half adder and full adder and verify their truth tables. Further, the student will understand how NAND and NOR gates can be used as universal building blocks.

Minimum of 6 experiments to be done and recorded

1. LCR circuit series -resonance, Q factor.
2. LCR parallel circuit - resonance, Q factor.
3. Determination of ac-frequency –Sonometer.
4. Verification of Kirchoff's laws
5. Field along the axis of a circular coil carrying current-Stewart & Gee's apparatus.
6. PN Junction Diode V-I Characteristics
7. Zener Diode –V-I Characteristics
8. Logic Gates- OR, AND, NOT and NAND gates. Verification of Truth Tables.

9. Verification of De Morgan's Theorems.
10. Construction of Half adder and Full adders-Verification of truth tables
11. Zener Diode as a voltage regulator
12. Transistor CE Characteristics- Determination of hybrid parameters
13. Figure of merit of a moving coil galvanometer.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

MEASURABLE

- ❖ Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- ❖ Student seminars (on topics of the syllabus and related aspects (individual activity))
- ❖ Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
- ❖ Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
- ❖ Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

GENERAL

- ❖ Group Discussion
- ❖ Visit to Research Stations/laboratories and related industries
- ❖ Others

RECOMMENDED ASSESSMENT METHODS

Some of the following suggested assessment methodologies could be adoptee

- The oral and written examinations (Scheduled and surprise tests),
- Practical assignments and laboratory reports,
- Observation of practical skills,
- Efficient delivery using seminar presentations,

Viva voce interviews

DEPARTMENT OF PHYSICS
A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE
(AUTONOMOUS) , VUYYURU – 521 165
II B.Sc. 4th Semester (2020-21)

Paper IV: MODERN PHYSICS PHY 402C

Work load:60 hrs per semester

credits - 3

4 hrs/week



➤ Course Description: students would know about the basic principles in the development of modern physics. The topics covered in the course build a basic foundation of undergraduate physics students to study the advance branches: quantum physics, nuclear physics and particle physics. The course contains the study of atomic models, spectroscopy, matter waves, Schrodinger wave equations, brief idea of nuclear physics, and superconductivity. The students have the opportunity to use the basic principles of condensed matter physics in frontier areas of research and development in the field of material science, nanoscience and nanotechnology.

➤ Course Objectives:

➤ 1. To learn the concepts in Atomic Physics.

➤ 2. Review the experiments that led development of quantum theory

➤ 3. Understand the underlying foundations and basic principles of quantum mechanics

➤ 4. impart knowledge of the nuclear processes that yield nuclear energy

➤ 5. Acquire the knowledge of Nano materials

➤ Course outcomes: On successful completion of this course, the students will be able to:

- CO1 Remember the different atomic models and basic knowledge of spectroscopy
- CO2 Understand the theory and application of microwave, infrared and Raman spectroscopy
- CO3 Apply non- relativistic Schrödinger wave mechanics to a variety of potentials in one and three dimensions.
- CO4 Analyse the prerequisite in a molecule towards its Rotational and vibrational activity
- CO5 Examine the basic properties of nuclei, characteristics of Nuclear forces, salient features

➤ **SYLLABUS**

➤ **UNIT-I**

- A. Atomic Physics: (07 hrs) Vector atom model and Stern-Gerlach experiment, Quantum numbers associated with it, Angular momentum of the atom, Coupling schemes, Selection rules, Intensity rules, Spectral terms and spectral notations, Fine structure of Sodium D-lines, Zeeman effect, Experimental study of Zeeman effect
- B. Molecular Physics (05 hrs) Raman effect, Characteristics of Raman effect, Experimental study of Raman effect, Quantum theory of Raman effect, Applications of Raman effect.

➤ **UNIT-II**

- A. Matter waves & de-Broglie's hypothesis (06 hrs) Failures of Classical Mechanics, Matter waves – de-Broglie's hypothesis, Derivation for de-Broglie wave length of matter waves, Properties of matter waves, Davisson and Germer's experiment, Phase and group velocities (Qualitative),
- B. Uncertainty Principle and Quantization (06 hrs) Heisenberg's uncertainty principle for position and momentum (x and p), & energy and time (E and t), Illustration of uncertainty principle using diffraction of beam of electrons

(Diffraction by a single slit) and photons (Gamma ray microscope), Bohr's principle of complementarity.

➤ UNIT-III

- Quantum (Wave) Mechanics:(12 hrs) Basic postulates of quantum mechanics, Schrodinger time independent and time dependent wave equations - Derivations, Physical interpretation of wave function, Eigen functions, Eigen values, Application of Schrodinger wave equation to one dimensional potential box of infinite height (Infinite Potential Well)

➤ UNIT-IV

- A. Structure of Nuclei and Nuclear Models: (06 hrs) Nuclear Structure: General Properties of Nuclei, Mass defect, Binding energy; Nuclear forces, Characteristics of nuclear forces, Yukawa's meson theory (Qualitative), Nuclear Models: Liquid drop model, Shell model, Magic numbers.
- B. Elementary Particle Physics (06 hrs) Elementary Particles and their classification, Fundamental Interactions – gravitational, electromagnetic, strong & weak; Properties of Leptons, Mesons and Baryons

➤ UNIT-V

- A. Nano materials: (07hrs) Origin of Nano materials - Quantum confinement, Size effect, Surface to volume ratio, Classification of nano materials - (0D, 1D, 2D); Nano wires, Fullerene, CNT, Graphene (Mention of structures and properties), Distinct properties of nano materials (Mention-mechanical, optical, electrical, and magnetic properties); Applications of nano materials: (Fuel cells, Phosphors for HD TV, Sensors)
- B. Superconductivity: (05 hrs) Introduction – Properties of superconductors - critical temperature (T_c), critical magnetic field (T_m), Meissner effect, Isotope

effect, Type I and Type II superconductors, BCS theory (Qualitative), High T_c superconductors, Applications of superconductors.

TEXT BOOKS

- 1. BSc Physics, Vol.4, Telugu Akademy, Hyderabad
- 2. Modern Physics by R. Murugesan and Kiruthiga Siva Prasath. S. Chand & Co.
- 3. Nano materials, A K Bandopadhyay, New Age International Pvt Ltd (2007)

REFERENCE BOOKS:

- 1. Atomic Physics by J.B. Rajam; S. Chand & Co.,
 - 2. Concepts of Modern Physics by Arthur Beiser. Tata McGraw-Hill Edition.
 - 3. Nuclear Physics, D.C. Tayal, Himalaya Publishing House.
 - 4. S.K. Kulkarni, Nanotechnology: Principles & Practices (Capital Publ.Co.)
 - 5. K. K. Chattopadhyay & A.N. Banerjee, Introd.to Nanoscience and Technology (PHI Learning Priv. Limited).
5. Textbook of Nanoscience and Nanotechnology, BS Murthy, P Shankar, Baldev Raj, BB Rath and J Murday-Universities Press-IIM

PAPER TITLE: Modern Physics

Paper- VI Semester – V Maximum marks: 70 marks Duration: 3Hours
Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1 (25 Marks)	T	2
Unit-2 (20 Marks)	T+P	1
Unit-3 (25Marks)	T	2
Unit-4 (20 Marks)	T+T	1
Unit-5 (30 Marks)	T+P	2

Note: **T** means one theory question, **P** means one problem

- **Section-A** contains **6** short questions and **2** problems out of these **8** questions, the student has to answer any **4**, each question carries

5 marks.

- **Section – B** contains 8 essay questions; the student has to answer any 5 questions. Each question carries 10 marks.

The Question papers setters are requested to cover all the topics in the syllabus as per the weightage given by us.

SEMESTER – V	COURSE CODE : PHY-502
PAPER TITLE : Modern Physics (<u>Model Paper</u>)	

Duration : 3Hours

Maximum marks : 70

Pass marks : 28 marks

III B.Sc. Physics – V Semester – Paper –VI (2020 – 2021)

Modern Physics

Paper Code : PHY 502C

SECTION-A

Answer any FOUR questions

(4x5=20M)

1. Write the Draw backs of Bohr's atomic model.
2. Explain deBroglie concept of matter waves.
3. Explain Geiger-Nuttal law.
4. Write a note on liquid drop model.
5. Explain Meissner effect in super conductivity.
6. State postulates of Quantum Mechanics.
7. In a crystal lattice plane cuts intercepts $2a$, $3b$ and $6c$ along the three axes where a, b and c are primitive vectors of the unit cell. Determine the miller indices of the given plane.
8. If the uncertainty in position of an electron is $4 \times 10^{-10} \text{m}$ and uncertainty in its momentum is $1.65 \times 10^{-24} \text{kg m/sec}$.

SECTION-B

Answer any FIVE questions :

(5x10=50M)

9. Describe Stern and Gerlach experiment and discuss the importance of the results obtained

10. What is Raman Effect? Write the Experimental setup to study Raman Effect.
11. Describe Davisson and Germer Experiment on electron diffraction. Discuss the results of the Experiment.
12. Derive Time independent Schrodinger wave equation.
13. Calculate the energy of a particle in one dimensional box using Schrodinger equation.
14. Mention the Basic Properties of Nucleus with reference to Size, Charge, Mass, Nuclear spin and Electric Quadra pole Moment.
15. Describe X-Ray diffraction by Laue's method.
16. Explain Type-I and Type-II Superconductors.



- LIBRARY ACTIVITY Student visit library to refer and gather information regarding seminar topics and assignments.
- Course Delivery method: Face-to-face / Blended
- Course has focus on: Foundation & Employability
- Course has focus on: Employability Websites of Interest:
- Co-curricular Activities: 1. Assignments
- 2. Student seminars
- 3. quiz

DEPARTMENT OF PHYSICS
**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

(AUTONOMOUS), VUYYURU – 521 165

III B.Sc. Physics – VI Semester – Paper –VII (2021-2022)

Elective VII (A):

Course Code: PHY – 601GE

SEMISTER-VI

credits - 3

4 hrs/week

ELECTIVE PAPER –VII-A: ANALOG AND DIGITAL ELECTRONICS

UNIT- I (14 hours)

Total Lectures: 60 hours

1. FET Construction ,Working ,Characteristics and uses; MOSEFT-enhancement MOSEFT,Depletion MOSEFT, Construction and Working, drain Characteristics of MOSEFT, applications of MOSEFT.
2. Photo electric devices: structure and operation, Characteristics and applications of LED and LCD.

UNIT- II (10hours)

3. Operational amplifier: Characteristics of ideal and practical OP-amp (IC-741),Basic differential OP-amp supply voltage, IC identification, internal blocks of OP-amp, its parameter off set voltages and currents, CMRR, slew rate, Concept of Virtual ground.

UNIT- III (10hours)

4. Applications of OP-amp: OP-amp as voltage amplifier, inverting amplifier, Non- inverting amplifier, Voltage follower, summing amplifier, difference amplifier, comparator, Integrator, Differentiator.

UNIT- IV (14hours)

5. Data processing circuits: Multiplexers, De –Multiplexers, encoders, decoders, Characteristics

6.For Digital IC's –RTL, DTL,TTL, CMOS (NAND&NOR Gates).

UNIT- V (12hours)

1. Sequential digital circuits: Flip-flops, RS, clocked SR, JK, D, T, Master-Slave Flip-flops .
2. Counters: Asynchronous counters-modulo 4counter-modulo 16 ripple counter, Decade counter, Synchronous counter.

REFERENCE BOOKS :

1. Digital Electronics by G.K.Kharate Oxford University Press.
2. Unified Electronics by Agarwal and Agarwal.
3. OP-Amp and Linear ICs by Ramakanth A Gayekward, 4th edition PHI
4. Digital Principles and Applications by Malvino and Leach, TMH, 1996, 4th edition.
5. Digital Circuit design by Moris Mano, PHI.
6. Switching theory and Logic design by A.Anand kumar, PHI
7. Operations amplifier by S.V.Subramanyam.

The Guidelines to be followed by the question paper setters in Physics for the VI Semester - end exams

PAPER TITLE: (ELECTIVE PAPER –VII-A): ANALOG AND DIGITAL ELECTRONICS

Paper- VII-A Semester – VI Maximum marks: 70 marks
Duration: 3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1 (24 Marks)	T	2
Unit-2 (18 Marks)	T+P	1
Unit-3 (28Marks)	T+P	2
Unit-4 (18Marks)	T+T	1
Unit-5 (24Marks)	T	2

Note: T means one theory question, P means one problem

- **Section-A** contains **6** short questions and **2** problems out of these **8** questions, the student has to answer any **5**, each question carries **4** marks.
- **Section – B** contains **8** essay questions, the student has to answer any **5** questions. Each question carries **10** marks.

The Question papers setters are requested to cover all the topics in the syllabus as per the weightage given by us.

SEMESTER – V	COURSE CODE : PHY-601 GE
PAPER TITLE : ELECTIVE PAPER –VII-A: ANALOG AND DIGITAL ELECTRONICS	

Duration : 3Hours Maximum marks : 70 Pass marks : 28 marks

Model paper –VII(A) Elective (Electronics)

Semester -VI

Elective Paper –VII-(A): Analog and Digital Electronics

SECTION-A

Time:3hr

Max.marks:70

Answer any five of the following questions:

5x4=20M

1. Discuss the advantages of FET over BJT.
2. Explain the concept of Virtual Ground.
3. Describe the concept of OP-amp Summing amplifier.
4. The summing amplifier as $R_o=10K$, $R_1=10K$, $R_2=5K$, $R_3=6K$. If $V_1=6V$, $V_2= -3V$, $V_3= -0.8V$. Calculate V_0 ?
5. Explain the Working of Demultiplexer with circuit diagram.
6. Explain the working of TTL logic.
7. Explain the working of RS Flip flop .Write its Truth Table.
8. Find the gain of inverting amplifier with given data. $R_1= 5000\Omega$, $R_f= 60 K\Omega$.

SECTION-B

Answer any five of the following questions:

10x5=50M

9. Explain the construction , Working and V-I Characteristics of JFET.
10. Describe Construction and Working Of LED. Mention its application.
11. What are the Characteristics of an ideal OP-amp .Draw the block diagram of OP-amp. Define the term CMRR and Slew rate.
12. Derive the Expression per Closed loop Gain of an inverting Amplifier. Explain how OP-amp acts as an Integrator.
- 13.Explain the working of Integrator, Differentiator.
14. What is a Multiplexer? Explain its Working and Analogy.
15. Describe the Working of Master Slave JK Flip flop. Give its Truth Table.
16. Explain Asynchronous counter and Synchronous counter.

**ELECTIVE PAPER –VII PRACTICAL: ANALOG AND DIGITAL
ELECTRONICS**

credits – 2

2 Hours per week

Minimum of 6 experiments to be done and recorded

1. Characteristics of FET
2. Characteristics of MOSEFT
3. Characteristics of LDR
4. Characteristics of OP-amp.(IC-741)
5. OP-amp as amplifier/inverting amplifier
6. OP-amp as integrator/differentiator
7. OP-amp as summing amplifier /difference amplifier
8. Master-Slave Flip-flop
9. JK Flip-flop

DEPARTMENT OF PHYSICS
**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

(AUTONOMOUS), VUYURU – 521 165

III B.Sc. Physics – VI Semester – Paper –VIII (2020-21)

SEMISTER-VI Course Code: PHY -602 CE

credits - 3

4 hrs/week

CLUSTER ELECTIVES VIII-A

**PAPER-VIII-A-1: INTRODUCTION TO MICROPROCESSOR AND
MICROCONTROLLER**

UNIT- I (10hours)

MICROPROCESSOR:

General architecture of microprocessor, architecture of 8085 microprocessor, 8085 pin diagram, Concept of data bus, address bus, and control bus, 8085 programming instruction classification.

UNIT-II: (10hours)

8085 Interfacing Memory

Introduction-Memory structure and its requirements-basic concepts in memory interfacing. Address Decoding-Interfacing circuit. Port-mapped I/O or Direct I/O interface (8-bit Addressing)-Memory Indirect I/O mapped Interfaces (16-bit Addressing)-Port mapped versus Memory mapped I/O. I/O Device Interfacing.

UNIT-III (15hours)

8085 Microprocessor Applications

Introduction-Programmed data transfer scheme. Direct Memory Access (DMA) –Types. 8255A PPI-Block diagram. 8259A PIC-Pin diagram and functional description. 8257 Programmable DMA controller-Block diagram and Pin description.

UNIT-IV: (13hours)

8051 Architecture-I:

Types of microcontrollers- microcontroller architecture, CISC, RISC, operation of microcontroller, basic building blocks of microcontroller, comparison of microcontroller and microprocessor- block diagram of 8051-I/o pins and ports.

Microcontroller Resources.

UNIT-V: (12hours)

8051 Architecture-II:

8051 Flag bits and PSW register and DPTR register- Memory Organization-Special function registers- PSW register-Counters and Timers-Serial I/O-8051 Microcontroller Interrupts.

REFERENCE BOOKS:

1. Unified Electronics – VI(A), Micro controllers and applications
2. THE 8051 micro controller and embedded systems using assembly and C, M.A. Mazidi, J.G.Mazidi and R.D.McKinlay second Ed.,2007 Pearson education India.
3. Unified Electronics – V(A),Microprocessor (Intel 8085)
4. Micro controllers in practice, I susena and Mitescu, 2005, Springer.

The Guidelines to be followed by the question paper setters in Physics for the VI Semester - end exams

CLUSTER ELECTIVES VIII-A

PAPER-VIII-A-1: INTRODUCTION TO MICROPROCESSOR AND MICROCONTROLLER

Paper- VIII-A-1 Semester – VI Maximum marks:70 Duration: 3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1 (28 Marks)	T+T	2
Unit-2 (14Marks)	T	1
Unit-3 (28Marks)	T+T	2
Unit-4 (24Marks)	T	2
Unit-5 (18 Marks)	T+T	1

Note: T means one theory question.

- **Section-A** contains **8** short questions, out of these **8** questions, the student has to answer any **5**, each question carries **4** marks.
- **Section – B** contains **8** essay questions, the student has to answer any **5** questions. Each question carries **10** marks.

The Question papers setters are requested to cover all the topics in the syllabus as per the weightage given by us.

SEMESTER – VI	COURSE CODE : PHY-602 CE
PAPER TITLE : CLUSTER ELECTIVES VIII-A	
PAPER-VIII-A-1: INTRODUCTION TO MICROPROCESSOR AND MICROCONTROLLER	

Duration : 3Hours

Maximum marks : 70

Pass marks : 28 marks

Model Paper- Sem VI

III B.Sc - PHYSICS (cluster) – VI SEMESTER

INTRODUCTION TO MICROPROCESSOR AND MICROCONTROLLERS

PHY- 602 CE

Max marks : 70

SECTION-A

Answer any FIVE of the following questions :

(5x4=20M)

- 1) Define data bus and address bus.
- 2) Define Address Decoding.
- 3) Write a short note on asynchronous data transfer scheme.
- 4) What is direct access memory?
- 5) Write about CISC.
- 6) Write about operation of microcontroller.
- 7) Write about program memory.
- 8) Write about memory expansion.

SECTION – B

Answer any FIVE of the following questions :

(5x10 = 50 M)

- 9) Describe the general architecture of Microprocessor.
- 10) Draw the 8085 Microprocessor pin diagram and explain about different pins.
- 11) Discuss about Direct I/O interface of 8-bit?
- 12) Give the functional description of 8259A.
- 13) Describe the Block diagram of 8255A.
- 14) Draw the pin diagram of 8051 and briefly describe the pins.
- 15) Write the basic building blocks of microcontroller.
- 16) Write short notes on
 - a) R-registers
 - b) Program status word register
 - c) Data Pointer register.

PAPER-VIII-A-1: Practical: INTRODUCTION TO MICROPROCESSOR AND MICROCONTROLLER credits – 2 2 Hours per week

Minimum of 6 experiments to be done and recorded

1. To find that the given number is prime or not.
2. To find the factorial of a number.
3. Write a program to make the two numbers equal by increasing the smallest number and decreasing the largest number.
4. Use one of the four parts of 8051 for O/P interfaced to eight LED's simulate binary counter (8 bit) on LED's.
5. Program to glow first four LED then next four using TIMER application.
6. Program to rotate the contents of the accumulator first right and then left.
7. Program to run a count down from 9-0 in the 7 segment LED display.
8. To interface 7 segment LED display with 8051 Microcontroller and display 'HELP' in the 7 segment LED display.
9. To toggle '1234' as '1324' in the 7 segment LED.
10. Interface stepper motor with 8051 and write a Program to move the motor through a given angle in clock wise or counter clock wise direction.
11. Application of Embedded system: Temperature measurement, some information on LCD display, interfacing a key board.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

III B.Sc. 6th Semester (2020-21)

COURSE CODE : PHY-603 CE credits - 3

Cluster Elective Paper – VIII- A-2 : Computational Methods and Programming

No. of Hours per week : 04

Total Lectures : 60

UNIT – I (12 hrs)

1. Fundamentals of C language: C character set – Identifiers and keywords – structure of c program. Constants- variables- Data types- Declarations of variables – Declaration of storage class – Defining symbolic constants – Assignment statement.
2. Operators : Arithmetic operators- Relational operators – Logic operators – Assignment operators – Increment and decrement operators – Conditional operators.

UNIT –II (12 hrs)

3. Expressions and I/O statements : Arithmetic expressions – precedence of arithmetic operators – Type converters in expressions – Mathematical (Library) functions – Data input and output – The getchar and putchar functions – Scanf – Printf simple programs.
4. Control statements: IF – ELSE statements – Switch statements – The operators – GO TO- while, DO-While, FOR statements – BREAK and CONTINUE statements.

UNIT – III (12 hrs)

5. Arrays: One dimensional and two dimensional arrays – Initialization –Type declaration – Inputting and outputting of data for arrays – Programs of matrices addition, subtraction and multiplication.
6. User defined functions: The form of C functions – Return values and their types – Calling a function – Category of functions. Nesting of functions. Recursion. ANSI C functions – Function declaration. Scope and life of variables in functions.

UNIT – IV (12 hrs)

7. Linear and Non-Linear equations: Solution of Algebra and transcendental equations – Bisection, Falsi position and Newton – Rhapsom methods – Basic principles – Formulae – algorithms.
8. Simultaneous equations: Solutions of simultaneous linear equations – Guass elimination and Guass seidel iterative methods – Basic principles – Formulae- Algorithms.

UNIT – V (12 hrs)

- Interpolations : Concept of linear interpolation – Finite differences – Newton's and Lagrange's interpolation formulae – principles and Algorithms.
9. Numerical differentiation and integration : Numerical differentiation –

algorithm for evaluation of first order derivatives using formulae based on Taylor's series – Numerical integration – Trapezodal and Simpson's 1/3 rule – Algorithms.

REFERENCE BOOKS :

- 1.Introductory methods of Numerical Analysis : SASTRY
2. Numerical Methods : Balaguruswamy
3. Programming in ANSI C (TMH) : Balaguruswamy
- 4.Programming with ‘C’ – Byron Gottafried, Tata Mc Graw Hill

The Guidelines to be followed by the question paper setters in Physics for the VI Semester - end exams

Cluster Elective Paper – **VIII- A-2** : Computational Methods and Programming

Paper- VIII-A-2 Semester – VI Maximum marks: 70 marks Duration: 3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1 (28Marks)	T+T	2
Unit-2 (28Marks)	T+T	2
Unit-3 (28Marks)	T+T	2
Unit-4 (14Marks)	T	1
Unit-5 (14 Marks)	T	1

Note: T means one theory question.

- **Section-A** contains **8** short questions, out of these **8** questions, the student has to answer any **5**, each question carries **4** marks.
- **Section – B** contains **8** essay questions, the student has to answer any **5** questions. Each question carries **10** marks.

The Question papers setters are requested to cover all the topics in the syllabus as per the weightage given by us.

SEMESTER – VI

COURSE CODE : PHY-603 CE

Duration : 3Hours

Maximum marks : 70

Pass marks : 28 marks

Model Paper :Sem VI
III B.Sc - PHYSICS (cluster) – VI Semester

COMPUTATIONAL METHODS AND PROGRAMMING

Paper Code : PHY 603 CE

Max.Marks : 70

SECTION-A

Answer any FIVE of the following questions : (5x4=20M)

- 1) Write different data types in C with Examples.
- 2) Structure of C program with Examples.
- 3) Explain about Puchar & getchar.
- 4) Explain about IF-Else Statement.
- 5) Define 2D array in C with example
- 6) Define Function with Examples.
- 7) Write the false position algorithm
- 8) Describe the Trapezoidal rule

SECTION-B

Answer any FIVE of the following questions : (5x10=50M)

- 9) Explain about storage classes in C
- 10) Explain different operators available in C
- 11) Explain about iterative statements in C.
- 12) Explain about Print f() & Scan f() function with examples.
- 13) Write a program for matrix multiplication
- 14) Explain about Recursion with example programme.
- 15) Explain about nesting of functions with example
- 16) Write the algorithm and flowchart of Newton Raphson formula.

Computational Methods and Programming

2 hrs/ week

credits - 2

Minimum of 6 experiments to be done and recorded

1. Write a program that reads an alphabet from keyboard and display in the reverse order.
2. Write a program to read and display multiplication of tablets.
3. Write a program for converting centigrade to Fahrenheit temperature and Fahrenheit temperature centigrade.
4. Write a program to find the largest element in an array.
5. Write a program based on percentage calculation , the grade by entering the subject marks . (If percentage > 60 , I class, if percentage between 50 & 60 II class, if percentage between 35 & 50 III class, if percentage below 35 fail)
6. Write a program for generation of even and odd numbers up to 100 using while, do – while and for loop.
7. Write a program to solve the quadratic equation using Bisection method.
8. Write a program for integration of function using Trapezoidal rule.
9. Write a program for solving the differential equation using Simpson's $1/3$ rule.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

(AUTONOMOUS) , VUYYURU – 521 165

III B.Sc. 6th Semester (W.E.F 2020-21)

COURSE CODE : PHY-604 CE

Cluster Elective Paper – **VIII-A-3: Electronic Instrumentation**

No.of Hours per week: 04

Total Lectures: 60

UNIT -1 (12 Hours)

1. Basic of measurements: Instruments accuracy, precision, sensitivity- errors in measurements- Basic meter movement-PMMC (Permanent Magnetic Moving Coil).
2. Measurement of dc current: DC ammeter- multi range ammeters-the ARYTON Shunt or universal Shunt.
3. Measurement of dc voltage: DC Voltmeter – Multi Range Voltmeter- Voltmeter sensitivity.

UNIT – II (10 HOURS)

4. **Analog Multimeter:** Multimeter - as dc ammeter-as dc voltmeter-as ac voltmeter- as ohm meter-Multimeter operating instructions.
5. Digital instruments: Principle and working of digital instruments, characteristics of a digital meter, working principle of digital voltmeter.

UNIT –III (14 HOURS)

6. CRO: Block diagram of basic CRO, construction of CRT, electron gun, electrostatic focusing and acceleration (only explanation), time base operation, synchronization, front panel controls, specifications of CRO and their significance.
7. Applications CRO: Measurement of voltage- dc and ac, frequency, time period. Special features of dual trace CRO. Digital storage oscilloscope: block diagram and principle of working.

UNIT – IV (12 HOURS)

8. Diode as Rectifier – Half wave rectifier, Full wave rectifier – construction, working and efficiency. (no derivation)
9. Feedback in Electronic circuits – Positive and Negative feedback, expressions for gains, advantages of negative feedback, Oscillators, Barkhausen criteria, RC phase shift oscillator (no derivation)

UNIT – V (12 HOURS).

10. Signal Generators: Block diagram, working and specifications of low frequency signal generators, pulse generator, function generator .
11. Bridges: Measurement of resistance by Wheat stone’s Bridge- Sensitivity of Wheat stone’s Bridge- Applications of Wheat stone’s Bridge-Limitations of Wheat stone’s Bridge.

REFERENCE BOOKS :

1. A text book in electrical technology by B.L. Thereja (S.Chand & CO)
2. Digital circuits and systems by venugopal 2011 (Tata Mcgraw Hill)
3. Digital Electronics by SubrathaGoshal 2012 (Cengage Learning)
4. Electronic Instrumentation by HS Kalsi (Tata Mcgraw Hill)

The Guidelines to be followed by the question paper setters in Physics for the VI Semester - end exams

Cluster Elective Paper – **VIII-A-3: Electronic Instrumentation**

Paper- VIII-A-3 Semester – VI Maximum marks: 70 marks Duration: 3Hours

Weightage for the question paper

Syllabus	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1 (28Marks)	T+T	2
Unit-2 (18 Marks)	T+T	1
Unit-3 (28Marks)	T+T	2
Unit-4 (14 Marks)	T	1
Unit-5 (24 Marks)	T	2

Note: T means one theory question

- **Section-A** contains **8** short questions out of these **8** questions, the student has to answer any **5**, each question carries 4 marks.
- **Section – B** contains **8** essay questions, the student has to answer any 5 questions. Each question carries **10** marks.

The Question papers setters are requested to cover all the topics in the syllabus as per the weightage given by us.

Duration : 3Hours

Maximum marks : 70

Pass marks : 28 marks

Model Paper :Sem VI
III B.Sc - PHYSICS (CLUSTER) – VI Semester
ELECTRONIC INSTRUMENTATION

Paper Code : PHY 604 CE

Max.Marks:70

SECTION-A

Answer any FIVE of the following questions : (5x4=25M)

- 1) Explain the following terms (a) precession (b) sensitivity.
- 2) Explain Multirange d.c voltmeter with a circuit diagram.
- 3) Write briefly the specifications of an electronic voltmeter.
- 4) Explain the function of various parts of an electronic gun.
- 5) Explain the time base operation of CRO.
- 6) Write the characteristics of a digital meter.
- 7) Explain the working of function generator.
- 8) What are the Limitations of Wheat stone's Bridge

SECTION-B

Answer any FIVE of the following questions : (5x10=50M)

- 9) Explain different types of errors that occur in measurements.
- 10) Explain the principles of voltage measurement with a block diagram.
- 11) Draw the basic block diagram of cathode ray oscilloscope and explain the functions of each block.
- 12) Explain with a block diagram the principle and working of digital storage oscilloscope .
- 13) Explain the working of a Multimeter as micro ammeter- as dc ammeter-as dc voltmeter-as ac voltmeter- as ohm meter
- 14) Explain the principle and working of digital instruments .
- 15) Explain the operation of a signal generator with the help of a suitable block diagram .
- 16) Explain the principle and working of Wheat stone's bridge .

Cluster Elective Paper – VIII-A-3-Practical: Electronic Instrumentation
2hrs/Week.

Paper Title: Project Work

Paper code: PHY-604 CE

The students have chosen Physics as cluster elective and “RECTIFIERS AND FILTER CIRCUITS BASED PROJECTS” for this Academic year.

Scheme of valuation

1. External : 25 marks given by the examiner (viva)
2. Internal : 25 marks
 - a) Written viva :10 marks
 - b) Submission of the Project book : 15 marksTotal = 50 marks

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2022-2023



DEPARTMENT OF POLITICAL SCIENCE

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

29-03-2023



**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF
ARTS AND SCIENCE::VUYYURU**

(An Autonomous College in the Jurisdiction of Krishna University)

Accredited at the level 'A' by the NAAC

Sponsors: Siddhartha Academy of General & Technical Education

DEPARTMENT OF POLITICAL SCIENCE

Minutes of the meeting of Board of Studies in Political Science of A.G. &S.G Siddhartha Degree College of Arts & Science, Vuyyuru held at 10:00 A.M On 29-03-2023 in the Department of Political Science

Members Present		
Name of the Member	Role	Signature
Smt. Ch. Sandhya Rani, HOD, Dept. of Political Science, A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru-521165. Mobile: 9949402837 E-Mail: narrasandhyarani@gmail.com	Chairman	
Sri. M. Padhmanabham, Assistant Professor, Dept of Political Science, SRR & CVR Govt Degree College ,Vijayawada. Mobile: 9490772836	University Nominee, Krishna University	
Smt.G.Padmaja, Head, Department of Political Science, S.D.M. Siddhartha MahilaKalasala, Vijayawada. Mobile: 9441883417	Academic Council Nominee	
Dr.G.Veerraju, H.O.D Professor, Dept of Political Science, Andhra university Visakhapatnam Mobile: 9440476494	Academic Council Nominee	
Sri. R.V.Siva Rao, Lecturer Dept. of Political Science, A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru-521165. Mobile:9391380250	Academic Council Member	

AGENDA

1. To Review and recommend any changes in the syllabi , Model Question Papers and Guidelines of 2nd and 4th Semesters of I and II Year B.A Political Science Papers for the Academic Year 2022-2023.
2. To Discuss and recommend the pattern of internal Assessment , Guidelines and Model Question Papers in 2nd and 4th Semesters of B.A Degree Political Science papers for the Academic Year 2022-2023.
3. To Recommend the guidelines to be followed by the Question Paper Setters in Political Science for the 2nd, 4th and 6th Semester-end exams.
4. To Recommend the teaching and evaluation methods to be followed under the Autonomous Status.
5. To Propose the panel of Question paper setters and Examiners.

⁶Any other matter.

RESOLUTIONS:

- 1) It is resolved to continue the same syllabi under CBC System approved by the Academic council of 2020- 2021 for I and II B,A Papers in the II and IV Semesters of I and II B.A classes.

The APSHE has introduced Two New Subjects and New syllabus in the IV Semester of II Degree B.A from the Academic year 2021 – 2022.

- 2) Out of maximum 100 marks in each paper 30 marks shall be allocated for Internal Assessments in the II Semester.
 - A) To implement 30 marks for internal assessment and 70 marks for External Assessment for the academic year 2022-2023.
 - B) Out of these 30 marks, 20 marks are allocated for internal tests, 5 marks are allocated for assignment for II Semester. The two tests will be conducted and average of these two tests shall be deemed as the marks obtained by a student, and remaining 5 marks are allocated for attendance.
 - C) **Out of maximum 100 marks 25 Marks shall be allocated for Internal Assessments regarding the IV Semester for the Academic year 2022 – 2023.**
 - D) **To implement 25 Marks for Internal Assessments and 75 Marks for External Assessment regarding the IV Semester from the Academic year 2022 – 2023.**
 - E) **Out of these 25 marks, 15 Marks are allocated for internal tests, 5 marks are Allocated for assignment & 5 marks are Allocated for Activity Regarding the IV Semester from the Academic year 2022 – 2023.**
- 3) Discussed and recommended the syllabi, Model question papers under CBC system and guidelines to be followed by the question paper setters of II and IV semesters of B.A Classes for the Academic year 2022-2023.
- 4) To follow the teaching and evaluation methods, it is also resolved to use various other methods like Group discussions, Quiz, Organizing Seminars, Guest Lectures and Workshops to upgrade the knowledge of the students and impart new skills of learning as frequently as possible.

Ch. Sandhya Rani
Chairman

PROGRAMME: BA

YEA R	COD E	SEM	Name of course <i>(each course consists 5 units with each unit having 12 hours of class work)</i>	Hours/wee k	Credits	Marks	
						Internal	Sem end
I		II	BASIC ORGANS OF THE GOVERNMENT (NEW)	5	4	30	70
II		IV	INDIAN POLITICAL PROCESS	5	4	25	75
		IV	WESTERN POLITICAL THOUGHT	5	4	25	75

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2022-2023)VUYYURU**

BASIC ORGANS OF THE GOVERNMENT (NEW)

Programme : B.A.(T.M)

Semester – II

Year: I year(2020-2021)

Course Code : (POLT21)

Credits :4

Hours: 60

Course Context and Overview:

The aim of studying this course is to know that the constitution of India is the supreme law of India. The document lays down the framework demarcating fundamental political code, structure, procedures, powers and duties of government institutions and set out fundamental rights, directive principles and the duties of citizens.

COURSE TITLE: BASIC ORGANS OF THE GOVERNMENT

Course Outcomes: At the end of the course the student will be able to:

1. To demonstrate and describe the salient features of the constitution of India interpret, integrate the salient and critically analyse the political economy of Indian Constitution.L1-L2
2. To understand the historical growth of the idea of fundamental human rights and create an awareness on directive principles of state policy.L1-L5
- 3.Acquaint themselves with different theories of origin of State.L2
4. To define federation and its features in Indian constitution and how it divides power between union and state governments, legislations, administrative and financial spheres and recommendations of Sarkaria Commission.L1-L2
5. To learn the contents of Indian constitution and how the supreme court and other court functions and develop an awareness foreign and state constitutions.L5

Learning Out comes:On successful completion of the source the students will be able to: Understand the Origin and Evolution of the concept of Constitutionalism and classification of Constitutions. Acquaint themselves with different theories of origin of State.

- Understand and analyse organs and form of Government along with a deep insight into the various agents involved in the political process. Apply the knowledge to analyse and evaluate the existing systems.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS),(2021-2022)VUYYURU**

POLITICAL SCIENCE	POLT21B	2022-2023	B.A(TM)
-------------------	---------	-----------	---------

BASIC ORGANS OF THE GOVERNMENT (NEW SYLLABUS)

SEMESTER-II

No.of Credits:4

60 hours

UNIT-I: CONSTITUTION

1. Meaning, Definition, Origin and Evolution of Constitution. **15 hrs**
2. Classion of the Constitutions - Written and Unwritten, Rigid and Flexible.

UNIT:II : ORGANS OF THE GOVERNMENT

1. Theory of Separation of Powers - B.D. Montesquieu. **15hrs**
2. Legislature - Unicameral and Bicameral - Powers and Functions, EXecutive - Types, Powers and Functions.
3. Judiciary - Powers and Functions.

UNIT- III: FORMS OF GOVERNMENT

1. Unitary and Federal forms of Governments - Merits and Demerits. **10hrs**
2. Parliamentary and Presidential forms of Governments - Merits and Demerits.

UNIT:IV: DEMOCRACY

1. Meaning, Definition, Significance, Theories and Principles of Democracy. **10 hrs**
2. Types of Democracy: Direct and Indirect Democracy - Methods, Merits and - Essential Conditions for Success of Democracy.

UNIT - V: POLITICAL PARTIES, PRESSURE GROUPS AND PUBLIC OPINION 10 hrs

1. Meaning, Definition and Classification of Political Parties: National and Regional - Functions of Political Parties.
2. Pressure Groups (Interest Groups) - Meaning, Definition, Types, Functions and Significance of Public Opinion.

REFERENCE BOOKS:

1. Sukhbir Bhatnagar : Constitutional Law and the Governance
2. A. C. Kapur : Select Constitution
3. R.C. Agarwal : Political Theory
4. Vidyadhar Mahajan : Political Theory(Principles of Pol.Sci.
5. M.R..Biju : Democratic Political Process
6. Peter Ronald de

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2022-2023)VUYYURU**

MODEL QUESTION PAPER (Semester-II)

(An autonomous college in the jurisdiction of Krishna University, A.P., India)
POLITICAL SCIENCE- POLT21B 2022-2023 B.A(E.M)

Title: Basic Organs of Government

Max: Marks:70

MaX.Time:3 Hrs.

**Answer all Questions
(Restrict to a maximum of 2 subdivisions)**

SECTION-A (20 MARKS)

4X5=20M

- | | | | |
|----|---|----|----|
| 1. | (a) Explain the merits of the Unwritten Constitution. | 4M | L1 |
| | Or | | |
| | (b) Write about its sources of Indian Constitution . | 4M | L1 |
| 2. | (a) Explain the Composition of Legislature. | 4M | L1 |
| | Or | | |
| | (b) Checks and Balance Theory . | 4M | L1 |
| 3. | (a) What is the Presidential Government? | 4M | L2 |
| | Or | | |
| | (b) Collective Responsibility. | 4M | L2 |
| 4. | (a) Write about the Principles of democracy. | 4M | L2 |
| | Or | | |
| | (b) Explain the types of Referendum. | 4M | L2 |
| 5. | (a) Explain the Utility of Public Opinion. | 4M | L3 |
| | Or | | |
| | (b) Write a short note on Coalition Government . | 4M | L3 |

ANSWER ALL QUESTIONS

(Restrict to a maximum of 2 subdivisions)

SECTION -B (50 MARKS)

5X10=50M

- | | | | |
|-----|--|-----|----|
| 6. | (a) What is the Origin and Evolution of the Indian Constitution? | 10M | L1 |
| | Or | | |
| | (b) Explain the essential elements of the Indian Constitution . | 10M | L1 |
| 7. | (a) Critically examine the Separation of Power Theory of Montesquieu. | 10M | L1 |
| | Or | | |
| | (b) Discuss about Bicameralism and write its merits and demerits. | 10M | L1 |
| 8. | (a) Explain the meaning, Definition and features of Unitary Government. | 10M | L2 |
| | Or | | |
| | (b) What is the Parliamentary form of Government? Explain the merits and demerits of Parliamentary Government. | 10M | L2 |
| 9. | (a) Explain about the various Direct Democratic Devices. | 10M | L2 |
| | Or | | |
| | (b) What would be the essential conditions for the success of Democracy? | 10M | L2 |
| 10. | (a) Explain the meaning, definition and functions of the Political Party System. | 10M | L3 |
| | Or | | |
| | (b) What are the Pressure Group? Explain the various types of Pressure Groups. | 10M | L3 |

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2021-2022)VUYYURU**

Course-4 : INDIAN POLITICAL PROCESS

IIInd YEAR

IV- SEMESTER

Course outcomes:

CO1: To demonstrate Legislative procedures which ensure the orderly conduct of business in our Parliament and state legislative assemblies in India.

CO2: To understand the election commission and functions.

Co3: To study the local government administration.

Co4: To understand the awareness of financial and government commissions

Co5: To understand the dynamics of Indian political system and awareness of voting importance in the society.

Learning Outcomes:

On successful completion of the course the students will be able to :

·1.Know and understand the federal system of the country and some of the vital contemporary emerging issues.· Evaluate the electoral system of the country and to identify the areas of electoral reforms.

·2.Know the constitutional base and functioning of local governments with special emphasis on 73rd& 74th Constitutional Amendment Acts.

3.Understand the dynamics of Indian politics, challenges faced and gain a sensitive comprehension to the contributing factors.

4.Apply the knowledge and critically comprehend the functioning of some of the regulatory and governance institutions.

5. Propose theoretical outline alternate models

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2022-2023)VUYYURU**

Course-4 : INDIAN POLITICAL PROCESS

Course Code:POLT41

IInd YEAR

IV- SEMESTER

UNIT-I :	FEDERAL PROCESSES
	1. Features of Indian Federal System- Centre-State Relations- Legislative, Administrative and Financial
	2. Emerging Trends in Centre-State Relations-Restructuring Centre-State Relations-Recommendations of Sarkaria Commission, M.M.Punchi Commission. 15hrs
UNIT-II :	ELECTORAL PROCESSES
	1. The Election Commission of India, Powers and Functions.
	2. Issues of Electoral Reforms, Voting Behaviour-Determinants and Problems of Defections. 15hrs
UNIT-III :	GROSSROOT DEMOCRACY-DECENTRALISATION
	1. Panchayat Raj system-Local and Urban Governments-Structure, Powers and Functions.
	2. Democratic Decentralization-Rural Development and Poverty alleviation with reference to 73 rd and 74 th Constitutional Amendment Acts, Challenges and Prospects. 10 hrs
UNIT-IV :	SOCIAL DYNAMICS AND EMERGING CHALLENGES TO INDIAN POLITICAL SYSTEM
	1. Role of Caste, Religion, Language and Regionalism in India.
	2. Politics of Reservation, Criminalization of Politics and Internal threats to Security. 10hrs
UNIT-V :	REGULATORY AND GOVERNANCE INSTITUTIONS
	1. NITI Ayog, Finance Commission, Comptroller and Auditor General of India.
	2. Central Vigilance Commission, Central Information Commission, Lokpal and Lokayukta. 10hrs

REFERENCE BOOKS:

- **D.D.Basu :An Introduction to the Constitution of India**
- **Rajni Kothari : Politics in India, Caste in Indian Politics**
- **PeuGhosh : Indian Government and Politics**
- **Prof.Lalaiah, P.Venkataramana,**

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2022-2023)VUYYURU**

Time: 3 Hours INDIAN POLITICAL PROCESS Max. Marks : 75M

MODEL QUESTION PAPER (Semester-IV)

Time: 3

SECTION –A

Answer any five of the following questions. Each carries FIVE marks : 5X5=25M

1. Explain the features of Federal Government. CO1, L1
2. Discuss the issues of Electoral Reforms. CO2, L5
3. Explain the features of Local Governments. COL2
4. Explain the 73 rd and 74 Constitutional Amendment. CO3, L2,
5. Discuss the Caste role in Indian political system. CO4, L5
6. Explain the Criminalization of Politics and Internal threats to Security. CO4, CO2.
7. Analyse the features of NITI Ayog.CO4, L4
8. Lokpal & Lokayukta. CO4, L2

SECTION –B

Answer the Following : Each carries TEN marks. 5x10=50

9. (a) Discuss the Legislative, Administrative and Financial relations between the Central and State Government. CO1, L5
(or)
(b) Explain the recommendations of Sarkariya Commission and M.M. Punchi commission of Central-State government. CO1, L2
10. (a) Explain the powers and functions of Election Commission. CO2, L2
(or)
(b) Describe the determinants of voting behavior in India. CO2, L5
11. (a) Explain the functions of Urban Government.CO3, L2
(or)
(b) Discuss the basic features of Panchyati Raj in Andhra Pradesh. CO3, L5
12. (a) Explain the the Religion and politics in India. Co4, L2
(or)
(b) Explain the powers and functions of Controller and Auditor General. CO4, L3
13. (a) Write an essay on Central Legislative Council. CO5, L1
(or)
(b) Explain the Criminalization of Politics and Internal threats to security. CO5,
L5

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2022-2023)VUYYURU**

SECOND YEAR FOURTH SEMESTER

Course5: WESTERN POLITICAL THOUGHT CODE: POLT 42

Course outcomes :

CO1: *It helps* students discover the political philosophy that forms the basis of politics in the Western world, to interpret the political philosophies of the Greek, Roman , French, English and German philosophers in historical context as well as relate them to contemporary politics.

CO2: Origin of the knowledge in political thought.

CO3: To understand the political thoughts in medieval period and how it laid foundation to modern.

CO4: To demonstrate how government politics people by democracy and individual people.

CO5: To demonstrate individual freedom, surplus value, materialist. __

Learning outcomes:

On successful completion of the course the students will be able to:

- 1.Understand the fundamental contours classical, western political philosophy, basic features of medieval political thought and shift from medieval to modern era.
- 2.Understand the Social Contract Theory and appreciate its implications on the perception of State in terms of its purposes and role.
- 3.Acquaint with the Liberal and Marxist philosophy and analyze some trends in Western Political Thought.

3. critically analyse the evolution of western political thought.

**A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2022-2023)VUYYURU**

SECOND YEAR FOURTH SEMESTER No.of Credits:460 hours

Course5:WESTERN POLITICAL THOUGHT

UNIT-I	ANCIENT GREEK POLITICAL THOUGHT
	1. Plato-Rule of Philosopher Kings-Theory of Justice-Ideal State and Education
	2. Aristotle-Theory of State-Classification of Governments-Citizenship, Slavery and Theory of Revolutions.
UNIT-II	MEDIEVAL AND MODERN POLITICAL THOUGHT
	1. St. Augustine-Theory of Two Cities.
	2. Niccolo Machiavelli-State and Statecraft.
UNIT-III	CONTRACTUAL POLITICAL THOUGHT
	1. Thomas Hobbes- Social Contract and Absolute Sovereignty.
	2. John Locke- Human Nature, State of Nature, Social Contract, Natural Rights and Limited Government
	3. Jean Jacques Rousseau- Human Nature, State of Nature, Social Contract, General Will and Popular Sovereignty
UNIT-IV	UTILITARIAN POLITICAL THOUGHT
	1. Jermy Bentham-Theory of Utility, Law and Reforms.
	2. J.S.Mill-Theory of Liberty and Representative Government.
UNIT-V	MARXIST POLITICAL THOUGHT
	1. Karl Marx-Dialectical Materialism, Theory of Surplus Value and Class Struggle.
	2. Antonio Gramsci-Hegemony and Civil Society.

REFERENCE BOOKS:

Q.P.Gauba : Western Political Thought

G.H.Sabine : A History of Political Theory E.Baker

Greek Political Theory : Plato and His

**A.G. & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS), (2022-2023)VUYYURU**

Course 5: WESTERN POLITICAL THOUGHT

MODEL QUESTION PAPER (Semester-IV)

Time: 3 Hours

Marks :75 marks

SECTION- A

Course Code :POLT42

(Answer any five questions. Each question carries 5 marks)- 5X5=25

(2 questions should be given from each Unit)

1. Plato views on Philosopher Kings.Co1:
2. Explain Socrates role in Greek philosophy.CO1:
3. Explain Aristotle views on Classification of Governments. CO1,
4. St. Augustine views on 'City State'.CO2,
5. Thomas Hobbes views on Human Nature.CO3,
6. Natural Rights.
7. Write a brief note on the Prison Reforms of Bentham.Co4,
8. Surplus Value.Co5

SECTION B

(Total: 5x10 = 50 Marks)

(Answer all questions. Each question carries 10 marks)

(Two questions should be given with internal choice from each Unit)

- 9 . (a) Critically examine Plato's views in 'Ideal State'.CO1, L5
OR
(b)Examine Aristotle views on Revolutions.CO1, L2
- 10.(a) Explain the St. Augustine theory of Tow Cities. CO2, L2
OR
(b).Critically examine the qualities of a Prince suggested by Machiavelli. CO2, L5
11. (a) Discuss the 'Social Contract Theory ' of Thomas Hobbes. CO3, L5
OR
(b) "Man is born free but everywhere he is found in chains'. Explain. CO3, L2
12. (a) Explain J.S. Mill contribution to the theory of Utilitarianism of Bentham. CO4, L3
OR
(b) Explain Bentham's theory of Pleasure and Pain.CO4, L2
13. (a) Explain the features of Karl Marx Communism. CO5, L2
OR
(b) Write an essay on Antonio Gramsci 'Hegemony Theory. CO5, L2

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF STATISTICS

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

09-04-2022

Minutes of the meeting of BOS in Statistics for B.Sc(MSCs) Degree Courses of AG&SGSiddhartha Degree College of Arts & Science, Vuyyuru, held at 3.00 PM on 09- 04-2022.

N.V. SrinivasaRao

Presiding

Members Present:

- 1) *N.V. Srinivasa Rao*
(N.V.SrinivasaRao) Chairman Head, Department of Mathematics, AG & SG S Degree College.
- 2) *P. Ravi Kumar*
(P. Ravi Kumar) University Nominee Department of Statistics, Pavitra Degree College, Machilipatnam.
- 3) *G. Chakravarthy*
(G. Chakravarthy) Subject Expert Head. Department of Statistics, P. B. Siddhartha College, Vijayawada
- 4) *D. Sunitha*
(D.Sunitha) Member Lecturer in Mathematics AG & SG S Degree College.
- 5) *A. Bhargavi*
(A.Bhargavi) Member Lecturer in Mathematics AG & SG S Degree College.
- 6) *Noor Mohammad*
(Noor Mohammad) Member Lecturer in Mathematics AG & SG S Degree College.
- 7) *K. Rajya Lakshmi*
(K. Rajya Lakshmi) Member Lecturer in Mathematics AG & SG S Degree College.

Agenda of B.O.S Meeting:

1. To discuss and recommend the Syllabi, Model Question Papers and Guidelines to be followed by question paper setters in Statistics for 2ndSemester as per the guidelines and instructions under APSCHE prescribed by Krishna University from the Academic Year 2021-22.
2. Discussed and recommended the teaching and evaluation methods for approval of Academic Council
3. Any other matter.

Resolutions.

1. To introduce new Syllabi, Model Question Papers and Guidelines to be followed by the question paper setters in Statistics of 2ndSemester from the Academic year 2021-22.
2. To recommend the teaching and evaluation methods to be followed under Autonomous status. The maximum marks for IA is 25 and SE is 75. Each IA written examination is of 1 Hr. duration for 15 marks. The tests will be conducted centrally. The average of two such IA is calculated for 15 marks. 5 marks will be allotted basing on Assignment and 5 marks are allotted for activity. There is no minimum passing for IA and there is no provision for improvement in IA. Even though the candidate is absent for two IA exams/obtain zero marks the external marks are considered (if he/ she gets 40 out of 75) and the result shall be declared as 'PASS' from the Academic year 2021-22.
3. Discussed and recommended for organizing seminars, Guest lecturers, Online Examinations and Workshops to upgrade the knowledge of students for Competitive Examinations for the approval of the Academic Council.

A.G. & S.G. Siddhartha Degree College of Arts & Science

Vuyyuru, Krishna District

Department of Statistics

Programme Specific Outcomes (PSOs)

- PSO1 : Apply the concepts, principles and methods of statistics to various fields of study
- PSO2 : Understand the importance and value of statistical principles and convert a problem description into testable research hypotheses
- PSO3 : Select appropriate statistical tools to investigate a research hypothesis.
- PSO4 : Perform data analysis by apply appropriate statistical methodology and interpret result in a variety of settings
- PSO5 : Compute statistical measures using software and programs.

**A. G & S. G Siddhartha Degree College of Arts and Science (Autonomous), Vuyyuru
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)**

NAAC recredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Course Code	STAT21C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2021-22	Year of Offering:	Year of Revision: ----	Percentage of Revision: 0%

Title of the Course : **Probability Distributions and Statistical Methods**

Course Prerequisites: Students required basic knowledge in Calculus, Algebra and Probability.

Course Description: This course helps the students to familiarize students with the ways in which we talk about uncertainty and look at everyday situations in which probability arises. Also this course aims at providing basic knowledge about theoretical distribution models that can suit different phenomena of interest measured as variables in a continuum.

Course Objectives:

- 1) To enable the students to develop basic knowledge in theoretical Probability distributions
- 2) To provide understanding and applying standard continuous probability distribution to different situations.
- 3) To get the knowledge regarding qualitative factors
- 4) To understand the relation between quantitative factors
- 5) To make the estimated values using regression

Learning Outcomes: At the end of the course, the student will

- 1) Acumen to apply standard discrete probability distribution to different situations.
- 2) ability to handle transformed random variables and derive associated distributions.
- 3) The parameters describe an underlying physical setting in such a way that their value affects the distribution of the measured data.

S. No	Programme Outcomes
-------	--------------------

PO1.	Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology
PO2.	Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO3.	Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO4.	Environment and Sustainability: Understand the issues of environmental contexts and sustainable development
PO5.	Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO6:	Specialized Skills / Transferable Skills: Acquisition of communication and soft, analytical and technological skills that aid in enhancing
PO7.	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	Programme Outcomes Mapping
CO 1	Develop the basic knowledge in Probability distribution and uncertainty conditions we apply standard discrete probability distributions to identify the probability values.	PO - 5
CO 2	Obtained the knowledge of applications on standard continuous distributions. Also get the knowledge in respect of usage in day-to-day life.	PO - 5
CO3	Analyse the qualitative data	PO - 6
CO 4	Statistically analyze the strengths of relationship between variables.	PO - 7
CO 5	To outline the vital area of regression models applicable in a wide variety of real time situations	PO - 7

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Theoretical Probability Discrete Distributions Rectangular, Binomial, Poisson, Negative Binomial, Geometric, Hyper Geometric distributions: Definitions, Means, Variances, M.G.F, C.G.F, P.G.F, additive property, limiting cases, memory less property if exists . Simple problems.	12

II	Theoretical Probability Continuous Distributions Rectangular, Normal, Exponential, Gamma, Beta Distributions: Definitions, Means, Variances, M.G.F, C.G.F, P.G.F, additive property, limiting cases, memory less property if exists . Simple problems.	12
III	Theory of Attributes: Notations, Dichotomy classification, class and class frequencies, order of classes and class frequencies. Ultimate class frequencies, relation between class frequencies. Consistency of data - Conditions for consistency of data for 2 and 3 attributes only. Independence of attributes- criterion of independence of two attributes. Association of attributes-Yule's coefficient of association and coefficient of colligation. Relationship between coefficient of association and colligation and simple problems.	12
IV	Correlation: Meaning, Types of Correlation, Measures of Correlation- Scatter diagram, Karl Pearson's Coefficient of Correlation, Rank Correlation coefficient (with and without ties), Bi-variate frequency distribution, correlation coefficient for bi-variate data and simple problems. Multiple and Partial Correlation- Coefficients of multiple and partial correlations, properties of multiple and multiple correlation coefficients, coefficient of multiple determination. simple problems	12
V	Curve fitting Principle of least squares, fitting of straight line, fitting of second degree polynomial or parabola. Fitting of power curve and exponential curves. Regression Analysis: Introduction, Linear Regression- Regression coefficients, properties of regression coefficients, angle between two lines of regression. Standard error of estimate (residual variance), Explained and unexplained variation, coefficient of determination and simple problems	12

Text Book:

Fundamentals of Mathematical Statistics, 12th Edition, Sep 2020, S. C. Gupta and V. K. Kapoor, Sultan Chand & Sons, New Delhi

Reference Books:

1. B.A/B.Sc. Second Year Statistics(2010) , Telugu Akademi, Hyderabad.
2. Mathematical Statistics with Applications, 2009, K.M.Ramachandran and Chris P.Tsokos Academic Press(Elsevier), Haryana .
3. Probability and Statistics, Volume I & II, D. Biswas, New central book Agency (P) Ltd, NewDelhi.
4. An outline of Statistical theory, Volume II,3rd Edition,2010(with corrections) A.M.Goon,M.K. Gupta, B.Dasgupta ,The World Press Pvt.Ltd., Kolakota.
5. Sanjay Arora and Bansi Lal:. New Mathematical Statistics, Satya Prakashan , New Delhi.

Websites of Interest:

<http://onlinestatbook.com/rvls/index.html>

Co-Curricular Activities in the class:

1. Pictionary
2. Case Studies on topics in field of statistics

3. Snap test and Open Book test
4. Architectural – To be build the procedures
5. Extempore – Random concept to students
6. Interactive Sessions
7. Teaching through real world examples

Model Question Paper Structure for SEE

Max.: 75 Marks

STAT21C

Min.Pass : 30 Marks

Model Paper Section A

Answer any FIVE of the following

5 x 5M = 25M

1. In Binomial distribution mean and variance are 4 and 3 respectively.
Find mode of the distribution. (Co – 1, L - 1)
2. Show that in Poisson distribution mean and variance are equal. (Co – 1, L - 6)
3. Write the properties of normal distribution. (Co – 2, L - 4)
4. Obtain the mean and variance of Beta distribution of 2nd kind. (Co – 2, L - 5)
5. Explain the types of correlation. (Co – 4, L - 2)
6. Define class and class frequency of an attribute with examples. (Co – 3, L - 1)
7. Write the properties of regression coefficients. (Co – 5, L - 4)
8. Explain the concept of rank correlation. (Co – 4, L - 2)

Section – B

Answer the following

5 x 10M =50M

9. a) Define Binomial distribution and derive the recurrence relation for central moments. (Co – 1, L - 1)
(OR)
- b) (i) A book contain 43 mistakes in 585 pages. Find the probability that there will be no mistake in randomly selected 10 pages of the book.
(ii) If a Poisson distribution such that $3P(x=1) = 2P(x=3)$. Find $P(2 \leq X \leq 5)$ (Co – 1, L - 1)
10. a) Show that mean, median and mode are equal in Normal distribution. (Co – 2, L - 6)
(OR)
- b) In a distribution exactly normal, 7% of the items are under 35 and 89% are under 63. What are the mean and standard deviation of the distribution. (Co – 2, L - 6)
11. a) Write the criteria for independence of three attributes. Find all the remaining class frequencies for the following set of frequencies. $N= 23713$, $(A) = 1618$, $(B) = 2015$, $(C) = 770$, $(AB) = 587$, $(AC) = 335$, $(BC) = 428$, $(ABC) = 158$ (Co – 3, L - 1)
(OR)
- b) The male population of a particular state is 250lakhs. The number of literate males is 20 lakhs and total number of male criminals is 26000. The number of literate male criminals is 2000. Do you find any association between literacy ad criminality. (Co – 3, L - 1)
12. a) State the Karl Pearson's correlation coefficient and prove that it has between -1 and +1. (Co – 4, L - 5)
(OR)

- b) Obtain the rank correlation coefficient of marks of 12 students in statistics and computer science given below (Co – 4, L - 5)

X	58	64	65	55	44	80	65	75	40	55	64	55
Y	52	48	45	62	45	68	62	82	44	45	74	62

13. a) Derive the regression equation of y on x (Co – 5, L - 3)

(OR)

- b) Fit the power curve of the type $y = ax^b$ to the following data (Co – 5, L - 3)

X	3	5	8	10	12	13
Y	17	41	94	139	191	220

A. G & S. G Siddhartha Degree College of Arts and Science (Autonomous), Vuyyuru
(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Course : Probability Distributions and Statistical Methods Lab

Offered to: B.SC (M.S.Cs.)

Course Code : STAP21C

Course Type: Core (P)

Year of Introduction: 2021-2022

Year of Revision: 2021-22

Percentage of Revision: 0%

Semester: II

Credits: 1

Hours Taught: 30periods

Max.Time: 2 Hours

Course Prerequisites (if any): Nil

S. No	Programme Outcomes
PO1.	Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology
PO2.	Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO3.	Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO4.	Environment and Sustainability: Understand the issues of environmental contexts and sustainable development
PO5.	Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO6:	Specialized Skills / Transferable Skills: Acquisition of communication and soft, analytical and technological skills that aid in enhancing
PO7:	Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Course Outcomes:		
Course Outcome	Upon successful completion of this course, students should have the knowledge and skills to:	Programme Outcomes Mapping
CO 1	To fit a data into various theoretical probability distributions.	PO – 5
CO 2	Apply and Analyze the qualitative data	PO – 6
CO3	Identify the relations between the variables and estimate.	PO - 7

List of Practicals

1. (a) Fitting of Binomial distribution (Direct Method). (CO – 1)
- (b) Fitting of Binomial distribution (Recurrence Method). (CO – 1)
2. (a) Fitting of Poisson distribution (Direct Method). (CO – 1)
- (b) Fitting of Poisson distribution (Recurrence Method). (CO – 1)
3. (a) Fitting of Normal distribution (Areas Method). (CO – 1)
- (b) Fitting of Normal distribution (Ordinates Method). (CO – 1)
4. (a) Computation of Yule’s coefficient of association. (CO – 2)
- (b) Computation of Pearson’s and Tcherprows coefficient of contingency (CO – 2)
5. (a) Computation of correlation coefficient for ungrouped data. (CO – 3)
- (b) Computation of correlation coefficient for grouped data. (CO – 3)
6. (a) Fitting of a straight line by the method of least squares. (CO – 3)
- (b) Fitting of a parabola by the method of least squares. (CO – 3)
7. (a) Fitting of power curve $y = ax^b$ by the method of least squares. (CO – 3)
- (b) Fitting of exponential curves $y = ae^{bx}$ & $y = ab^x$ by the method of least squares. (CO – 3)
8. (a) Construction of regression lines for the ungrouped data. (CO – 3)
- (b) Construction of regression lines for the grouped data. (CO – 3)

Structure of Practical Paper

Total Marks: 50 Marks

- | | | |
|--|----------|---------------------------------------|
| (i) For Continuous Evaluation | : | 10 marks (Internal Evaluation) |
| (ii) For semester end Practical Examination | : | 40 marks (External Evaluation) |

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



**DEPARTMENT OF TELUGU
MINUTES OF BOARD OF STUDIES**

EVEN SEMESTER

06-04-2022

తెలుగు విభాగం పాఠ్య నిర్ణాయక మండలి (బోర్డు ఆఫ్ స్టడీస్) సమావేశం - 13

తేది.06-04-2022 ఉదయం 10 గంటలకు అడుసుమిల్లి గోపాలకృష్ణయ్య చెఱుకు రైతుల సిద్ధార్థ డిగ్రీ కళాశాల ఉయ్యూరు, తెలుగు శాఖలో 2022 - 2023 విద్యా సంవత్సరానికి తెలుగు శాఖ అధ్యక్షురాలు శ్రీమతి ఎమ్.ఎల్.యస్. కుమారి అధ్యక్షతన సమావేశం నిర్వహించటం జరిగినది.

తెలుగు పాఠ్యాంశ నిర్ణాయక మండలి సమావేశానికి చర్చనీయాంశాలు.

1. 2022-2023 విద్యా సంవత్సరంలో మొదటి బి.ఎ., బి.కాం., బి.ఎస్.సి తరగతులకు రెండవ సెమిస్టరుకు సంబంధించిన పాఠ్యాంశాల నిర్ణయం గురించి.
2. అధ్యక్షురాలు అనుమతితో ఇతర అంశాలు ఏమైనా.....

తీర్మానాలు:

తేది.06-04-2022 ఉదయం 10 గంటలకు అడుసుమిల్లి గోపాలకృష్ణయ్య చెఱుకు రైతుల సిద్ధార్థ డిగ్రీ కళాశాల ఉయ్యూరులో 2022 -2023 విద్యా సంవత్సరానికి రెండవ భాషగా తెలుగు పాఠ్యాంశాలు నిర్ణయించిన తరువాత తెలుగు పాఠ్య నిర్ణాయక మండలి (బోర్డు ఆఫ్ స్టడీస్) సభ్యులు ఈ క్రింది తీర్మానాలను ఏకగ్రీవంగా ఆమోదించడమైనది.

1. 2022 -2023 విద్యా సంవత్సరం మొదటి బి.ఎ., బి.కాం., బి.ఎస్.సి తరగతులకి రెండవ సెమిస్టర్ సెలబ్షన్ లో ఉన్న 'తాతకో నూలుపోగు' అనే పాఠాన్ని తీసివేసి దానికి బదులుగా 'కన్యక' అనే పాఠాన్ని చేర్చాలని తీర్మానించడమైనది.
2. 2022-2023 విద్యా సంవత్సరం మొదటి బి.ఎ., బి.కాం., బి.ఎస్.సి రెండవ సెమిస్టర్ ప్రశ్న పత్రం ఎక్స్ టర్నల్ 75 మార్కులకు, ఇంటర్నల్ 25 మార్కులకు ఇవ్వాలని తీర్మానించడమైనది.
3. 2022 -2023 విద్యా సంవత్సరం మొదటి బి.ఎ.,బి.కాం., బి.ఎస్.సి విద్యార్థులకు కనీస పాస్ మార్కులు లేవని తీర్మానించడమైనది.

హాజరైన సభ్యులు:-

1. శ్రీమతి ఎమ్.ఎల్.యస్ కుమారి, M.L.S - Cumari
తెలుగు శాఖ అధ్యక్షురాలు, పాఠ్య నిర్ణాయక మండలి అధ్యక్షులు.

2. శ్రీమతి బి.ఎస్.ఎల్ పద్మశ్రీ,
నామిని, కృష్ణా విశ్వవిద్యాలయం,
తెలుగు అధ్యాపకురాలు,
ఎస్.సి.ఐ.ఎమ్ గవర్నమెంట్ డిగ్రీ కళాశాల,
తణుకు, ప.గో.జి.

B. S. L. Padma Sri

3. డా॥ వై. పూర్ణచంద్ర రావు,
తెలుగు శాఖ అధ్యక్షులు
అ.ప్రో,



పి.బి సిద్ధార్థ కళాశాల,
విజయవాడ - 10

విషయ నిపుణులు (Subject Expert)

4. డా॥ జి. శ్రీనివాస్,
తెలుగు శాఖ అధ్యక్షులు,
ప్రభుత్వ డిగ్రీ కళాశాల,
చింతలపూడి.



విషయ నిపుణులు (Subject Expert)

5. శ్రీమతి ఎమ్.రమాదేవి,
తెలుగు అధ్యాపకురాలు

M. R. Madhavi

6. శ్రీమతి జి.జ్యోతి,
తెలుగు అధ్యాపకురాలు

G. Jyothi

7. కుమారి పి. కాళి విశ్వేశ్వరి, P. K. Kalivishveswari
విద్యార్థి ప్రతినిధి.

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE, VUYYURU – 521 165, Krishna District
(An autonomous college in the jurisdiction of Krishna University, Machilipatnam, A.P India
Accredited at 'A' NACC

Telugu - II
పాఠ్య ప్రణాళిక

యూనిట్ - I

1. ఆధునిక కవిత్వం - పరిచయం
2. కన్యక - గురజాడ వేంకట అప్పారావు
3. కొండవీడు - దువ్వూరి రామిరెడ్డి (కవి కోకిల గ్రంథావళి - ఖండకావ్యాలు - నక్షత్రాల సంపుటి నుండి)
4. మాత్య సంగీతం - అనిసెట్టి సుబ్బారావు (అగ్ని వీణ కవితా సంపుటి నుండి)

యూనిట్ - II

5. తెలుగు కథానిక - పరిచయం
6. భయం / కథ / కాళీపట్నం రామారావు
7. స్వేదం ఖరీదు ? / కథ / - రెంటాల నాగేశ్వరరావు

యూనిట్ - III

8. తెలుగు 'నవల' - పరిచయం
9. రథచక్రాలు / నవల / - మహీధర రామ్మోహనరావు (సంక్షిప్త ఇతివృత్తం మాత్రమే)
10. రథచక్రాలు / సమీక్షా వ్యాసం / - డా. యల్లాప్రగడ మల్లికార్జున రావు

యూనిట్ - IV

11. తెలుగు నాటకం - పరిచయం
12. యక్షగానము / నాటకము / నాటిక / - ఎం.ఎం.వి.ఎస్. హరనాథ రావు
13. అపురూప కళారూపాల విధ్వంసక దృశ్యం 'యక్షగానము' / సమీక్షా వ్యాసం - డా. కందిమళ్ళ సాంబశివరావు

యూనిట్ - V

14. తెలుగు సాహిత్య విమర్శ - పరిచయం
15. విమర్శ - స్వరూప స్వభావాలు, ఉత్తమ విమర్శకుడు - లక్షణాలు

ఆకార గ్రంథాలు / వ్యాసాలు

1. ఆధునిక కవిత్వం - పరిచయం - ప్రో. ఎస్ వి సత్యనారాయణ
2. తెలుగు కథానిక - పరిచయం - ప్రో. రాచపాళేం చంద్రశేఖర్ రెడ్డి
3. తెలుగు నవల - పరిచయం - వల్లంపాటి వెంకటసుబ్బయ్య
4. సాంఘిక నవల - కథన శిల్పం - ప్రో. సి. మృణాళిని
5. తెలుగు నాటకం - పరిచయం - ప్రో. ఎస్ గంగప్ప
6. తెలుగు సాహిత్య విమర్శ - పరిచయం - ప్రో. జి. వి. సుబ్రహ్మణ్యం
7. నూరేళ్ల తెలుగు నాటక రంగం - ప్రో. మొదలి నాగభూషణ శర్మ
8. నాటక శిల్పం - ప్రో. మొదలి నాగభూషణ శర్మ

TELUGU – II

ప్రశ్న పత్రం నిర్మాణ సూచిక:

1. సంక్షిప్త రూప ప్రశ్నలు :

4 X 5 = 20మా

ప్రతి యూనిట్ నుండి తప్పనిసరిగా ఒక ప్రశ్న ఇచ్చి, మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో ఐదింటికి సమాధానాలు వ్రాయమనాలి.

2. వ్యాసరూప ప్రశ్నలు :

5 x 10 = 50మా

ప్రతి యూనిట్ నుండి తప్పనిసరిగా ఒక ప్రశ్న ఇచ్చి, మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో ఐదింటికి సమాధానాలు వ్రాయమనాలి.

మొత్తం 70 మా

AG & SG SIDDHARTH DEGREE COLLEGE OF ARTS & SCIENCES: VUYYURU – 521165.
(An antonymous college in the jurisdiction of Krishna University, machilipatnam)
SEMESTER AND EXAMINATIONS, APRIL 2023

నమూనా ప్రశ్నాపత్రం

Course code: TEL T21A (Telugu II).

Max.Marks 70M

Time: 3 Hrs.

Pass Min : 28M

SECTION – A

- I. ఈ క్రింది వాటిలో ఐదింటికి సంగ్రహ రూప సమాధానాలు వ్రాయండి. 4 x 5 = 20
1. కొండవీడు
 2. కథానికను పరిచయం చేయండి.
 3. 'కన్యక' ఖండికను వివరించండి.
 4. తెలుగు నాటక సాహిత్యాన్ని తెల్పండి.
 5. ఉత్తమ విమర్శకుని లక్షణాలు.
 6. ఆధునిక కవిత్వం - పరిచయం.
 7. కాళీపట్నం రామారావు.
 8. అనిసెట్టి సుబ్బారావు.

SECTION -- B

- II. క్రింది వానిలో ఐదింటికి వ్యాస రూప సమాధానాలు వ్రాయండి. 5 x 10 = 50 మా
1. శ్రీ దువ్వూరి 'కొండవీడు' ఖండికలో ఇచ్చిన సందేశాన్ని తెలపండి.
 2. 'భయం' కథానికలో రచయిత అభిప్రాయాన్ని వివరించండి.
 3. 'రథ చక్రాలు' నవల్లోని ఇతివృత్తాన్ని విశ్లేషించండి.
 4. యక్షగానాన్ని సమీక్షించండి.
 5. విమర్శ స్వరూప స్వభావాన్ని వివరించండి
 6. ఆధునిక కవిత్వ ఆవిర్భావ వికాసాన్ని తెలపండి.
 7. తెలుగు సాహిత్య విమర్శను వివరింపుము.
 8. సాహిత్య ప్రక్రియగా 'నవల' స్థానాన్ని విమర్శించండి.

AG & SG SIDDHARTH DEGREE COLLEGE OF ARTS & SCIENCES: VUYYURU – 521165.
(An antonymous college in the jurisdiction of Krishna University, machilipatnam)
SEMESTER AND EXAMINATIONS, APRIL 2023

నమూనా ప్రశ్నాపత్రం

Course code: TEL T21A (Telugu II).

Max.Marks 70M

Time: 3 Hrs.

Pass Min : 28M

SECTION – A

- I. క్రింది వానిలో నాలుగింటికి సంగ్రహ రూప సమాధానాలు వ్రాయండి. 4 x 5 = 20 మా.
1. ఆధునిక కవిత్వ లక్షణాలను తెలపండి. L.I
(లేదా)
గురజాడ అప్పారావు L.I
2. కొండవీడు. L.I
(లేదా)
అనిసెట్టి సుబ్బారావు. L.I
3. తెలుగు నవల. L.2
(లేదా)
'రథచక్రాలు' లో మరియుమ్మ పాత్ర. L2
4. కథానిక లక్షణాలు తెలపండి. L2
(లేదా)
'భయం' కథలో సొమ్ముల గురువడు పాత్రను వివరించండి. L2
5. యక్షగానం పాఠ్యాంశంలో కేశవవర్మ పాత్రను వ్రాయండి. L3
(లేదా)
విమర్శను నిర్వచించి, ప్రయోజనాలను తెలపండి. L3

SECTION – B

- II. క్రింది వానిలో ఐదింటికి వ్యాస రూప సమాధానాలు వ్రాయండి. 5 x 10 = 50 మా.
6. ఆధునిక కవిత్వం ఆవిర్భావ వికాసాలను వివరించండి. L1
(లేదా)
కన్యక ఇతివృత్తాంతాన్ని తెలియజేయండి. L1
7. అనిసెట్టి మాతృ సంగీతాన్ని వివరించండి. L2
(లేదా)
'భయం' కథను సంగ్రహంగా తెలపండి. L2
8. 'రథచక్రాలు' నవల సారాంశాన్ని రాయండి. L2
(లేదా)
'రథచక్రాలు' నవలను సమీక్షించండి. L2
9. 'యక్షగానం' నాటిక ఇతివృత్తాన్ని వ్రాయండి. L1
(లేదా)
'యక్షగానం' నాటికను సమీక్షించండి. L1
10. విమర్శ భేదాలను వివరించండి. L3
(లేదా)
ఉత్తమ విమర్శకుని లక్షణాలను తెలుపండి. L3

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
VUYYURU-521165, KRISHNA Dt., A.P. (Autonomous)**

**Accredited by NAAC with "A" Grade
2021-2022**



**DEPARTMENT OF ZOOLOGY
MINUTES OF BOARD OF STUDIES
EVEN SEMESTER
01-04-2022**





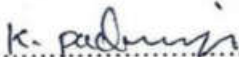

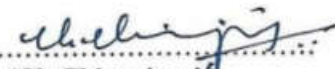


Minutes of the meeting of Board of studies in Zoology for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 2:30 pm on 01.04.2022 in the Department of Zoology.

Smt.D.A. Kiranmayee. ...

Presiding

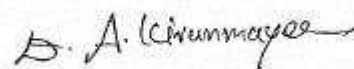
Members Present:

- 1)  Chair person Head, Department of Zoology,
(Smt. D.A.Kiranmayee.) A.G&S.G.S Degree College of
Vuyyuru-521165.
- 2)  University Nominee Bio Sciences & Bio technology
(Smt. Dr.L.Suseela.) Krishna University
Machilipatnam.
- 3)  Academic Council Head,Department of Zoology,
(Sri Dr.M.Viyay kumar.) Nominee SRR & CVR Govt. Degree College,
Vijayawada.
- 4)  Academic Council Head, Department of Zoology,
(Sri Ch. Venkateswaralu.) Nomine P.B. Siddhartha College,
Vijayawada.
- 5)  Member Lecturer in Zoology,
(Smt. K. Padmaja.) A.G&S.G.S Degree College
Vuyyuru-521165.
- 6)  Industrialist Asst. Project Manager,
(B. Appala Naidu.) RGCA
Manikonda.
- 7)  Student Represent P.hd -Research Scholar,
(Ch.Chiranjeevi) Dept.of Botany & Microbiology,
Acharya Nagarjuna University,
Guntur.

ZOOLOGY

Agenda for B.O.S Meeting.

1. To recommend the syllabi (Theory & Practical), Model question paper for II Semester of I B.Sc (B.Z.C) for the academic year 2021 - 2022.
2. To recommend the syllabi (Theory & Practical), Model question paper for IV Semester of II B.Sc (B.Z.C) for the academic year 2021 - 2022.
3. To discuss to the syllabus of Elective & Clusters in VI semesters to be for the academic year 2021-2022.
4. To recommend the syllabi (Theory & Practical), Model question paper for VI Semester of III B.Sc (B.Z.C) for the academic year 2021 - 2022.
5. To recommend the Blue print for the semester end exam for I, IV& VI semester of I,II,III B.Sc (B.Z.C) for the academic year 2021 - 2022.
6. To recommend the conduction of Value Added Course in Sericulture
6. To recommend the teaching and evaluation methods to be followed under Autonomous statues.
7. Any other matter.



CHAIRMAN

ZOOLOGY- RESOLUTIONS

1. It is resolved to continue the revised syllabi (Theory & Practical), model question paper & guide lines to be followed by the question paper setters of Zoology II semester of I B.Sc. (B.Z.C) under Choice Based Credit System (CBCS) to be approved by the Academic Council of 2021 – 2022. The syllabus is revised in all the units of II semester of I B.Sc. (B.Z.C) according to the suggestions of BOS members.

2. It is resolved to implement the Revised syllabi (Theory & Practical) as per the instructions of APSCHE, under Choice Based Credit System (CBCS) for Zoology IV Semester of II B.Sc. (B.Z.C) to be approved by the Academic Council of 2021 –2022. Two Papers are introduced in Sem IV with Titles Animal Physiology, Cellular metabolism and Embryology-Course Code-Zoo 401, and Immunology and Animal Bio-Technology Course-code Zoo-402

3. It is resolved to follow Elective – A (Immunology) in VI Semester from the Academic year 2021-2022 for IIB.Sc. BZC

4. It is resolved to continue the following teaching & evaluation methods for the Academic year 2021-22.

Teaching methods:

Besides the conventional methods of teaching, we use modern technology i.e. Using of OHP and LCD projector to display on U boards etc; for better understanding of concepts.

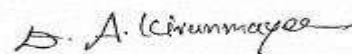
Evaluation of a student is done by the following procedure:

Internal Assessment Examination:

- Out of maximum 100 marks in each paper for II, III B.Sc, 30 marks shall be allocated for internal assessment.
- Out of these 30 marks, 20 marks are allocated for announced tests (i.e . IA-1& IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5 marks are allocated on the basis of candidate's percentage of attendance and remaining 5 marks are allocated for the assignment for II, III B.SC.
- Out of maximum 100 marks in each paper for II B.Sc, 25 marks shall be allocated for internal assessment.
- Out of these 25 marks, 15 marks are allocated for announced tests (i.e . IA-1& IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5 marks allocated on the basis of candidate's percentage of attendance / assignment for II semester. There is no pass minimum for internal assessment for I, II, III B.Sc

Semester – End Examination:

- The maximum mark for II (BZC) semester – End examination shall be 75 marks and duration of the examination shall be 3 hours.
- The maximum mark for II, III B.Sc semester- End examination shall be 70 marks and duration of the examination shall be 3 hours. Even though the candidate is absent for two IA exams / obtain zero marks the external marks are considered (if the candidate gets 40/70) and the result shall be declared as "PASS"
- Semester – End examination shall be conducted in theory papers at the end of every semester, while in practical papers, these examinations are conducted at the end of I, IV, & VI semester for I, II & III B.Sc.
- Discussed and recommended for organizing Seminars, Guest lectures, Work – Shops to upgrade the Knowledge of students, for the approval of the Academic Council.



Chairman

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).**

NAAC recredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **Animal Diversity Biology of Chordates.**

Semester: - II

Course Code	ZOO T21A	Course Delivery Method	Class Room/Blended Mode - Both
Credits	4	CIA Marks	25
No. of Lecture Hours/ Week	4	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2021-22	Year of Offering 2020-2021	Year of Revision – 2021-22	Percentage of Revision: 70%

Course Description:

This course will provide one with a basic and comprehensive understanding of *Pro chordates* and pisces origin, type study, respiratory, circulatory and nervous system etc., Enable the student with depth of topics and helps then to gain appreciation of Amphibia and Reptilia type studies, Aves and mammals type studies. On the other hand, importance of understanding parental care in amphibians, south indian chelonians, birds as glorified reptiles and significance of birds migration and flight adaptations in birds are learnt. A part from these the students will be enhanced with the knowledge of aquatic mammals and dentition in mammals.

Course Objectives:

- To understand the structural organization of animals of prochordates and cyclostomes.
- To understand the type study belonging to Pisces.
- To understand type study belonging to amphibian.
- To understand the type study belonging to reptilia and identification of poisonous snakes.
- To understand the type study belonging to Aves and Aquatic mammals.

Course Outcomes:

CO1	Gain knowledge in the major Chordate groups, describe their salient features, appreciate the diversity and analyze the uniqueness of different groups.
CO 2	Understand the fundamental organization of chordates and evaluate the similarities and differences among the different groups of chordates in the light of evolutionary significance.
CO 3	Comprehend and compare the morphology and anatomy of different classes of chordates and apply the same to their fitness in the ecological habitats
CO 4	Develop the skill of identifying the vertebrate fauna in general and South Indian fauna in specific.
CO 5	Acquaint with the significance of unique mechanisms and behavioral patterns exhibited by different groups of chordates.

Syllabus

Unit	Learning Units	Lecture Hours
I	UNIT I Protochordates to cyclostomes Protochordates Salient features of Urochordata and Cephalochordata 1 hour Structure and life-history of <i>Herdmania</i> , 2 hours Significance of retrogressive metamorphosis. 2 hours General organization of vertebrates 1 hour General characters of cyclostomes 1 hour Comparison of <i>Petromyzon</i> and <i>Myxine</i> 1 hour	8 hrs
II	UNIT II Fishes Type study – <i>Scoliodon</i> - Morphology, respiratory, circulatory, excretory and nervous systems and sense organs. 8hrs Migration in fishes. 1 hour Viviparity in fishes 1 hour Types of scales 1 hour Accessory respiratory organs in fishes 2 hours	13 HOURS
III	UNIT III Amphibia South Indian Amphibians. 1 hour Type study - <i>Rana</i> : Morphology, digestive system, respiratory system, circulatory system, excretory system, nervous system and reproductive system 9 hours Parental care in amphibians 1 hour	11 HOURS
IV	UNIT IV Reptilia South Indian Chelonians. 2 hours Type study – <i>Calotes</i> : Morphology, digestive, respiratory, circulatory, urinogenital and nervous systems. 8hrs Identification of poisonous snakes 1 hour	11 HOURS
V	UNIT V Aves and Mammalia Aves Birds as Glorified Reptiles. 2 hours Type study - Pigeon (<i>Columba livia</i>): Exoskeleton, respiratory, circulatory and excretory systems 7 hours Significance of migration in birds 2 hours Flight adaptations in birds 2 hours Mammalia Aquatic Mammals 2 hours Dentition in Mammals. 2 hours	17 HOURS

Textbooks

1. R.L. Kotpal, *Modern Text Book of Zoology - Invertebrates*.
2. P.S. Dhama and J.K. Dhama *Invertebrate Zoology*.

Suggested Readings

1. E.L. Jordan and P.S. Verma '*Chordate Zoology*' - S. Chand Publications.
2. Mohan P. Arora. '*Chordata – I*, Himalaya Publishing House Pvt. Ltd.
3. Marshall, Parker and Haswell '*Text book of Vertebrates*'. ELBS and McMillan, England.
4. Alfred Sherwood Romer. Thomas S. Pearson '*The Vertebrate Body*, Sixth edition, CBS college Publishing, Saunders College Publishing

Course Delivery method: Face-to-face / Blended.

Course has focused on: Foundation

Websites of Interest:

https://www.youtube.com/watch?v=-mcfPHd_sH8

<https://www.youtube.com/watch?v=U8F9IzuwdzQ><https://www.youtube.com/watch?v=jhXqIy49YEw>

<https://www.youtube.com/watch?v=ywD50XyayFk>

Co-curricular Activities:

- Preparation of charts on Chordate classification (with representative animal photos) and retrogressive metamorphosis
- Thermocol or Clay models of Herdmania and Amphioxus.
- Visit to local fish market and identification of local cartilaginous and bony fishes.
- Maintaining of aquarium by students.
- Thermocol model of fish heart and brain.
- Preparation of slides of scales of fishes.

A.G. &S.G.Siddhartha Degree College of Arts & Science, Vuyuru – 521165, Krishna Dt. A.P. (Autonomous)

Semester II

(Model question paper)

Title of the paper:- ANIMAL DIVERSITY - BIOLOGY OF CHORDATES

Course Code: ZOO T21A

Time: 3 Hrs

Max. Marks: 75M

Draw neat labeled diagrams wherever necessary.

SECTION-A

Answer any Five of the following.

5X5= 25M

1. Describe the structure of *Herdmania*– CO1 L2
2. Enumerate the general characters of Cephalochordata – CO1 L1
3. Explain the different types of Scales in fishes –CO2 L2
4. Enumerate the different South Indian Amphibians – CO3, L4
5. Describe the Female Genital System in *Calotes*– CO4, L2
6. Describe the structure of a Quill feather – CO5, L1
7. Explain and Illustrate the structure of Tooth – CO5, L3
8. Give an account of the lateral line system in *Scoliodon*- CO2, L2

SECTION-B

Answer the following Questions.

5X10=50M

9. (a). What is meant by Retrogressive Metamorphosis? Apply the phenomenon with reference to the development of *Herdmania* – CO1, L3

(Or)

(b). Enumerate the General characters of Cyclostomes – CO1 L3

10. (a). Describe the Respiratory system in *Scoliodon*– CO2, L2

(Or)

(b) Explain the significance of Accessory respiratory organs –CO3, L2

11.(a) Describe Respiratory system in *Rana*– CO3, L2

(Or)

(b). Discuss Parental Care in Amphibians – CO3 L2

12.(a). Explain about the South Indian Chelonians – CO4, L2

(Or)

(b). Describe the Arterial System in *Calotes*- CO4, L2

13.(a) Describe the Respiratory system in Penguin – CO,5 L2

(Or)

(b). Explain about the Aquatic Mammals – CO5, L2

PRACTICAL - II

w.e.f. 2021-2022.

Code: ZOO T21A

Title of the paper: - Animal Diversity Biology of Chordates.

MAX.MARKS: 50.

(2hrs/week)

Course Prerequisites:

Knowledge of vertebrates acquired in Intermediate

Course Description:

This course will provide one with a basic and comprehensive understanding of *Pro chordates* and pices origin, type study, respiratory, circulatory and nervous system etc., Enable the student with depth of topics and helps then to gain appreciation of Amphibia and reptalia type studies, Aves and mammals type studies. On the other hand, importance of understanding parental care in amphibians, south indian chelonians, birds as glorified reptailles and significance of bird's migration and flight adaptations in birds are learnt. A part from these the students will be enhanced with the knowledge of aquatic mammals and dentition in mammals.

LEARNING OUTCOMES:

By the end of the course students will be able to

1. to Understand the general characters and classification from Pisces to Mammalia
2. to Understand the importance of preservation of museum specimens
3. to Identify chordates based on special identifying characters
4. to Understand different organ systems through demo or virtual dissections

COURSE OUTCOMES:

CO1	To identify the systematic position of Protochordata, Cyclostomata and Pisces.
CO2	To identify the systematic position of Amphibians and Reptiles.
CO3	To identify the systematic position of Aves and mammals.
CO4	To Study the Appendicular skeleton of <i>Varanus</i> , <i>Gallus</i> and <i>Oryctolagus</i> .
CO5	To understand the various systems of Fish by Dissecting and process of Mounting

SYLLABUS:

General characters and classification of the following phyla and sub-phyla up to classes with suitable examples: Pisces (up to subclass only), Amphibia (up to orders), Reptilia (up to orders) Aves (up to subclass only) and Mammalia (up to infraclass only).

I. SPECIMENS.

1. Protochordata: Herdmania, Amphioxus.

Slides: Amphioxus T.S through pharynx.

2. Cyclostomata: Petromyzon, Myxine.

3. Pisces: Pristis, Torpedo, Channa, Pleuronectes, Labeo, Catla, Hippocampus, Exocoetus, Echeneis, Clarias, Anguilla.

Slides: Fish scales.

4. Amphibia: Ichthyophis, Amblystoma, Siren, Axolotl larva, Hyla, Rhacophorus.

5. Reptilia: Trionyx, Testudo, Draco, Chamaeleon, Uromastix, Daboia (=Vipera russelli)

Naja, Enhydrina, Bungarus, Crocodilus.

6. Aves: Psittacula, Bubo, Alcedo, Passer, Eudynamis, Corvus

Different types of feathers- quill, contour, filoplume and down.

7. Mammalia: Ornithorhynchus, Didelphys, Pteropus, Funambulus, Manis, Erinaceus.

II. OSTEOLOGY.

Appendicular skeleton of *Varanus*, *Gallus* and *Oryctolagus* - limbs and girdles.

III. DEMONSTRATION OF DISSECTIONS

1. Mounting of fish scales.

2. *Channa*: Digestive system

3. *Scoliodon*: V, VII, IX and X cranial nerves.

Suggested Manuals:

Suggested manuals

1. Practical Zoology – Vertebrata - S.S.Lal

2. A manual of Practical Zoology – Chordata P.S.Verma

Co-curricular Activities:

Preparation of slides of scales of fishes

- Visit to local/nearby river to identify migratory fishes and prepare study notes
- Preparation of Charts on topics by students (Eg: comparative account of vertebrate heart/brain/lungs, identification of snakes etc.)

heart/brain/lungs, identification of snakes etc.)

- Collecting and preparation of Museum specimens with dead frogs/snakes/lizards etc., and/or their skeletons

**A. G & S. G. S. DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU 521165, KRISHNA Dt.,
A.P. (AUTONOMOUS)**

II B.Sc. ZOOLOGY PRACTICAL EXAMINATION

PRACTICAL- II COURSE CODE: ZOO P21A
TITLE OF THE PAPER: ANIMAL DIVERSITY - BIOLOGY OF CHORDATES
Time: 3hrs.

Max. Marks 40M

SEE MODEL PAPER

1. List out the general characters of Class Mammalia. CO5, L1 5 M

2. Identify and draw a neat labelled diagram of digestive system of *Channa*. CO2, L3 10 M
Identification: 2M
Diagram: 4 M
Labelling: 4 M

3. Identify, draw a labelled diagram, classify and write notes on A, B, C, D and E CO1,2,3,4,5 L2 5 X 3 = 15 M
A. Protochordata and Cyclostomata
B. Pisces
C. Amphibia and Reptilia
D. Aves and Mammalia
E. Osteology
Identification: 1 MP
Diagram : $\frac{1}{2}$ M
Classification: $\frac{1}{2}$ M
Comment 1 M

4. Practical Record Book CO1, 2,3,4,5 L3 5 M

5. VIVA CO1, 2,3,4,5 L5 5 M

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE, VUYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).**

NAAC reaccruited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY**

Semester: - IV

Course Code	ZOO-401	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2019-20	Year of Offering 2021-2022	Year of Revision – 2021-22	Percentage of Revision: 100%

Course Outcomes:

This course will provide students with a deep knowledge in Physiology, Cellular metabolism and Molecular Biology and by the completion of the course the graduate shall be able to –

CO1: Understand the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems.

CO2: Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with special knowledge of hormonal control of human reproduction.

CO3: Describe the structure, classification and chemistry of biomolecules and enzymes responsible for sustenance of life in living organisms

CO4: Develop broad understanding of the basic metabolic activities pertaining to the catabolism and anabolism of various biomolecules

CO5: Describe the key events in early embryonic development starting from the formation of gametes up to gastrulation and formation of primary germ layers.

Learning Objectives

- To achieve a thorough understanding of various aspects of physiological systems and their functioning in animals.
- To instill the concept of hormonal regulation of physiology, metabolism and reproduction in animals.
- To understand the disorders associated with the deficiency of hormones
- To demonstrate a thorough knowledge of the intersection between the disciplines of Biology and Chemistry.
- To provide insightful knowledge on the structure and classification of carbohydrates, proteins, lipids and enzymes
- To demonstrate an understanding of fundamental biochemical principles such as the function of biomolecules, metabolic pathways and the regulation of biochemical processes
- To make students gain proficiency in laboratory techniques in biochemistry and orient them to apply the scientific method to the processes of experimentation and hypothesis testing.

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	Animal Physiology -I Process of digestion and assimilation Respiration - Pulmonary ventilation, transport of oxygen and CO ₂ (Note: Need not study cellular respiration here) Circulation - Structure and functioning of heart, Cardiac cycle Excretion - Structure and functions of kidney urine formation, counter current Mechanism	10
II	Animal Physiology –II Nerve impulse transmission - Resting membrane potential, origin and propagation of action potentials along myelinated and non-myelinated nerve fibers Muscle contraction - Ultra structure of muscle, molecular and chemical basis of muscle contraction Endocrine glands - Structure, functions of hormones of pituitary, thyroid, parathyroid, adrenal glands and pancreas Hormonal control of reproduction in a mammal	15
III	Cellular Metabolism –I (Biomolecules) Carbohydrates - Classification of carbohydrates. Structure of glucose Proteins - Classification of proteins. General properties of amino acids Lipids - Classification of lipids Enzymes: Classification and Mechanism of Action	15
IV	Cellular Metabolism –II Carbohydrate Metabolism - Glycolysis, Krebs cycle, Electron Transport Chain, Glycogen metabolism, Gluconeogenesis Lipid Metabolism – β -oxidation of palmitic acid Protein metabolism – Transamination, Deamination and Urea Cycle	10
V	Embryology: Gametogenesis Fertilization Types of eggs Types of cleavages Development of Frog up to formation of primary germ layers	10

REFERENCEBOOKS

1. Eckert H. *Animal Physiology: Mechanisms and Adaptation*. W.H. Freeman & Company.
2. Flory E. *An Introduction to General and Comparative Animal Physiology*. W.B. Saunders Co., Philadelphia.
3. Goel KA and Satish KV. 1989. *A Text Book of Animal Physiology*, Rastogi Publications, Meerut, U.P.
4. Hoar WS. *General and Comparative Physiology*. Prentice Hall of India, New Delhi.
5. Lehninger AL, Nelson and Cox. *Principles of Biochemistry*. Lange Medical Publications, New Delhi.
6. Prosser CL and Brown FA. *Comparative Animal Physiology*. W.B. Saunders Company, Philadelphia.
7. *Developmental Biology* by Balinsky
8. *Developmental Biology* by Gerard Karp
9. *Chordate embryology* by Varma and Agarwal
10. *Embryology* by V.B. Rastogi
11. Austen CR and Short RV. 1980. *Reproduction in Mammals*. Cambridge University Press.
12. Gilbert SF. 2006. *Developmental Biology*, 8th Edition. Sinauer Associates Inc., Publishers, Sunderland, USA.
13. Longo FJ. 1987. *Fertilization*. Chapman & Hall, London.
14. Rastogi VB and Jayaraj MS. 1989. *Developmental Biology*. Kedara Nath Ram Nath Publishers, Meerut, Uttar Pradesh.
15. Schatten H and Schatten G. 1989. *Molecular Biology of Fertilization*. Academic Press, New York.

A.G. &S.G.Siddhartha Degree College of Arts & Science, Vuyyuru – 521165, Krishna Dt. A.P. (Autonomous)

Semester IV *w.e.f. 2021-2022*

(Model question paper)

Title of the paper: ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY

Code – ZOO-401C

Time: 3hrs.

max.marks: 70

Section – A 4 x 5 = 20.

Answer any **four** questions. Each question carries **five** marks. Draw neat labeled diagrams wherever necessary.

1. Cardiac cycle
2. Non-myelinated nerve fibers
3. pituitary gland
4. Structure of glucose
5. Glycolysis
6. Urea Cycle
7. Fertilization
8. Types of cleavages

Section – B 5 x 10 = 50.

Answer any **five** questions. Each question carries **Ten** marks. Draw neat labeled diagrams wherever necessary.

9. Give an account of process of digestion in mammals?
10. Describe the Structure and functions of Mammal heart?
11. Explain about the production of Nerve Impulse?
12. Explain about the hormonal control of reproduction in mammals?
13. Give an account of Classification of carbohydrates?
14. Discourse about General properties of amino acids?
15. Explain about Krebs cycle ?
16. Write an essay on types of eggs?

**A.G. & S.G.Siddhartha Degree College of Arts & Science, Vuyuru – 521165,
Krishna Dt. A.P. (Autonomous)
Semester -IV**

Guide lines to the Paper Setter.

W.e.f. 2021-2022

Title of the paper: ANIMAL PHYSIOLOGY, CELLULAR METABOLISM ANDEMBRYOLOGY

Code – ZOO-401C

Time: 3hrs.

Max. Marks: 70.

1. Answer any **four** questions out of eight in Section – A. Each question carries five marks. $4 \times 5 = 20M$.

2. Answer any **five** questions out of eight in Section – B. Each question carries Ten marks. $5 \times 10 = 50M$.

	Section	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
5 Marks Questions	A	1	2	1	2	2
10 Marks Questions	B	2	2	2	1	1
Weightage		25	30	25	20	20

Note: 1. please provide the scheme of valuation for the paper.

2. Question paper should be in English medium.

PRACTICAL - IV

w.e.f. 2021-2022.

Code: ZOO- 401P

ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY

MAX.MARKS: 50.

(2hrs/week)

PRACTICAL SYLLABUS

Learning Objectives:

- Identification of an organ system with histological structure
- Deducing human health based on the information of composition of blood cells
- Demonstration of enzyme activity *in vitro*
- Identification of various biomolecules of tissues by simple colorimetric methods and also quantitative methods
- Identification of different stages of early embryonic development in animals

I. ANIMAL PHYSIOLOGY

1. Qualitative tests for identification of carbohydrates, proteins and fats
2. Study of activity of salivary amylase under optimum conditions
3. T.S. of duodenum, liver, lung, kidney, spinal cord, bone and cartilage
4. Differential count of human blood

II. CELLULAR METABOLISM

1. Estimation of total proteins in given solutions by Lowry's method.
2. Estimation of total carbohydrate by Anthrone method.
3. Qualitative tests for identification of ammonia, urea and uric acid
4. Protocol for Isolation of DNA in animal cells

III. EMBRYOLOGY

1. Study of T.S. of testis, ovary of a mammal
2. Study of different stages of cleavages (2, 4, 8 cell stages)
3. Construction of fate map of frog blastula

REFERENCE BOOKS:

- Harper's Illustrated Biochemistry
- Cell and molecular biology: Concepts & experiments. VI Ed. John Wiley & sons. Inc.
- Lab Manual on Blood Analysis and Medical Diagnostics, S.Chand and Co.Ltd.
- Laboratory techniques by Plummer

**A. G & S. G. S. DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU 521165, KRISHNA Dt.,
A.P. (AUTONOMOUS)
PAPER – IV**

(Animal physiology, Cellular Metabolism and Embryology)

w.e.f.2021-22.

*Model Question paper (External)Max.Marks: 25 M.
Paper Code: ZOO-401P*

I.Embryology:

1. Identify, draw neat labeled diagram & comment on. 2x 1^{1/2} = 3M.

A & B

II. Physiology& Cellular Metabolism

2. Identify, draw neat labeled diagram & comment on .2x 1^{1/2} = 3M. **A & B**
3. Studyof activityof salivaryamylaseunder optimumconditions 4M
4. Identify the Qualitative test for in the given samples A & B, each with two tests. 4x 1^{1/2} = 6M.
(Sample A- 2X1^{1/2} =3 Marks & sample B -- 2X1 ^{1/2} =3 Marks)
5. Identify the Qualitative test for in the given samples A & B, each with two tests. 4x 1^{1/2} = 6M.
(Sample A- 2X1 ^{1/2} =3 Marks & sample B -- 2X1 ^{1/2} =3 Marks)
6. Identify, draw neat labeled diagram &comment on. 2x 1^{1/2} = 3M.

A & B

**A. G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU-521165
ZOOLOGY PRACTICAL -IV**

**(INTERNAL)
w.e.f. 2021-2022.**

(2hrs/week).

**(Animal physiology, Cellular Metabolism and Embryology)
Code: ZOO-401P.**

Max.marks:25M.

Time: 3hrs.

1. Attendance ----- 5M.
2. Record ----- 10M.
3. Assignment -----10M.

Total ----- 25M.

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE COLLEGE
OF ARTS & SCIENCE, VUYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).**

NAAC recredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY**

Semester: - IV

Course Code	ZOO-402	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2019-20	Year of Offering 2021-2022	Year of Revision – 2021-22	Percentage of Revision: 100%

Course Outcomes:

This course will provide students with a deep knowledge in immunology, genetics, embryology and ecology and by the completion of the course the graduates shall be able to –

CO1: To get knowledge of the organs of the immune system, types of immunity, cells and organs of immunity.

CO2: To describe immunological responses and how they are triggered (antigens) and regulated (antibodies)

CO3: Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering.

CO4: Get familiar with the tools and techniques of animal biotechnology.

Learning Objectives

- To trace the history and development of immunology
- To provide students with a foundation in immunological processes
- To be able to compare and contrast the innate versus adaptive immune systems and humoral versus cell-mediated immune responses
- Understand the significance of the Major Histocompatibility Complex in terms of immune response and transplantation
- To provide knowledge on animal cell and tissue culture and their preservation
- To empower students with latest biotechnology techniques like stem cell technology, genetic engineering, hybridoma technology, transgenic technology and their application in medicine and industry for the benefit of living organisms
- To explain *in vitro* fertilization, embryo transfer technology and other reproduction manipulation methodologies.
- To get insight in applications or recombinant DNA technology in agriculture, production of therapeutic proteins.
- To understand principles of animal culture, media preparation

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	Immunology –I(OverviewofImmunesystem) IntroductiontobasicconceptsinImmunology Innateandadaptiveimmunity,VaccinesandImmunizationprogramme Cellsofimmunesystem Organsofimmunesystem	10
II	Immunology –II (Antigens,Antibodies, MHCandHypersensitivity) Antigens:Basicpropertiesofantigens,BandTcellepitopes,haptensandadjuvants;Factors influencingimmunogenicity Antibodies:Structureof antibody,Classesand functionsofantibodies Structureandfunctionsofmajor histocompatibilitycomplexes ExogenousandEndogenouspathwaysofantigenpresentationandprocessing Hypersensitivity–ClassificationandTypes	15
III	Techniques AnimalCell,TissueandOrganculturemedia:NaturalandSyntheticmedia, Cellcultures:Establishmentofcellculture(primaryculture,secondaryculture, types of cell lines; Protocols for Primary Cell Culture); EstablishedCell lines (common examples such as MRC, HeLa, CHO, BHK, Vero); Organculture;Cryopreservation of cultures Stemcells:Typesofstemcellsandapplications Hybridoma Technology: Production & applications of Monoclonal antibodies(mAb)	15
IV	Genetic Engineering:Basic concept, Vectors, Restriction Endonucleases andRecombinantDNATEchnology Gene delivery:Microinjection, electroporation, biolistic method (gene gun),liposomeand viral-mediated genedelivery Transgenic Animals:Strategies of Gene transfer; Transgenic - sheep, - fish; applications Manipulationofreproductioninanimals:Artificial Insemination, <i>Invitro</i> fertilization,superovulation,Embryotransfer,Embryo cloning	10
V	PCR:BasicsofPCR. DNA Sequencing: Sanger’s method of DNA sequencing- traditional andautomatedsequencing (2 hrs) Hybridizationtechniques:Southern,Northernand Westernblotting DNafingerprinting:Procedureandapplications Applicationsin IndustryandAgriculture: Fermentation:Different types of Fermentation and Downstream processing; Agriculture: Monocultureinfishes, polyploidyinfishes	10

A.G. &S.G.Siddhartha Degree College of Arts & Science, Vuyyuru – 521165, Krishna Dt. A.P. (Autonomous)

Semester IV *w.e.f. 2021-2022*

(Model question paper)

Title of the paper: IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY

Code – ZOO-402C

Time: 3hrs.

max.marks: 70

Section – A

4 x 5 = 20.

Answer any **four** questions. Each question carries **five** marks. Draw neat labeled diagrams wherever necessary.

1. Organs of immune system
2. Haptens
3. Types of stem cells
4. BHK
5. Electroporation
6. Transgenic - sheep
7. Western blotting
8. polyploidy in fishes

Section – B 5 x 10 = 50.

Answer any **five** questions. Each question carries **Ten** marks. Draw neat labeled diagrams wherever necessary.

9. Give an account of Innate and adaptive immunity?
10. Describe the cells of immune system ?
11. Explain about the Structure and function of major histocompatibility complexes?
12. Explain about the Hypersensitivity – Classification and Types?
13. Give an account of Cryopreservation of cultures ?
14. Discourse about Production & applications of Monoclonal antibodies (mAb)
15. Explain about endonucleases and Recombinant DNA technology?
16. Different types of Fermentation and Downstream processing ?

**A.G. & S.G.Siddhartha Degree College of Arts & Science, Vuyyuru – 521165,
Krishna Dt. A.P. (Autonomous)
Semester -IV**

Guide lines to the Paper Setter.

w.e.f. 2021-2022

Title of the paper:IMMUNOLOGYANDANIMALBIOTECHNOLOGYCode – ZOO-402C

Time: 3hrs.

Max. Marks: 70.

1. Answer any **four** questions out of eight in Section – A. Each question carriesfive marks. 4x5 = 20M.

2. Answer any **five** questions out of eight in Section – B. Each question carriesTen marks. 5x10= 50M.

	Section	UNIT-I	UNIT-II	UNIT-III	UNIT-IV	UNIT-V
5 Marks Questions	A	1	1	2	2	2
10 Marks Questions	B	2	2	2	1	1
Weightage		25	25	30	20	20

- Note:** 1. please provide the scheme of valuation for the paper.
2. Question paper should be in English medium.

PRACTICAL - IV

w.e.f. 2021-2022. Code: ZOO- 402P

IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY

MAX.MARKS: 50.

(2hrs/week)

PRACTICAL SYLLABUS

Learning Objectives:

- Acquainting student with immunological techniques vis-à-vis theory taught in the classroom
- Interconnect the theoretical and practical knowledge of immunity with the outer world for the development of a healthier life.
- Demonstrate basic laboratory skills necessary for Biotechnology research
- Promoting application of the lab techniques for taking up research in higher studies

I. IMMUNOLOGY

1. Demonstration of lymphoid organs (as per UGC guidelines)
2. Histological study of spleen, thymus and lymph nodes (through prepared slides)
3. Blood group determination
4. Demonstration of
 - a. ELISA
 - b. Immunoelectrophoresis

II. Animal biotechnology

1. DNA quantification using DPAM method.
2. Techniques: Western Blot, Southern Hybridization, DNA Fingerprinting
3. Separation, Purification of biological compounds by paper, Thin-layer and Column chromatography
4. Cleaning and sterilization of glass and plastic wares for cell culture.
5. Preparation of culture media.

REFERENCE BOOKS

1. Immunology Lab Biology 477 Lab Manual; Spring 2016 Dr. Julie Jameson
2. Practical Immunology A Laboratory Manual; LAP LAMBERT Academic

Publishing

3. Manual of laboratory experiments in cell biology by Edward, G Laboratory Techniques by Plummer

A. G & S. G. S. DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU 521165, KRISHNA Dt., A.P.
(AUTONOMOUS)
PAPER – IV

(IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY)

w.e.f.2021-22.

Model Question paper (External) Max.Marks: 25 M.

Paper Code: ZOO-402P

-
- | | |
|--|-------|
| 1. Blood group determination. | 5 m |
| 2. Demonstration of ELISA. | 5m |
| 3. Preparation of culture media. | 5m |
| 4. Study the following techniques given on photographs & Write notes on. | 4X2=8 |
| .A.spleen, | |
| B.Lymph nodes | |
| C.Western Blot, | |
| D. DNA Fingerprinting | |
| 5. Cleaning of glasswares for cell culture. | 2m |

A. G. & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU-521165

ZOOLOGY PRACTICAL -IV

(INTERNAL)

w.e.f. 2021-2022.

(2hrs/week).

(IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY)

Code: ZOO-402P.

Max.marks:25M.

Time: 3hrs.

- | | | |
|---------------|-------|------|
| 4. Attendance | ----- | 5M. |
| 5. Record | ----- | 10M. |
| 6. Assignment | ----- | 10M. |
| Total | ----- | 25M. |

**ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA DEGREE
COLLEGE OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).**

NAAC recredited at 'A' level
Autonomous –ISO 9001-2015 Certified

Title of the Paper: **Immunology**

Semester: - VI

Course Code	ZOO-601C	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2019	Year of Offering 2021-2022	Year of Revision – 2021-22	Percentage of Revision: 0%

Objective of the course: To facilitate students to understand the role of immune system in the body, cells and organs of immune system, their structures and functioning

Course out comes:

- Students grow in understanding of immune system, to improve their immunity and to protect them from pathogens.
- They identify their blood groups, their compatibility and the need to donate blood to save life.
- Students identify the classes, structures and functions of antibodies, antigen – antibody reactions.
- This study enables students to take care of themselves and take timely precautions against various diseases.
- They identify the cure of different diseases through various vaccines, the instruments involved in identification of immune reactions etc.

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	UNIT- I: Overview of Immune system Introduction to basic concepts in Immunology. Innate and adaptive immunity *Cells and organs of Immune system Cells of immune system Organs of immune system	10
II	UNIT-II:Antigens Basic properties of antigens B and T cell epitopes, haptens and adjuvants Factors influencing immunogenicity	10
III	UNIT-III: Antibodies Structure of an antibody Classes and functions of antibodies Antigen and antibody interactions. Monoclonal antibodies and their production.	15
IV	UNIT-IV: Working of an Immune system Structure and functions of major histocompatibility complexes Exogenous and Endogenous pathways of antigen presentation and processing Basic properties and functions of mediator molecules. (cytokines, interferons and complement proteins). Mechanisms of humoral and cell mediated immunities	15
V	UNIT-V: Immune system in health and disease Classification and brief description of various types of hyper sensitivities Introduction to concepts of autoimmunity and immunodeficiency *Vaccines General introduction to vaccines Types of vaccines	10

**A.G& S.G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYURU – 521165,
KRISHNA Dt.,A.P. (AUTONOMOUS)
SEMESTER-VI (Model Question paper)**

Paper Title: Immunology

Paper Code:ZOO-601GEw.e.f. 2021 – 2022.

Time: 3 hrs

Max.Marks:70

SECTION-A

Answer **any four** questions out of eight in Part - A. Each question carries five marks. **4 X 5 = 20m**

1. Active immunity
2. Monoclonal antibodies .
3. T Cell Epitope
4. Structure of antibody.
5. Functions of major histo compatibility complexes (MHC)
6. Humoral immunity.
7. Causes of autoimmune diseases .
- 8 .BCG Vaccine .

Part – B

Answer **any five** questions out of eight in Part – B. Each question carries ten marks **5 X 10 =50m**

9. Give an account of innate immunity.
10. Write an essay on primary lymphoid organs.
11. Discuss about the basic properties of Antigen.
12. Write an essay on immunogenicity.
13. Describe about different types of immunoglobulins.
14. Give an account of basic properties and functions of Cytokines.
15. Define Hypersensitivity. Explain it in detail.
16. Explain different types of vaccines.

**A.G & S.G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU 521165, KRISHNA Dt.,
A.P. (AUTONOMOUS)**

**SEMESTER-VI
ZOOLOGY ELECTIVE PAPER-VII (A)**

Guide lines to the paper setter w.e.f. 2021 – 2022.

Paper Title: Immunology. **Paper Code:** ZOO-601GE

Time: 3 hrs

Max.Marks:70

Note: 1. Answer **any four** questions out of eight in Part-A. Each question carries five mark 4 X 5= 20M.

2. Answer any **five** questions out of eight in Part-B. Each question carries 10 marks. 5 X 10= 50M.

	PART	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
5 Marks Questions	A	1	1	2	2	2
10 Marks Questions	B	2	2	1	1	2
Weightage		25	25	20	20	30

Note: 1. please provide the scheme of valuation for the paper.

2. Question paper should be both in English and Telugu media.

A. G & S. G. S. DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU 521165, KRISHNA Dt.,
A.P. (AUTONOMOUS)

ZOOLOGY PRACTICAL SYLLABUS

PAPERS – VI

w.e.f. 2021 – 2022.

Period: 24

Max.Marks:50

Credits: 2

Paper Title: Immunology.

Paper Code: ZOO-601GE (P)

Part – A

1. Demonstration of lymphoid organs (as per UGC guidelines).
2. Histological study of spleen, thymus and lymph nodes (through prepared slides).
3. Blood group determination.
4. Demonstration of
 - a. ELISA
 - b. Immunoelectrophoresis

REFERENCES BOOKS

William F. Ganong, *A Review of Medical Physiology*, 22 ed, McGraw Hill, 2005
Sherwood, Klandrof, Yanc, *Human Physiology*, Thompson Brooks/Coole, 2005.
Knut Schmidt-Nielson, *Animal Physiology*, 5th ed, Cambridge Low Price Edition.
Richard A. Glodsby, Thomas J Kind, Barbara A. Osborne, Janis Kuby, *Immunology*, 5th ed, Freeman and Co. New York
Ivan Roitt, *Immunology*, 4th ed, JohanthanBrostoff, Moshy, London.
Thomas C. Chung, *General Parasitology*, Hardcourt Brace and Co ltd. Asia. New Delhi.
Gerard D. Schmidt and Larry S Roberts, *Foundations of Parasitology*, McGraw Hill
Kindt, T. J., Goldsby, R. A., Osborne, B. A., Kuby, J. (2006). VI Edition. Immunology. W.H. Freeman and Company.
Delves, P. J., Martin, S. J., Burton, D. R., Roitt, I.M. (2006). XI Edition. Roitt's Essential Immunology, Blackwell Publishing.

**A.G & S. G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU - 521165, KRISHNA Dt.,
A.P. (AUTONOMOUS)**

Model Question Paper (External)

Immunology

Practical - VI

w.e.f. 2021 – 2022.
Paper Code: ZOO-601GE (P)
Max.marks:25m

-
1. Demonstration of lymphoid organs (as per UGC guidelines)5m
2. Blood group determination 5m
3. Study the following techniques given on photographs & Write notes on. 2x5=10m
A & B
4. ELISA &. Immuno electrophoresis (demonstration) on site or of site demonstration. 5m
- Total: 25m.
Total: 25m
-

Guide lines for the Practical Examiners.

1. Demonstration of lymphoid organs
(5 marks for Procedure)
2. Blood group determination. .
(5 marks for Procedure)
3. Study the following techniques given on photographs & Write notes on A & B.
(1 mark for identification & 4 marks for diagram and notes, for each photographs)
4. ELISA (demonstration) on site or of site demonstration.
(5 marks for ELISA demonstration)
-

A.G & S. G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU - 521165, KRISHNA Dt.,
A.P. (AUTONOMOUS)

Immunology.

Model Question Paper (Internal)
Practical - VI

Paper Code: ZOO-601GE (P)
Max. Marks: 25

1. Attendance	--	5 M
2. Record	--	10M
3. Assignments	--	10M
Total	--	25M

**AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE(AUTONOMOUS)VUYYURU-521165**
Aided by the Government of A.P, Re-Accredited by NAAC with 'A' Grade

2021-2022




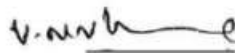


PG Department of Chemistry

26-03-2022

MINUTES OF BOARD OF STUDIES

Minutes of meeting of Board of studies in PG Department of Chemistry held on 26-03-2022 at 12.00 pm in the PG Department of Chemistry through online (Zoom meeting)

Members Present

S.No	NAME		Signature
1	Dr. V.Sreeram Head, Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru.	Chairman	
2	Prof.C.Suresh Reddy Department of Chemistry S.V. University, Tirupati.	University Nominee	
3	Prof. Koya Prabakar Rao Department of Chemistry Vignan University, Guntur.	Subject Expert	
4	Dr.M.Sivanath Associate prof. Dept. of Chemistry A.N.R.College, Gudivada.	Subject Expert	
5	Dr.G.Raja Manager(Q.A) Biophore India pharamaceuticals. Hyderabad.	Representative from Industry	
6	Abdul Raheem	One Post Graduate Meritorious Aluminous nominated by the Principal	
7	N.V.Srinivasa Rao Department of Mathematics AG & SG S College, Vuyyuru.	Representative Science Faculty Other Dept.	
8	V.N.V.Kishore Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member	
9	Dilshad Begum Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member	
10	M.Rekha Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member	

**A.G. & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE (Autonomous)
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER**

Paper Code & Title: 20CH2T1: ORGANIC SPECTROSCOPY

No. of hours per week: 04 Total credits: 04

Total marks: 100 (Internal: 30 M & External: 70M)

Course: Organic Spectroscopy (code 20CH2T1)		
S.No	COURSE OUTCOMES	PO'S
	The graduate will be able to	
1	Memorize the basic principles and theory involved in molecular absorption spectroscopy.	2,7
2	Comprehend the advanced concepts of molecular absorption spectroscopy.	1,2,5
3	Apply the knowledge of spectroscopy in establishing the structure of organic molecules.	1,5,7
4	Analyze the spectral data to ascertain the structure of unknown molecules.	1,4,2

UNIT- I

UV- Visible Spectroscopy:

Mechanics of measurement – Energy transitions – Simple chromophores – Auxochrome, Absorption shifts (Bathochromic shifts, Hypsochromic shift, Hyper chromic shift, Hypochromic shift). UV absorption of Alkenes – polyenes, unsaturated cyclic systems .

UV absorption of Carbonyl compounds α,β -unsaturated carbonyl systems - UV absorption aromatic systems – solvent effects – geometrical isomerism – acid and base effects – typical examples – calculation of λ_{max} values for simple molecules using Woodward -Fieser rules

AGENDA:

1. To prepare syllabus and model question papers, discuss & approve modalities of lab courses.
2. To Suggest methodologies for innovative methods of teaching.
3. Any other matter with the permission of the Chair.

Resolution –I

1. Resolved to recommend the framed Syllabus & Model Question Papers for theory courses and approve the modalities of Lab Courses as prescribed by BOS members.
2. Resolved to conduct assignments etc., for Internal Assessment Tests.
3. To recommend the changed syllabus Radioactivity and isotopes in Unit V of semester I

Resolution –II

1. Resolved to adopt online teaching methods like as ZOOM, Microsoft teams, Google meet etc for ICT (Information and communication technologies) teaching.

Resolution –III

1. Resolved to implement changed syllabus in II& IV Semesters

V. G. W.

UNIT – II

IR Spectroscopy:

Mechanics of measurement – Fundamental modes of vibrations -Stretching and bending vibrations – Factors effecting vibrational frequency-hydrogen bonding.

Finger print region and its importance. Typical group frequencies for – CH,

-OH, -NH, -CC, -CO and aromatic systems - Application in structural determination

Examples – simple problems.

UNIT – III

Nuclear Magnetic Resonance Spectroscopy (1HNMR – First Order PMR):

Introduction:Nuclear spin-Basic principle of -NMR - nuclear resonance –saturation-Larmor's frequency-Relaxation- Instrumentation(Cw and FT) shielding and de shielding of magnetic nuclei- chemical shift and its measurements, factors influencing chemical shift, spin-spin interactions and factors influencing spin -spin coupling- Dynamic NMR- coupling constant J. and factors effecting J value.

UNIT – IV

Mass Spectrometry I

Introduction- ionization methods-EI, CI, ES, MALDI and FAB – advantages and disadvantages-molecular ion peak and its importance, meta stable peak, Nitrogen rule and extension of nitrogen rule. Determination of Molecular weight and determination of molecular formulae- Isotopic Peaks- Identification of single chlorine atom and double chlorine atom single bromine atom and double bromine atoms in organic compounds. Instrumentation.

UNIT – V

Mass Spectrometry II

Fundamental fragmentation process- Stevenson's rule- radical site initiated cleavage-charge site initiated cleavage- two bond cleavage- Retrodielalder cleavage- Mc-Lafferty rearrangement and other cleavages. Mass spectral fragmentation of alkanes, cycloalkanes, alkenes, alkynes, aromatic hydrocarbons, alcohols, phenols, thiols, ethers, carbonyl containing compounds (Aldehydes, ketones, esters and carboxylic acids), nitrogen compounds, alkyl chlorides and alkyl bromides, Examples of mass spectral fragmentation of organic compounds with respect to their structure determination.

Text books/ Reference books:

1. Introduction to Spectroscopy – D. L. Pavia, G.M. Lampman, G. S. Kriz, 3rd Ed. (Harcourt college publishers).
2. Spectrometric identification of organic compounds R. M. Silverstein, F. X. Webster, 6th Ed.
John Wiley and Sons.
3. Spectroscopic methods in organic chemistry - D. H. Williams and I. FlemmingMc.Graw Hill.
4. Absorption spectroscopy of organic molecules – V. M. Parikh
5. Nuclear Magnetic Resonance – Basic Principles- Atta-Ur-Rehman, Springer-Verlag (1986).
6. One- and Two-dimensional NMR Spectroscopy – Atta-Ur-Rehman, Elsevier (1989).
7. Organic structure Analysis- Phillip Crews, Rodriguez, Jaspars, Oxford University Press (1998).
8. Organic structural Spectroscopy- Joseph B. Lambert, Shurvell, Lightner, Cooks, Prentice-Hall (1998).
9. Organic structures from spectra –Field L.D., Kalman J.R. and Sternhell S. 4th Ed. John Wiley and sons Ltd.

NOTE:PercentageofChange - 0%

**A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE(Autonomous)
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER**

Paper Code & Title: 20CH2T2: INORGANIC CHEMISTRY-II

No. of hours per week: 04 Total credits: 04

Total marks: 100 (Internal: 30 M & External: 70M)

Course: Inorganic chemistry (code 20CH2T2)		
S.No	COURSE OUTCOMES	PO'S
	The graduate will be able to	
1	Memorizethe fundamental concepts of Metallic&non metallic clusters, Inorganic reaction mechanisms, organo metallic chemistry, electronic spectra& magnetic properties of complexes and bioinorganic chemistry.	2,7
2	Comprehendthe basic and advanced concepts of metallic&non metallic clusters, Inorganic reaction mechanisms, organo metallic chemistry, electronic & magnetic properties of complexes and bioinorganic chemistry.	1,2,6
3	Applythe conceptual knowledge gained in the concepts of metallic & nonmetallic clusters, inorganic reaction mechanisms, organometallic chemistry, electronic &magnetic properties of complexes and bio inorganic chemistry in other fields of chemistry as well as in research.	1,2,7
4	Analyzethe role of metallic &non metallic clusters / cages, inorganic reaction mechanisms, organo metallic chemistry, electronic &magnetic properties of complexesand bio inorganic chemistry in understanding the similarities and differences among the concepts of chemistry.	1,3,2
5	Assess that how far the concepts of metallic&non metallic clusters, Inorganic reaction mechanisms, organo metallic chemistry, electronic & magnetic properties of complexes and bioinorganic chemistry are useful in rendering theoretical explanations for the concepts in chemistry.	1,7,2

Unit-I: Non-metal cages and metal clusters:

Structure and bonding in phosphorous-oxygen, phosphorous-Sulphur cages; structure and bonding in higher boranes with (special reference to B₁₂icosahedra). Carboranes, metalloboranes, metallocarboranes. Classification- LNCs and HNCs, Isoelectronic and Isolobal relationships, electron counting rules: Wade's and Lauher's rules. M-M multiple bonding; preparation, structure and bonding in dinuclear [Re₂Cl₈]²⁻ ion, trinuclear [Re₃Cl₉], tetra nuclear W₄(OR)₁₆, hexa nuclear [Mo₆Cl₈]⁴⁺ and [Nb₆Cl₁₂]²⁻.

Unit-II: Organometallic chemistry of transition metals:

Classification and electron counting rules, hapticity, synthesis, structure and bonding of Olefinic complexes, Acetylene complexes, ferrocene, dibenzene chromium, cyclo heptatriene and tropylium complexes of transition metals. Reactions of organometallic compounds - oxidative addition reductive elimination, insertion and elimination. Applications of organometallic compounds, Catalytic hydrogenation, Hydroformylation, alkene polymerization.

Unit-III: Reaction mechanism of transition metal complexes:

Kinetics of octahedral substitution, acid hydrolysis, base hydrolysis-conjugate base (CB) mechanism. Direct and indirect evidences in favour of CB mechanism. Anation reactions. Reactions without metal-ligand bond cleavage. Factors affecting the substitution reactions in octahedral complexes. Trans effect on substitution reactions in square planar complexes. Mechanism of redox reactions, outer sphere mechanism, cross reactions and Marcus-Hush equation, inner sphere mechanism.

Unit-IV: Term symbols and Electronic spectra: Term symbols:

Term symbols and their derivation, Microstates, Hund's rules to predict ground terms and ground states. List of ground energy and higher energy terms from d₁ to d₉ configurations;

Electronic spectra of transition metal complexes:

Spectroscopic terms. Selection rules, Slater-Condon parameters, Racah parameters, Term separation energies for d_n configurations, Orgel diagrams. Tanabe-Sugano diagrams for d₁ to d₉ configurations. Calculations of D_q, B and β parameters. Charge transfer spectra.

Unit-V: Bio-inorganic chemistry and Magnetic properties of complexes:

Storage and transport of dioxygen by Hemoglobin and Myoglobin, Vitamin B₁₂ and its importance.

Magnetic properties of transition metal complexes:

Types of magnetism, factors affecting Paramagnetism, anomalous magnetic moments - Orbital and spin contribution, spin-orbit coupling and magnetic moments chiro optical properties, Cotton effect and Faraday effect.

Text books/ Reference books:

1. Inorganic Chemistry by Huheey. Harper and Row.
2. Concise inorganic chemistry by J. D. Lee, ELBS.
3. Inorganic chemistry, K.F. Purcell and J.C. Kotz, Holt Saunders international
4. Organometallic chemistry by R.C. Mehrotra and A. Singh. New Age International.
5. Advanced Inorganic Chemistry by Cotton and Wilkinson, Wiley Eastern
6. Inorganic reaction mechanism by Basolo and Pearson, Wiley Eastern
7. Bioinorganic Chemistry by K. Hussan Reddy
8. Biological Aspects of inorganic chemistry by A. W. Addison, W. R. Cullen, D. Dolphin and G. J. James. Wiley Interscience.
9. Photochemistry of coordination compounds by V. Balzani and V. Carassiti. Academic Press.
10. Text book of Coordination chemistry by K. Soma Sekhara Rao and K.N.K. Vani, Kalyani Publishers.

NOTE: Percentage of Change - 0%

**A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE(Autonomous)
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER**

Paper Code & Title: 20CH2T3: ORGANIC CHEMISTRY -II

No. of hours per week: 04

Total credits: 04

Total marks: 100

(Internal: 30 M & External:

70M)

Course: Organic chemistry (code 20CH2T3)		
S. No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Understand the basic and advanced concepts of stereochemistry, conformational analysis, green chemistry, nanochemistry and named reactions.	2,7
2	Apply the concepts related to stereochemistry, conformational analysis, green and nano chemistry in establishing the mechanism of the reaction.	1,2,3
3	Assess that how far the knowledge gained in stereochemistry, green chemistry and nanochemistry is useful in understanding the nature of product.	1,5,6
4	Evaluate the role of stereochemistry, green principles and nano chemistry in establishing the mechanism of a reaction as well as in other areas of chemistry.	1,4,7

Unit-I: Named reactions:

Aldol condensation, Benzoin condensation, Cannizzaro condensation, claisen condensation, Dieckmann condensation, Perkin condensation, Stobbe condensation, Reformatsky reaction, Mannich reaction, Reimer-Tiemann reaction, Vilsmeier-Haack reaction, Shapiro

reaction, McMurray reaction, Michael addition reaction, Wittig reaction, Stork – Enamine reaction, Acyloin condensation, Robinson ringannulation and Simmon-Smith reaction.

Unit-II: Stereo Chemistry-I:

Concept of chirality, Recognition of Symmetry elements. Definition and classification of Stereoisomers, Enantiomer, Diastereomer, Homomer, Epimer, Anomer, Configuration and Conformation, Configurational nomenclature: D,L and R, S nomenclature. Molecular representation of organic molecules: Fischer, Newman and Sawhorse projections and their inter-conversions. Geometrical Isomerism. Cis-trans, E, Z- and Syn and anti nomenclature, Methods of determining configuration of Geometrical isomers using physical, spectral and chemical methods.

Unit-III: Stereo Chemistry-II:

Definition of Conformation, Conformational analysis of acyclic molecules – alkanes and substituted alkanes. Conformational analysis of monocyclic molecules – cyclohexane – chair, boat and twist boat - mono and disubstituted cyclohexanes and conformation around carbon hetero atom bonds having C–O & C–N. Confirmation and intramolecular hydrogen bonding.

Unit-IV: Green chemistry & Phase transfer catalysis:

Introduction to Green chemistry, Principles and concepts of Green chemistry, Green Catalysis, Biocatalysis, renewable resources, Green Reagents, examples of green reactions- synthesis of Ibuprofen, Clean Fischer-Indole synthesis comparison of the above with conventional methods. Introduction to Microwave organic synthesis: introduction, advantages and disadvantages. Applications: solvents (water and organic solvents), solvent free reactions (Solid state reactions).

Unit-V: Chemistry of Nanomaterials:

Introduction, carbon nanotubes: structure of single and multi-walled carbon nanotubes, synthesis-solid and gaseous carbon source-based production techniques, synthesis with controlled orientation. Growth mechanism of carbon nano tubes-catalyst free growth, catalyst activated growth, general properties and applications.

Text books:

1. Advanced organic chemistry –Reaction, mechanism and structure, Jerry March, John Wiley.
2. A guide book to Mechanism in organic chemistry, Peter Sykes, Longman.
3. Organic chemistry, I.L. Finar, Vol. I & II, Fifth ed. ELBS, 1975.
4. Stereo Chemistry of carbon compounds – E.L. Eliel.
5. Nano, The Essentials: T. Pradeep, The Mc. Graw Hill & Co.
6. Principles of organic synthesis, R.O.C. Norman and J.M. Coxon, Blakie Academic & Professional.
7. Reaction Mechanism in organic chemistry, S.M. Mukherji and S.P. Singh, Macmillan.
8. Green chemistry Theory and Practice by Paul T. Anastas and John C. Warner, Oxford University press.
9. Methods and reagents for Green chemistry, PietroTundo, AlvisePerosa, FulvioZecchini, John Willey& sons Inc.

NOTE:PercentageofChange - 0%

**A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE(Autonomous)
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER**

Paper Code & Title: 20CH2T4: PHYSICAL CHEMISTRY-II

No. of hours per week: 04 Total credits: 04

Total marks: 100 (Internal: 30 M & External: 70M)

Course: Physical chemistry (code 20CH2T4)		
S.No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Remember the concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry.	1,2,7
2	Understand the concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry.	1,2,7
3	Apply the concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry in research and other allied fields.	1,2,4
4	Analyze the role and significance of concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry.	1,2,7
5	Evaluate the role of concepts of Radio activity and isotopes in chemistry and applications of radio isotopes in industry and medicine	1,2,7

Unit-I: Third law of Thermodynamics and Statistical thermodynamics:

Nemst Heat theorem -Third law of thermodynamics - Its limitations - Determination of absolute entropy -

Thermodynamic probability and most probable distribution, Entropy and probability - Boltzmann-Plank equation. Ensembles, Maxwell-Boltzmann distribution, Fermi-Dirac statistics,

Bose Einstein statistics. Partition function - calculation of thermodynamic properties in terms of partition function - Chemical equilibrium and partition function - Translational, rotational and electronic partition function - Entropy of Monoatomic gases (Sackur-Tetrode equation).

Unit-II: Polymer chemistry and Raman Spectroscopy:

Classification of polymers - Free radical, ionic and Zeigler -Natta Polymerization - kinetics of free radical polymerization - Techniques of polymerization - Glass transition temperature - Factors influencing the glass transition temperature. Number average and Weight average, Molecular weights - molecular weights determinations - Membrane Osmometry, Light scattering phenomenon. Classical and quantum theories of Raman effects, pure rotational, vibrational and Vibrational-rotational Raman spectra, selection rules, mutual exclusion principle.

Unit-III: Electro Chemistry-II:

Reference electrode - Standard hydrogen electrode. Calomel electrode - Indicator electrodes: Metal-metal ion electrodes - Inert electrodes - Membrane electrodes- theory of glass membrane potential, potentiometric titrations, advantages of potentiometric titrations, Conductometric titrations. Electrode potentials - Double layer at the interface - rate of charge transfer - Decomposition potential - Over potential - Tafel plots - Derivation of Butler-Volmer equation for one electron transfer - electro chemical potential

Unit-IV: Chemical kinetics and Photo chemistry:

Branching Chain Reactions - Hydrogen-oxygen reaction - lower and upper explosion limits - Fast reactions - Study of kinetics by flow methods - Relaxation methods - Flash photolysis. Acid base catalysis - protolytic and prototropic mechanism. Enzyme catalysis - Michaelis-Menten kinetics.

Photochemistry:

Quantum yield and its determination, Actinometry, Reactions with low and high quantum yields, Photo sensitization, Exciplexes and Excimers, Photochemical equilibrium, Kinetics of collisional quenching - Stern-Volmer equation.

Unit-V:

Radioactivity and Isotopes: Introduction to radioactivity, properties of alpha rays, beta rays and gamma rays, theory of radioactive disintegration, rate of disintegration, Geiger – Nuttal rule, radioactive equilibrium. Isotopes - radioactive and non-radioactive isotopes, group displacement law. Analysis of isotopes – Aston’s mass spectrograph, Dempster’s method, Bainbridge’s method. Separation methods of isotopes. Applications of Radio isotopes in Industry and medicine.

Text books/ Reference books:

1. Physical chemistry, G.K. Vemulapalli (Prentice Hall of India).
2. Physical chemistry, P.W. Atkins. ELBS.
3. Chemical kinetics - K.J. Laidler, McGraw Hill Pub.
4. Text book of Physical Chemistry, Samuel Glasstone, Macmillan pub.
5. Statistical Thermodynamics - M.C.Gupta.
6. Polymer Science, Gowriker, Viswanadham, Sreedhar.
7. Quantitative Analysis, A.I. Vogel, Addison Wesley Longmann Inc.
8. Physical Chemistry by G.W.Castellan, Narosa Publishing House, Prentice Hall.
9. Physical Chemistry by W.J. Moore, Prentice Hall.
10. Polymer Chemistry by Billmeyer.
11. Fundamentals of Physical Chemistry by K K. Rohatgi-Mukherjee. Wiley Eastern Ltd publications.
12. Statistical Thermodynamics by M.Dole.
13. Fundamentals of photochemistry by Rohatgimukherjee, New Age international Publications.
14. Essentials of Nuclear chemistry by H.J.Armikar, New Age international Publications.

NOTE:Percentage of Change – 20%

**A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE(Autonomous)
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER**

Paper Code & Title: CH206L1: ORGANIC CHEMISTRY PRACTICAL-II

No. of hours per week: 03 Total credits: 03

Total marks: 100 (Internal: 30 M & External: 70M)

Course Learning Objective(S): The main objective of this paper is to give a practical knowledge for the students on Organic chemistry practical.

List of experiments:

- 1. Preparation of organic compounds:** Single stage preparations by reactions involving nitration, halogenation, oxidation, reduction, alkylation, acylation, condensation and rearrangement. (A student is expected to prepare at least 5 different organic compounds by making use of the reactions given above).
- 2. Preparation of organic compounds:** Two stage preparations by reactions involving nitration, halogenation, oxidation, reduction, alkylation, acylation, condensation and rearrangement. (A student is expected to prepare at least 5 different organic compounds by making use of the reactions given above).
- 3. Systematic qualitative analysis of organic compounds with different functional groups (5 different compounds)**

Course Learning Outcome(S): After studying this paper, students will acquire the knowledge of Organic chemistry practical.

Text books/ Reference books:

1. A.I.Vogel, "A Text Book of Practical Organic Chemistry", Longman
2. A.I.Vogel, "Elementary Practical Organic Chemistry", Longman
3. Practical Organic Chemistry, F.G.Mann and B.C.Saunders, Longman
4. Reaction and Synthesis in Organic Laboratory, B.S.Furniss, A.J.Hannaford, Tatchell, University Science Books Mills valley.
5. Purification of Laboratory chemicals, manual, W.L.F. Armarego EDD Perrin.
6. Reaction and Synthesis in Organic Chemistry Laboratory, Lutz-Friedjan-Tietze, TheophilEicher, University Science Book.

NOTE:PercentageofChange - 0%

A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

DEPARTMENT OF CHEMISTRY

M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)

II SEMESTER

Paper Code & Title: 200ECH: (OPEN ELECTIVE-I)

CHEMISTRY IN DAILY LIFE

No. of hours per week: 04
04

Total credits:

Total marks: 100
70M)

(Internal: 30 M & External:

Course: CHEMISTRY IN DAILY LIFE (code 200ECH)		
S.No	COURSE OUTCOMES	PO'S
	The graduate will be able to	
1	Memorize the basic concepts related to chemistry in daily life like – chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones.	2,7
2	Understand the concepts like chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones.	1,2,6
3	Apply the knowledge gained in the concepts like chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones in future job roles.	1,4,7

Course Learning Objective(S): The main objective of this paper is to give a basic and updated knowledge for the students on Chemistry Laboratory safety symbols – Meaning, Environmental Chemistry, Bioinorganic Chemistry, Biological functions of Hormones and Medicinal chemistry.

Unit-I: Chemistry Laboratory safety symbols – Meaning:

Corrosive, carcinogenic, Harmful, toxic, dangerous to environment, Explosive, flammable, Narcotic, Oxidizing, Lachrymatory, Radioactive, irritant, gases under pressure, general laboratory safety precautions.

Unit-II: Environmental Chemistry:

Ambient air quality standards, Acid rain, Smog, Greenhouse effect, Bhopal gas tragedy, Vishakhapatnam polymer industry tragedy, Renewable and Nonrenewable energy resources, DO, COD, BOD, Toxicity of lead, mercury, arsenic and Cadmium.

Unit-III: Bioinorganic Chemistry:

Essential elements, biological significance of Na, K, Mg, Ca, Fe, Metalloporphyrin – Structure and functions of hemoglobin, Myoglobin.

Unit-IV: Biological functions of Hormones:

Introduction, Types of hormones, Role of Andosterone, Progesterone and thyroxin, action of cortisone, Insulin.

Unit-V: Medicinal Chemistry:

The role of vitamins – K, E, D, C, B – complex, classification of antibiotics, mechanism of antibiotics action - role of ampicillin, chloromycetin and amoxicillin as antibiotics.

Text books/ Reference books:

1. Laboratory safety for Chemistry Students by Robert H. Hill and David Finster
2. A Text book of Environmental chemistry by W. Moore and F.A. Moore
3. Environmental Chemistry by Samir K. Banerji
4. Organic Chemistry by G. Mare Loudan, Purdue University
5. Unified Chemistry by O.P. Agarwal, Paper-III, JPNP Publications.
6. Hormones and Endocrine system – Kleine, Rossemanith.
7. Principles of Biochemistry-Leninger.
8. Essentials of Medical pharmacology- K. D. Tripathi.

A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

DEPARTMENT OF CHEMISTRY

M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)

II SEMESTER

Paper Code & Title: 20OECH: (OPEN ELECTIVE-I)

CHEMISTRY IN DAILY LIFE

No. of hours per week: 04
04

Total credits:

Total marks: 100
70M)

(Internal: 30 M & External:

Course: CHEMISTRY IN DAILY LIFE (code 20OECH)		
S.No	COURSE OUTCOMES	PO'S
	The graduate will be able to	
1	Memorize the basic concepts related to chemistry in daily life like – chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones.	2,7
2	Understand the concepts like chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones.	1,2,6
3	Apply the knowledge gained in the concepts like chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones in future job roles.	1,4,7

Course Learning Objective(S): The main objective of this paper is to give a basic and updated knowledge for the students on Chemistry Laboratory safety symbols – Meaning, Environmental Chemistry, Bioinorganic Chemistry, Biological functions of Hormones and Medicinal chemistry.

Unit-I: Chemistry Laboratory safety symbols – Meaning:

Corrosive, carcinogenic, Harmful, toxic, dangerous to environment, Explosive, flammable, Narcotic, Oxidizing, Lachrymatory, Radioactive, irritant, gases under pressure, general laboratory safety precautions.

Unit-II: Environmental Chemistry:

Ambient air quality standards, Acid rain, Smog, Greenhouse effect, Bhopal gas tragedy, Vishakhapatnam polymer industry tragedy, Renewable and Nonrenewable energy resources, DO, COD, BOD, Toxicity of lead, mercury, arsenic and Cadmium.

Unit-III: Bioinorganic Chemistry:

Essential elements, biological significance of Na, K, Mg, Ca, Fe, Metalloporphyrin – Structure and functions of hemoglobin, Myoglobin.

Unit-IV: Biological functions of Hormones:

Introduction, Types of hormones, Role of Andosterone, Progesterone and thyroxin, action of cortisone, Insulin.

Unit-V: Medicinal Chemistry:

The role of vitamins – K, E, D, C, B – complex, classification of antibiotics, mechanism of antibiotics action - role of ampicillin, chloromycetin and amoxicillin as antibiotics.

Text books/ Reference books:

1. Laboratory safety for Chemistry Students by Robert H. Hill and David Finster
2. A Text book of Environmental chemistry by W. Moore and F.A. Moore
3. Environmental Chemistry by Samir K. Banerji
4. Organic Chemistry by G. Mare Loudan, Purdue University
5. Unified Chemistry by O.P. Agarwal, Paper-III, JPNP Publications.
6. Hormones and Endocrine system – Kleine, Rossemanith.
7. Principles of Biochemistry-Leninger.
8. Essentials of Medical pharmacology- K. D. Tripathi.

A.G.&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

DEPARTMENT OF CHEMISTRY

M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)

II SEMESTER

Paper Code & Title: 200ECH: (OPEN ELECTIVE-I)

CHEMISTRY IN DAILY LIFE

No. of hours per week: 04
credits: 04

Total

Total marks: 100
External: 70M)

(Internal: 30 M &

Course: CHEMISTRY IN DAILY LIFE (code 200ECH)		
S.No	COURSE OUTCOMES	PO'S
	The graduate will be able to	
1	Memorize the basic concepts related to chemistry in daily life like – chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones.	2,7
2	Understand the concepts like chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones.	1,2,6
3	Apply the knowledge gained in the concepts like chemistry Laboratory safety symbols, environmental chemistry, bioinorganic chemistry, vitamins, antibiotics and hormones in future job roles.	1,4,7

Course Learning Objective(S): The main objective of this paper is to give a basic and updated knowledge for the students on Chemistry Laboratory safety symbols – Meaning, Environmental Chemistry, Bioinorganic Chemistry, Biological functions of Hormones and Medicinal chemistry.

Unit-I: Chemistry Laboratory safety symbols – Meaning:

Corrosive, carcinogenic, Harmful, toxic, dangerous to environment, Explosive, flammable, Narcotic, Oxidizing, Lachrymatory, Radioactive, irritant, gases under pressure, general laboratory safety precautions.

Unit-II: Environmental Chemistry:

Ambient air quality standards, Acid rain, Smog, Greenhouse effect, Bhopal gas tragedy, Vishakhapatnam polymer industry tragedy, Renewable and Nonrenewable energy resources, DO, COD, BOD, Toxicity of lead, mercury, arsenic and Cadmium.

Unit-III: Bioinorganic Chemistry:

Essential elements, biological significance of Na, K, Mg, Ca, Fe, Metalloporphyrin – Structure and functions of hemoglobin, Myoglobin.

Unit-IV: Biological functions of Hormones:

Introduction, Types of hormones, Role of Andosterone, Progesterone and thyroxin, action of cortisone, Insulin.

Unit-V: Medicinal Chemistry:

The role of vitamins – K, E, D, C, B – complex, classification of antibiotics, mechanism of antibiotics action - role of ampicillin, chloromycetin and amoxicillin as antibiotics.

Text books/ Reference books:

1. Laboratory safety for Chemistry Students by Robert H. Hill and David Finster
2. A Text book of Environmental chemistry by W. Moore and F.A. Moore
3. Environmental Chemistry by Samir K. Banerji
4. Organic Chemistry by G. Mare Loudan, Purdue University
5. Unified Chemistry by O.P. Agarwal, Paper-III, JPNP Publications.
6. Hormones and Endocrine system – Kleine, Rossemanith.
7. Principles of Biochemistry-Leninger.
8. Essentials of Medical pharmacology- K. D. Tripathi.

A.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE(Autonomous)
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

Paper Code & Title: CH207L2: PHYSICAL CHEMISTRY PRACTIAL

No. of hours per week: 03 Total credits: 03

Total marks: 100 (Internal: 30 M & External: 70M)

Course Learning Objective(S): The main objective of this paper is to give a practical knowledge

for the students on Inorganic and Physical chemistry experiments.

List of experiments:

1. Relative strengths of acids by studying the hydrolysis of ethyl acetate / methyl acetate.
2. Determination of equilibrium constant of $I_2 + I^- \rightleftharpoons I_3^-$ by partition coefficient.
3. Determination of unknown concentration of potassium iodide by partition coefficient method.
4. Distribution coefficient of Benzoic acid between Benzene and water.
5. Determination of critical solution temperature of phenol-water system.
6. Study of the effect of electrolyte on the miscibility of phenol-water system.
7. Determination of Coordination number of cuprammoniumcation.
8. Potentiometric determination of Fe(II) with Cr (VI).
9. Potentiometric determination of Fe(II) with Ce (IV).
10. pH-metric determination of strong acid with strong base.
11. Conductometric titration of strong acid with strong base.
12. Conductometric titration of strong acid + Weak acid with strong base.
13. Dissociation constant of weak acid (CH_3COOH) by conductometric method.
14. Determination of cell constant.
15. Verification of Beers Law using potassium permanganate/Potassium dichromate.

Course Learning Outcome(S): After studying this paper, students will acquire the knowledge of Inorganic and Physical chemistry experiments.

Text books/ Reference books:

1. Experimental Physical chemistry by V.D. Athawale, Parul Mathur, New Age International publishers.
2. Physical chemistry experiments by V. P. Kudesia, Pragati Prakasan publishers.
3. Advanced practical Physical chemistry by J.B. Yadav, Krishna's educational publishers.

NOTE: Percentage of Change–27% (Increment)

M.Sc. DEGREE EXAMINATION
SECOND SEMESTER

Paper-I :: **ORGANIC SPECTROSCOPY**

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks. (10x2=20M)

1. Discuss Auxochromes in UV visible spectroscopy in short. (CO-2)
2. Explain Woodward fieser rules. (CO-2)
3. What is finger print region in IR Spectroscopy and discuss its importance (CO-3)
4. Discuss the mechanics of measurements in IR Spectroscopy in short. (CO-2)
5. Illustrate the basic principle of NMR spectroscopy. (CO-1)
6. What is chemical shift? Explain the significance of δ – scale. (CO-2)
7. Elaborate the importance of nitrogen rule in Mass Spectrometry. (CO-2)
8. Explain the role EI technique in ionization of molecules. (CO-2)
9. What is Stevenson's rule? (CO-1)
10. Write the list out the general modes of fragmentation. (CO-1)

SECTION – B

(10x5=50M)

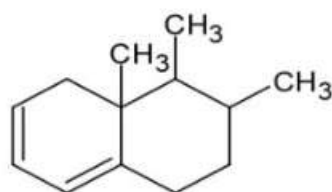
UNIT - I

11.a) Write a detailed note on i) Types of shifts in UV ii) Electronic transitions in UV. (CO-2, L-2) **(Or)**

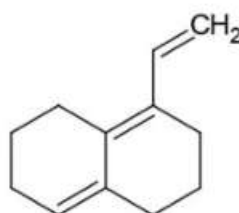
b) Calculate the λ_{max} of the following compounds

(CO-4, L-4)

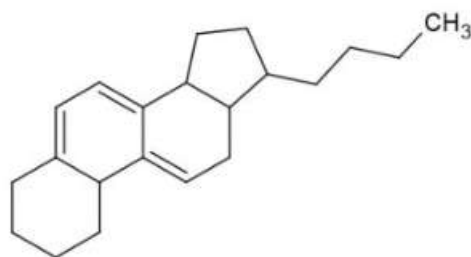
(i)



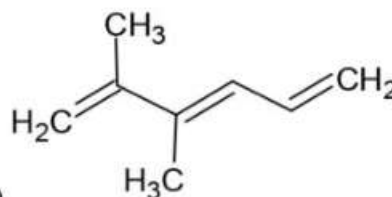
(ii)



(iii)



(iv)



UNIT – II

12.a) Write a note on i) fundamental modes of vibrations ii) Factors effecting IR stretching frequency of organic compounds. (CO-3, L-

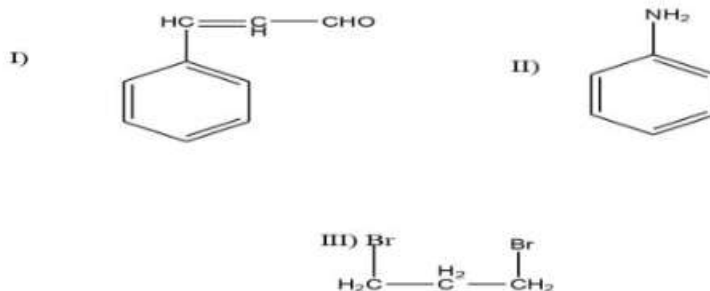
3)

(Or)

- b) How will you distinguish o-hydroxybenzaldehyde and p-hydroxybenzaldehyde on the basis of IR spectroscopy ii) How will you distinguish the following pairs by the use of their IR spectra (i) $\text{CH}_3\text{CH}_2\text{CHO}$ and CH_3COCH_3 (ii) $\text{CH}_3\text{CH}_2\text{NH}_2$ and CH_3NHCH_3 (CO-3,L-3)

UNIT – III

13. a) Define Chemical shift. Give an account on Chemical exchange in NMR. (CO- 2)
 b) Predict the number of signals and their chemical shift in each of the following compounds (CO-3)



(Or)

- c) A compound of Molecular weight 122, in its PMR Spectrum shows 1.4(T,3H) .0(Q,2H), 6.8-7.2(M,5H). Write structure of compound using above data. (CO-3)
 d) Explain the coupling constant in NMR and describe about various types of coupling constants (CO-2)

UNIT - IV

- 14 a) The mass spectrum of an unknown compound shows a molecular ion peak at $m/z = 78$ with a relative intensity of 23.6 and the relative intensities of the isotopic peaks are as follows m/z 79(1.00), 80(7.55), 81(.25) .what is the molecular formula of this unknown? (CO- 3)

(Or)

- b) what is the principle of mass spectrometry?. Discuss some quantitative and qualitative applications of mass spectrometry. (CO-2)

UNIT - V

- 15 a) In the mass spectrum of 1-hexanol , a very weak molecular ion peak appears at $m/z = 102$. Some other prominent peaks appear at m/z values of 100,99,84 56(base peak) and 31 . What are the most probable species responsible for the above mentioned peak positions. (CO-3)

(Or)

- b) How mass spectrum is useful to distinguish between 1^o,2^o,3^o aliphatic amines? (CO- 4)
 c) Illustrate Mc Lafferty rearrangement with suitable examples (CO-2)

**M.Sc. DEGREE EXAMINATION
SECOND SEMESTER**

Paper-II :: Inorganic Chemistry - II

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks. (10x2=20M)

1. Write a short note on Phosphorous-Sulphur cages. (CO-2)
2. Explain the bonding aspects of $[\text{Nb}_6\text{Cl}_{12}]^{2-}$. (CO-2)
3. Define hapticity. (CO-1)
4. Elaborate the classification of organometallic compounds. (CO-1)
5. Derive rate law of Anation reaction. (CO-2)
6. Write note on complementary and non-complementary reactions. (CO-2)
7. Discuss how Hund's rules can be used to predict ground terms. (CO-2)
8. Derive the ground term of d^3 and d^9 metal ions. (CO-3)
9. Give a short account on Faraday Effect. (CO-2)
10. Deliberate the effect of spin orbital coupling on magnetic moments. (CO-3)

SECTION – B

(10x5=50M)

UNIT - I

11. a) Describe the bonding and structure in higher boranes and Metalloboranes. (CO-2)

(Or)

- b) Discuss the structure and bonding in $[\text{Re}_2\text{Cl}_8]^{2-}$ ion. (CO-2)

UNIT – II

12. a) Elucidate the applications of organometallic compounds in catalytic hydrogenation and hydro formylation. (CO-3)

(Or)

- b) Explain oxidative addition, reductive elimination reactions of organometallic compounds. (CO-2)

UNIT – III

13. a) Explain the outer sphere mechanism of redox reactions. (CO-2)

(Or)

- b) Discuss the direct and indirect evidences in favour of conjugate base mechanism. (CO-3)

UNIT - IV

14. a) Discuss the calculation of D_q and β parameters. (CO-3)

(Or)

- b) Draw the Orgel diagram and Tanabe Sugano diagram for d^2 and d^9 Configuration and explain. (CO-2)

UNIT - V

15. a) Discuss the storage of dioxygen by myoglobin and write its importance. (CO-2)

(Or)

- b) Describe the factors affecting para magnetism. (CO-2)

**M.Sc. DEGREE EXAMINATION
SECOND SEMESTER**

Paper-III :: Organic Chemistry - II

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks. (10x2=20M)

1. Explain Shaciro reaction. (CO - 2)
2. Explain stobbe condensation. (CO - 2)
3. Write notes on configuration and conformation. (CO - 1)
4. Explain enantiomers with suitable examples. (CO - 1)
5. Draw the structures of the cyclohexane boat and twist boat structures. (CO - 1)
6. Discuss conformation and intramolecular hydrogen bonding. (CO - 2)
7. Discuss Clean Fischer Indole synthesis (CO - 3)
8. Write notes on Biocatalysis. (CO - 1)
9. Define nano explain. (CO - 1)
10. Write general properties of carbon nano tubes. (CO - 1)

SECTION – B

(10x5=50M)

UNIT - I

11. a) Discuss the mechanism of the following
(i) Benzoin condensation. (ii) Reformatsky reaction. (CO - 2)
(Or)
b) Discuss the definition and mechanism of
(i) Wittig reaction (ii) Acyloin condensation.
(CO - 2)

UNIT - II

12. a) Explain the various elements of symmetry with suitable examples. (CO - 1)
(Or)
b) Discuss the various methods for determination of configuration of geometrical isomers with suitable examples. (CO - 1)

UNIT - III

13. a) Discuss the conformational analysis of cyclohexane and explain the stabilites.(CO - 1)
(Or)
b) Write an account of comformation around C – N and C – O hetero atom bond(CO -1)

UNIT – IV

14. a) Discuss the principles of green chemistry. (CO - 2)
(Or)
b) Explain the theory, principle and advantages of MicroWave (MW) organic synthesis.
(CO - 2)

UNIT – V

15. a) Explain growth mechanism of carbon nanotubes. (CO - 2)
(Or)
b) Give an applications of carbon nanotubes. (CO - 2)

**M.Sc. DEGREE EXAMINATION
SECOND SEMESTER**

Paper-IV :: Physical Chemistry - II

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks. **(10x2=20M)**

1. Explain briefly Nernst Heat theorem. (CO-2,L-2)
2. Discuss Third law of thermodynamics in short. (CO-2,L-2)
3. Demonstrate Classification of polymers. (CO-3,L-3)
4. Describe the Free radical polymerization with appropriate mechanism. (CO-2,L-2)
5. Explain Branching Chain Reactions in short. (CO-2,L-2)
6. Discuss briefly Hydrogen oxygen reaction with appropriate mechanism. (CO-2,L-2)
7. Discuss briefly Double layer at the interface. (CO-2,L-2)
8. Explain over potential in short. (CO-2,L-2)
9. What are Schoenflies Symbols. (CO-2,L-2)
10. Define group theory and Sub group. (CO-2,L-2)

SECTION – B

(10x5=50M)

UNIT - I

11. a) Derive Fermi-Dirac statistics (CO-3,L-3)
 - b) Derive Bose Einstein statistics (CO-3,L-3)
- (Or)**
- c) Derive Chemical equilibrium in terms of partition function. (CO-3,L-3)
 - d) Derive Entropy of Monoatomic gases (Sackur-Tetrode equation). (CO-3,L-3)

UNIT - II

- (ii) a) Illustrate Zeigler -Natta Polymerization with suitable example. (CO-3,L-3)
 - b) What is Glass transition temperature ? Demonstrate Factors influencing the glass transition temperature. (CO-3,L-3)
- (Or)**
- c) Differentiate between Number average and Weight average weight of a polymer in detail. (CO-3,L-3)

UNIT - III

- 13.a) Discuss with a neat labelled diagram Standard hydrogen electrode and Calomel electrode in detail. (CO-2,L-2)
- (Or)**
- b) Demonstrate the Conductometric titrations in detail with a neat labelled graphs. (CO-3,L-3)

UNIT – IV

- 14.a) What are Fast reactions ? Discuss the Study of kinetics by flow methods and Relaxation methods With a neat labeled diagram. (CO-3,L-3)
- (Or)**
- b) Differentiate between protolytic and prototropic mechanisms of Acid Base catalysis. (CO-3,L-3)

UNIT - V

- 15.a) Construct the Character table for C_{3v} point group using the implications of orthogonality theorem (CO-2,L-2)
- (Or)**
- b) State the axioms of Group theory and show that C_{2v} is an abelian group. (CO-2,L-2)

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &SCIENCE(Autonomous)
Department of Chemistry

CIA Practicals

Total Marks – 30 M

1. Lab Performance / per experiment – 20 Marks

Experiment	– 10 Marks
Observation	– 5 Marks
Result / Yield / Report	– 5 Marks

2. Semester End Internal Exam – 10 Marks

Experiment	– 7 Marks
Result / Yield / Report	– 3 Marks

M.Sc. DEGREE EXAMINATION

Internal Practical Model Paper

(Regulation 2017-2018)

Time: 6 hours

Maximum Marks: 30

1. Experiment – 20 Marks
2. Result / Graphs / Yield / Report – 10 Marks

M.Sc. DEGREE EXAMINATION

External Practical Model Paper

(Regulation 2017-2018)

Time: 6 hours

Maximum Marks: 70

1. To write the principle and procedure / mechanism related to practical as listed in the practical syllabus – 5 M
2. Record – 10 M
3. Experiment (Procedure / Tabulation / calculation etc.,) – 50 M
4. Result / Graphs / Yield / Report – 5 M

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
IV SEMESTER

20CH4T1: MOOCS – ORGANIC CHEMISTRY - I

Course: MOOCS – ORGANIC CHEMISTRY - I		
S.No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Recollect the concepts of stereochemistry, conformational analysis, CD & ORD, nature of bonding, aromaticity, chemical kinetics and reactive intermediates.	2,7
2	Identify the role of stereochemistry, conformational analysis, CD & ORD, nature of bonding, aromaticity, chemical kinetics and reactive intermediates.	1,2,3
3	Demonstrate the knowledge of stereochemistry, conformational analysis, CD & ORD, nature of bonding, aromaticity, chemical kinetics and reactive intermediates in chosen fields..	1,6,7
4	Analyse the conceptual knowledge in stereochemistry, conformational analysis, CD & ORD, nature of bonding, aromaticity, chemical kinetics and reactive intermediates in the reactions.	1,5,6

Course Learning Objective(S): The main objective of this paper is to give a basic and updated knowledge for the students on Heterocyclic Chemistry.

UNIT-I

Stereo Chemistry : Concept of chirality, Recognition of Symmetry elements. Definition and classification of Stereoisomers, Enantiomer, Diastereomer, Homomer, Epimer, Anomer, Configuration and Conformation, Configurational nomenclature: D,L and R, S nomenclature.

Molecular representation of organic molecules: Fischer, Newman and Sawhorse projections and their inter-conversions. Geometrical isomerism. Cis-trans, E, Z- and Syn and Anti

nomenclature, Methods of determining configuration of Geometrical isomers using physical, spectral and chemical methods.

UNIT-II

Conformational Analysis and ORD, CD Curves:

Definition of Conformation, Conformational analysis of acyclic molecules – alkanes and substituted alkanes. Conformational analysis of monocyclic molecules – cyclohexane – chair, boat and twist boat - mono and disubstituted cyclohexanes and conformation around carbon hetero atom bonds having C–O & C–N. Confirmation and intramolecular hydrogen bonding.

Optical rotatory dispersion: Theory of optical rotatory dispersion – Cotton effect – CD curves-types of ORD and CD curves-similarities and difference between ORD and CD curves. α - Halo keto rule, Octant rule – application in structural studies.

UNIT-III

Nature of bonding and Aromaticity: Nature of bonding: Localised and Delocalized, Delocalised chemical bonding, conjugation, cross conjugation, hyper conjugation, Tautomerism.

Aromaticity: Concept of Aromaticity, Aromaticity of five membered, six membered rings - Non benzenoid aromatic compounds:-cyclopropenylcation, Cyclobutadienyldication, cyclopentadienyl anion-tropyllium cation and cyclooctatetraenyl dianion. Homoaromaticity, Anti aromaticity.

Aromatic Nucleophilic substitution: The S_NAr (Addition – Elimination), $S_N1(Ar)$ mechanisms and benzyne mechanism (Elimination – Addition). Reactivity- effect of substrate structure, leaving group and attacking nucleophile. The Von-Richter, Sommelet – Hauser and Smiles rearrangements.

UNIT-IV

Chemical kinetics- Methods of deriving rate laws - complex reactions - Rate expressions for opposing, parallel and consecutive reactions involving unimolecular steps. Theories of reaction rates -collision theory - Steric factor - Activated complex theory - Thermodynamic

aspects – Unimolecular reactions - Lindemann's theory - Lindemann-Hinshelwood theory.
Reactions in solutions - Influence of solvent - Primary and secondary salt effects.

UNIT- V

Reactive intermediates, Reactive Species, Linear free energy relations: Generation, Structure, Stability, Detection and Reactivity of Carbocations, Carbanions, Free radicals, Carbenes, Nitrenes and Arynes.

Reactive Species: Generation and reactivity of Electrophiles, Nucleophiles, Dienophiles, Ylids.

Elementary account of linear free energy relationships - Hammett - Taft equation - Chain reactions – Rate laws of H_2-Br_2 , photochemical reaction of $H_2 - Cl_2$, Decomposition of acetaldehyde and ethane - Rice- Herzfeld mechanism.

Referencebooks:

1. Some Modern Methods of Organic Synthesis W.Caruthers, Cambridge University Press, Cambridge.
2. Organic Synthesis viz Boranes, HerbertC. BrownGray, W.KramerAlanB.LevyandM.MarkMidl and John Willy & Sons, NewYork.
3. Heterochemistry, T.L.Gilchrist, Longmanscienceandtech.
4. Anintroduction to the Chemistry of Heterocyclic Compounds, R.M.Acheson, Interscience Publishers, NewYork
5. Principle of Organic Chemistry, RocNorman, J.M.Coxon, NelsonThroms
6. Advanced Organic Chemistry, F.ACarey and R.J.Sundberg.Plenum.
7. Heterocyclic chemistry by JaiJackLie, Springer publications.
8. Chemical kinetics - K.J.Laidler, McGraw Hill Pub.

20CH4T2A :HETERO CYCLIC CHEMISTRY

Course:HETERO CYCLIC CHEMISTRY		
S.No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Memorize the synthetic routes and reactions related to three, four, five, six membered and fused heterocyclic compounds.	2,7
2	Understand the concepts of synthesis and reactions of three, four, five, six membered and fused heterocyclic compounds.	1,7
3	Apply the conceptual knowledge gained in the synthesis and reactions of organic synthesis three, four, five, six membered and fused heterocyclic compounds as and when required.	1,6,4
4	Analyse and categorize the various reactions involved in the synthesis of three, four, five, six membered and fused heterocyclic compounds	1,5,7

Course Learning Objective(S): The main objective of this paper is to give a basic and updated knowledge for the students on Heterocyclic Chemistry.

UNIT-I

Definition, Classification and Nomenclature (Hantzsch Widman System) of hetero cycles.

Three membered Heterocyclic Compounds: Synthesis, reactivity, and importance of the following ring systems: Aziridines, Oxiranes, Thiiranes, azirine.

UNIT-II

Four membered Heterocyclic Compounds: Synthesis, reactivity, and importance of the following ring systems :Azitidines, oxetanes, Thietanes.

Fused systems: Synthesis and reactivity of Penicillins G and V.

UNIT-III

Five membered Heterocyclic Compounds with two hetero atoms: Synthesis, reactivity, aromatic character, and importance of the following heterocycles: Pyrazole, Imidazole, Oxazole, Isoxazole, Thiazole.

Fused systems: Synthesis and reactivity of Indoles and Benzimidazoles.

UNIT-IV

Six-membered Heterocyclic Compounds with two hetero atoms: Synthesis, reactivity, aromatic character and importance of the following heterocycles: Pyridazines, Pyrazine, Oxazine, Thiazine.

Fused systems: Acridines and Benzodiazines.

UNIT- V

Larger ring and other Heterocycles: Synthesis and reactivity of Azepines, Oxepines and Thiopines. Synthesis and reactivity of Benzodiazepines.

Course Learning Outcome(S): After studying this paper, students will acquire the knowledge of Heterocyclic Chemistry.

Reference books:

1. Some Modern Methods of Organic Synthesis W.Caruthers, Cambridge University Press, Cambridge.
2. Organic Synthesis viz Boranes, Herbert C. Brown Gray, W.Kramer Alan B.Levy and M.Mark Midland John Willy & Sons, New York.
3. Heterochemistry, T.L.Gilchrist, Longman science and tech.
4. An introduction to the Chemistry of Heterocyclic Compounds, R.M.Acheson, Interscience Publishers, New York
5. Principle of Organic Chemistry, R.C.Norman, J.M.Coxon, Nelson Thomsons
6. Advanced Organic Chemistry, F.A.Carey and R.J.Sundberg. Plenum.
7. Heterocyclic chemistry by Jai Jack Lie, Springer publications.

20CH4T2 B : GREEN CHEMISTRY

Course: GREEN CHEMISTRY

S.No	COURSE OUTCOMES	PO`S
	The student will be able to	
1	Memorize the principles of green chemistry and concepts related to green organic synthesis.	2,7
2	Understand the role and significance of green organic synthesis.	1,5,7
3	Exercise the basic and advanced knowledge gained on green organic synthesis in chosen job role.	1,4,6
4	Analyse how far green methods are environmentally benign over conventional methods of synthesis.	1,3

Unit-I

Principles of Green Chemistry: Prevention of waste / by-products, atom economy, Hazardous products-Designing of safer chemicals-energy requirements Selection of appropriate solvents and starting materials-Use of protecting groups and catalysis-Designing of biodegradable products. green organic synthesis of paracetamol, catechol, adipic acid, urethane and ibuprofen.

Unit-II

Microwave assisted reactions: Theory of Microwave, advantages, disadvantages, applications- water as solvent: Hoffmann elimination, hydrolysis, oxidation of Toluene, oxidation of alcohols, hydrolysis of methyl benzoate to benzoic acid.

Organic solvents: Esterification reactions, Fries rearrangement, Ortho ester Claisen rearrangement, DielsAlder reactions, synthesis of chalcones, decarboxylation.

Solid state reactions (solvent free): De acetylation, deprotection, saponification of esters, synthesis of anhydrides from dicarboxylic acid, synthesis of nitriles from aldehydes.

Unit-III

Phase Transfer Catalysis: Definition, Mechanism, Types, advantages and applications of PTC – C-alkylation, N-alkylation, Darzen's reaction, Wittig reaction, Benzoyl cyanides from benzoyl chloride, alcohols from alkyl halides, Crown ethers – Introduction, synthetic

applications: esterification, saponification, Anhydride formation, KMnO_4 oxidation, aromatic substitution, elimination.

Unit-IV

Ultrasound assisted green synthesis: Introduction, instrumentation, types of sono chemical reactions – Homogeneous reactions – Curtius rearrangement of Benzoyl azide to phenyl isocyanate. Heterogeneous Liquid-Liquid reactions - Esterification, saponification, Hydrolysis, substitutions, additions. Heterogeneous Solid – Liquid Reactions–oxidation, reduction, hydroboration, coupling, Bouveault reaction, Strecker reaction.

Unit-V

Ionic liquids: Definition-Types of Ionic Liquids- properties- Application in organic synthesis- alkylation, allylation, oxidation, hydrogenation, hydroformylation, alkoxy carbonylation, carbon-carbon bond forming reactions-suzuki coupling, Heck reaction, stille coupling.

Textbooks/Referencebooks:

1. New Trends in Green Chemistry by V.K.Ahluwalia, M.Kidwai.
2. Green Chemistry: Environment Friendly Alternatives by Rashmi Sanghi, M.M.Srivastava
3. Green Solvents for Organic Synthesis by V.K.Ahluwalia, RajenderS.Varma.

20CH4T3 A: TECHNIQUES FOR MODERN INDUSTRIAL APPLICATIONS

COURSE :TECHNIQUES FOR MODERN INDUSTRIAL APPLICATIONS		
S.No	COURSE OUTCOMES:	PO'S
	The student will be able to	
1	Comprehend the concepts of purification methods and chromatographic methods.	2,7
2	Exercise the knowledge gained in purification and chromatographic techniques in their chosen job role.	1,4,6
3	Exercise that how far the purification and chromatographic techniques are useful in assessing the purity of the compound.	1,3,7
4	Evaluate that how far a compound is purified / separated using purification and chromatographic techniques.	1,5,7

UNIT-I

Classical Methods of purification Recrystallization: Basic principle, choice of solvent, seeding, filtration, centrifugation and drying. Concepts of fractional crystallization.

Distillation: Basic principle. Distillation types- continuous distillation, batch distillation, fractional distillation, vacuum distillation and steam distillation.

UNIT-II

Thin Layer chromatography:

Basic Principle, Common stationary phases, Methods of preparing TLC plates, Selection of mobile phase, Development of TLC plates, Rf value. Application of TLC in monitoring organic reactions. identification and quantitative analysis.

UNIT-III

Paper chromatography:

Basic Principle, Ascending and descending types. Selection of mobile phase, Development of chromatograms, One and two dimensional paper chromatography, Applications of paper chromatography.

UNIT-IV

Gas chromatography:

Basic Principle, Different types of GC techniques. Selection of columns and carrier gases. Instrumentation. detectors; Rf values. Applications in the separation, identification and quantitative analysis of organic compounds.

UNIT-V

High Performance liquid chromatography(HPLC):

Basic Principle, Normal and reversed Phases. Selection of column and mobile phase. Instrumentation. Detectors; Rf values. Applications in the separation, identification and quantitative estimation of organic compounds.

SUGGESTED BOOKS:

1. Principles of Instrumental Analysis by D. A. Skoog, F. J. Holler and T. A. Nieman, Harcourt College Pub.
2. Separation Techniques by M. N. Sastri, Himalaya Publishing House (HPH), Mumbai.
3. Bio Physical Chemistry by A. Upadhyay, K. Upadhyay and N. Nath,(HPH) , Mumbai.
4. A Hand Book of Instrumental Techniques for Analytical Chemistry- Ed-F. A. Settle, Prearson Edn, Delhi.27
5. Introduction to Organic Laboratory Techniques-D. L. Pavia, G. M. Lampman,G. S. Kriz and R. G. Engel, Saunders College Pub (NY).
6. Instrumental methods of Chemical Analysis by B. K. Sharma, Goel Publish House, Meerut.
7. Instrumental methods of Chemical Analysis by H. Kaur, Pragati Prakasan, Meerut.
8. Protein Purification-Principles and practice, III Edn- R. K. Scopes, Narosa Publishing House , Delhi.

20CH4T3 B : NANO CHEMISTRY

Course:NANO CHEMISTRY		
S.No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Will be able to memorize the basic concepts of nanochemistry and nano materials.	2,7
2	Understand the basic and advanced concepts of nanochemistry and nano materials	1,5,7
3	Apply the knowledge gained in the field of nanochemistry as and when required.	1,3,6
4	Analyse the role of nanochemistry in various interdisciplinary sciences.	1,5

Course Learning Objective(S): The main objective of this paper is to give a basic and updated knowledge for the students on Nano Chemistry.

Unit-I

Introduction to Nano chemistry: Definition of terms-nanoscale, nanomaterials, nanoscience, nanotechnology-scale of materials natural and manmade-nanoscience practiced during ancient and modern periods-contributors to the field of Nanochemistry.

Unit-II

Synthesis of Nanomaterials: Top down and bottom- up approaches-synthesis of carbon nanotubes, quantumdots, gold and silver nanoparticles.

Unit-III

Characterization of Nano materials: Electron microscopy techniques-scanning electron microscopy, transmission electron microscopy and atomic force microscopy.

Unit-IV

Application of Nanomaterials: Solar cells-smart materials-molecular electronics-biosensors-drug delivery and therapy-detection of cancerous cells.

Unit-V

Nanochemistry in Nature: The science behind the nanotechnology in lotus effect-self-cleaning property of lotus-gecko foot climbing ability of geckos-water strider-anti wetting property of water striders-spider silk mechanical properties of the spider silk.

Textbooks/ Reference books:

1. Nano: The Essentials: Understanding Nanoscience and Nanotechnology, T.Pradeep, McGraw-Hill Professional Publishing, 2008.
2. Introduction to Nanoscience, J.Dutta, H.F.Tibbals and G.L.Hornoyak, CRCpress, BocaRaton, 2008.

20CH4T4: ORGANO METALLIC REAGENTS

Course:ORGANO METALLIC REAGENTS		
S.No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Memorize the synthetic routes and applications of organo metallic reagents.	2,7
2	Appreciate the methods of synthesis and reactivity of various organo metallic reagents	1,3,7
3	Investigate the conceptual knowledge in various organo metallic reagents in organic synthesis	1,6,3
4	Assess the role of specific organic reaction reagents in the synthesis	1,6,5

Course Learning Objective(S): The main objective of this paper is to give a basic and updated knowledge for the students on Organometallic Reagents.

UNIT-I

Organo Magnesium and Lithium compounds: Preparation of Grignard reagents with alkyl, allyl, and propargyl halides, alkylation reaction with carbonyl compounds, esters, imines and nitriles, epoxides, acids, acid chlorides, carbon dioxide, carbon disulfide, sulfur dioxide. Preparation of alkyllithium reagents, Lithium Di isopropyl amide (LDA) and its synthetic applications.

Unit-II

Organo Copper and Nickel compounds: Organo copper reagents - preparation, reactions, organocuprates, lithium organocuprates (Gilman reagents). Organonickel compounds: π -allylnickel complexes, preparation of 1,5 cyclic dienes, nickel carbonyl.

Unit-III

Organo Palladium compounds: Preparation of palladium reagents, π -allyl palladium complexes – formations, reactions – prenylation, formation of conjugated dienes, synthesis of macro cyclic nitrogen hetero cyclic. Heck reaction, Stille coupling reaction, Sonogashira coupling reaction, Suzuki coupling reaction.

Unit-IV

Organoboranes: Preparation of Organoboranes viz hydroboration with BH_3 -THF, dicyclohexyl boranes, disiamylborane, tetrylborane, 9-BBN and catechol boranes. Protonolysis, oxidation, isomerization and cyclization. Free radical reactions of organoboranes, reactions with α -bromoketones, α -bromoesters, carbonylation, the cyanoborate process and the reaction of alkenyl boranes and trialkyltrialkynyl borates.

Unit-V

Organosilanes: Synthetic applications of organo silicon compounds, protection of functional groups, trimethylsilyl ethers, silylenoethers, trimethylsilyliodide, trimethylsilyl triflate, Peterson olefination. Synthetic applications of α -silylcarbanion and β -silylcarbonyl compounds, alkenylsilanes, Allylsilanes, the β -effect - control of rearrangement of carbonium ions by silicon.

Referencebooks:

1. Organometallic in Synthesis A Manual by M. Schlosser, L. Hegedus, B. Lipshutz et al, John Wiley & Sons.
2. Modern methods of organic synthesis by W. Carruthers (Cambridge).
3. Organic synthesis by H.O. House.
4. Organometallics: A concise introduction, Christoph Elschenbroich, 3rd edition, Wiley-VCH.
5. Advanced Organic Chemistry, F.A. Carey and R.J. Sundberg, Plenum.
6. Transition metals in the synthesis of complex organic molecules, Hegedus, L.S., 2nd edition, University Science, Book, CA, 1999.
7. Organometallic Chemistry and Catalysis, Astruc, D., Springer Verlag, 2007.
8. Organotransition metal chemistry: Applications to organic synthesis, Davies, S.G., Pergamon Press, New York, 1986.

Add on Course in Chemistry (PG)

ORGANOMETALLIC CHEMISTRY & METAL MEDIATED ORGANIC

SYNTHESIS

Overview

The course covers an advance level of organometallic chemistry and recent development of cross coupling reactions and their applications in organic synthesis,

Syllabus

UNIT – I

Introduction of Organometallic Chemistry, Ligand Substitution Reactions, Oxidative Addition [1. Concerted Mechanism], Oxidative Addition [2. SN2 Mechanism], Oxidative Addition [3. Radical Mechanism], Reductive Elimination, Insertion and elimination.

UNIT – II

Hydrogenation of Alkenes, Hydrosilation reaction, Hydroformylation reaction, Alkene dimerization, Alkene polymerization, Monsanto acetic acid process, Wacker process, Synthetic gasoline, Synthetic gas

UNIT - III

Asymmetric hydrogenation, Kumada Coupling reaction, Suzuki coupling reaction, Stille coupling reaction, Sonogashira coupling reaction, Heck coupling reaction

UNIT – IV

Metathesis of olefins and alkynes, Buchwald-Hartwig coupling reaction, Kulinkovich Reaction and its mechanism, Pauson–Khand reaction, Glaser coupling reaction, Nozaki-Hiyama-Kishi coupling reaction

Reference books:

1. Organometallic Chemistry – R C Mehrotra and A Singh, New Age Publications
2. Inorganic Chemistry- Principles of Structure and Reactivity, James E Huheey, Ellen A. Keiter,
Richard L. Keiter, Pearson Education
3. Advanced Inorganic Chemistry- F A Cotton, G Wilkinson, Carlos A. Murillo, Manfred
Bochman- John wiley and Sons.
4. Inorganic Chemistry – Allan G Sharpe, Addison Wesley
5. Organic Synthesis – Michael B. Smith (2nd Edition – McGraw Hill
6. Name Reactions – Jie Jack Li – (2nd Edition – Springer)
7. Organic Chemistry – Clayden, Greeves, Warren and Wothers (Oxford University Press)
8. Advanced Organic Chemistry – Francis A. Carey and Richard J. Sundberg – Part B –
Reactions and Synthesis. Kluwer Academic / Plenum Publishers.
9. Advanced Organic Chemistry – Francis A. Carey and Richard J. Sundberg – Part A –
Structure and Mechanisms – Kluwer Academic / Plenum Publishers.

CH4L1: ORGANIC ESTIMATIONS

Course: ORGANIC ESTIMATIONS (20CH4L1)		
S.No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Memorize the basic principles involved in organic quantitative analysis.	1,3,5
2	Understand the importance of organic quantitative analysis and their use on research and industry.	
3	Exercise the procedure of quantitative analysis in chosen job roles.	
4	Evaluate how far these methods are accurate in quantitative determinations.	

Expt. 1: Estimation of phenol (bromination method)

Expt. 2: Estimation of aniline (Bromination method)

Expt.3: Estimation of sugars –glucose and sucrose by using Fehlings solution

Expt. 4: Determination of iodine value of oil or fat

Expt. 5: Determination of saponification value of oil or fat

Expt. 6: Estimation of vitamin 'C' in lime juice.

Expt. 7: Estimation of Nitro group

Expt. 8: Estimation of formaldehyde

Expt. 9: Isolation of caffeine from tea/coffee sample.

Part-III: Record Submission **10M**

20CH4L2: PROJECT WORK

Project: PROJECT WORK (code 20CH4L2)		
S.No.	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Acquire required skills to implement theoretical knowledge gained.	1,3,4,7
2	Assimilate the required knowledge for future research through practical knowledge gained in the project work.	1,2,7
3	Gain the required ability to start up own industry.	1,4,5,6
4	Comprehend the ability to draft and communicate the practical work.	1,2,7

The project will be assigned in the final semester. The project will be performed at the established industry (or) in the department under the supervision of the faculty or research institutes. It may involve experimental and/or theoretical work as well as critical review of the literature. Each of the students has to carry out original research in a topic in accordance with the work chosen under the guidance and supervision of a teacher in the concerned Department of the college.

- Isolation and characterization of Natural Products.
- Synthesis and characterization of Hetero Cyclic Compounds.
- Spectroscopical study of Organic compounds.
- Industrial visit and submit research findings of their Industrial visit / IIT's, CSIR Lab's, NIT's Central Universities etc.,

**M.Sc. DEGREE EXAMINATION
FOURTH SEMESTER**

Paper-I :: MOOCS

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks.
(10x2=20M)

- | | |
|---|-------|
| 11. What is toxicology and explain with a suitable example. | (L-2) |
| 12. Discuss any one method of quantitative analysis. | (L-1) |
| 13. Explain equilibria between strong and weak acids. | (L-2) |
| 14. Discuss salt hydrolysis in detail. | (L-2) |
| 15. Explain Beers law in detail. | (L-2) |
| 16. Discuss chromophores in detail. | (L-2) |
| 17. Explain uses of oxidizing and reducing agents. | (L-1) |
| 18. Discuss IR drop in electrochemical cells. | (L-2) |
| 19. Explain thermo gravimetric analysis. | (L-3) |
| 20. Discuss differential thermal analysis. | (L-2) |

SECTION – B

(10x5=50M)

UNIT – I

- | | |
|---|-------|
| 21. a) Explain flow diagrams in detail. | (L-2) |
| (Or) | |
| b) Explain (i) Micro analytical balance (ii) Filtration techniques. | (L-2) |

UNIT – II

- | | |
|---|-------|
| 12. a) Explain the types of equilibria on basis of chemical analysis. | (L-2) |
| (Or) | |
| b) Discuss in detail (i) Titration curves (ii) Common ion effect. | (L-2) |

UNIT – III

- | | |
|--|-------|
| 13. a). Explain d – d, f – f transitions and its applications in detail. | (L-2) |
| (Or) | |
| b) Discuss chromophoric reagents and applying Beers law to mixtures. | (L-2) |

UNIT – IV

- | | |
|--|-------|
| 14. a) Discuss the (i) differential scanning calorimetry (ii) TG – plot. | (L-3) |
| (Or) | |
| b) Discuss (i) Geometric estimation (ii) Furnaces and crucibles | (L-2) |

UNIT - V

- | | |
|---|-------|
| 15. a) Discuss in detail potentiometric titrations with a neat labeled diagram. | (L-2) |
| (Or) | |
| b) Explain controlled potential coulometry with a neat labeled diagram. | (L-3) |

M.Sc. DEGREE EXAMINATION

FOURTH SEMESTER

Paper-II A :: Hetero Cyclic Chemistry

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks.
(10x2=20M)

1. Write any one method of synthesis of Thiirane. (L-2)
2. Write any one method of synthesis of azirine. (L-2)
3. Discuss the synthesis of oxetane. (L-1)
4. Discuss the reactivity of pencillin. (L-1)
5. Write down the structures of pyrazole and imidazole. (L-1)
6. Write the structure of Indole & Benzimidazole. (L-1)
7. Write one synthesis method of pyrazine. (L-2)
8. Discuss the reactivity of Benzodiazine. (L-2)
9. Write the synthesis of azepine. (L-2)
10. Write the structure of Benzodizepine. (L-1)

SECTION – B

(10x5=50M)

UNIT – I

1. a) Write the synthesis and reactivity of Aziridines and oxiranes. (L-2)
(Or)
b) Discuss the classifications and nomenclature (Hantzsch Widman system) of heterocycles. (L-1)

UNIT – II

12. a) Write the synthesis and reactivity of Azitidines and Thietanes. (L-2)
(Or)
b) Write the synthesis of Pencillin G and V. (L-2)

UNIT – III

13. a) Write the synthesis and reactivity of Oxazole and Thiazole. (L-2)
(Or)
b) Write the synthesis and reactivity of indole. (L-2)

UNIT - IV

- 14.a) Write the synthesis and reactivity of Pyridazines and Oaxazine. (L-2)
(Or)
b) Write the synthesis and reactivity of acridine. (L-2)

UNIT - V

- 15.a) Write the synthesis and reactivity of Oxepines and Thiepinines. (L-2)
(Or)
b) Write the synthesis and reactivity of Benzodiazepines. (L-2)

M.Sc. DEGREE EXAMINATION
FOURTH SEMESTER

Paper-II B :: GREEN CHEMISTRY

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks.

(10x2=20M)

1. Write the green synthesis of urethane. (L-2)
2. Define atom economy. Explain atom economy in rearrangement reaction with a suitable example. (L-2)
3. Explain the synthesis of nitriles from aldehydes. (L-2)
4. Give the disadvantages of microwave assisted organic synthesis. (L-1)
5. Discuss the various types of phase transfer catalysts. (L-2)
6. Write the mechanism of phase transfer catalysis. (L-2)
7. Write notes on ultrasound assisted homogeneous reactions. (L-2)
8. Write notes on ultrasound assisted strecker reaction. (L-2)
9. Write notes on hydroformylation. (L-2)
10. Write an account of oxidation with ionic liquids. (L-2)

SECTION – B

(10x5=50M)

UNIT – I

1. a) Write a brief account of twelve principles of green chemistry. (L-1)
(Or)
b) Out line the green synthesis of the following compounds:
(i) Ibuprofen (ii) paracetamol (iii) catechol. (L-2)

UNIT – II

12. a) Discuss microwave assisted reactions in organic solvents. (L-2)
(Or)
b) Discuss the theory and advantages of microwave. (L-2)

UNIT – III

- 13 a) Define phase transfer catalyst. Write notes on C – alkylation and N – alkylation using PTC. (L-3)
(Or)
b) Discuss the synthetic applications of crown ethers. (L-3)

UNIT - IV

- 14.a) What is ultrasound assisted green synthesis. Discuss the instrumentation. (L-2)
(Or)
b) Write an account of the heterogeneous solid-liquid reactions. (L-2)

UNIT - V

- 15.a) Define ionic liquids. Mention the types of ionic liquids and properties. (L-2)
(Or)
b) Write the application of ionic liquids with respect to carbon – carbon bond formation
(i) Suzuki coupling (ii) stille coupling (L-3)

**M.Sc. DEGREE EXAMINATION
FOURTH SEMESTER**

Paper-III A:: TECHNIQUES FOR MODERN INDUSTRIAL APPLICATIONS

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks.

(10x2=20M)

1. Discuss the role of recrystallisation in purification of compounds. (L-2)
2. Explain the principle involved in batch distillation. (L-2)
3. Write the basic principle involved in TLC. (L-2)
4. Give an account on selection of mobile phase in TLC. (L-2)
5. Elaborate the basic principle involved in paper chromatography. (L-2)
6. Describe in brief about two dimensional paper chromatography. (L-2)
7. Explain the basic principle involved in Gas chromatography. (L-2)
8. List out various types of carrier gases used in Gas chromatography. (L-2)
9. What are normal phase and reverse phase techniques in HPLC? (L-2)
10. Write a short note on selection of mobile phase in HPLC. (L-2)

SECTION – B

(10x5=50M)

UNIT – I

11. a) Explain the following (i) seeding (ii) filtration (iii) centrifugation (iv) drying (L-2)

(Or)

- b) Explain the following (i) continuous distillation (ii) steam distillation. (L-2)

UNIT – II

12. a) What are the methods that are involved in the preparation of TLC plates? (L-2)

(Or)

- b) Write a note on applications of TLC. (L-2)

UNIT – III

- 13 a) Elaborate Ascending and Descending paper chromatography. (L-2)

(Or)

- b) Write applications of paper chromatography. (L-3)

UNIT - IV

- 14.a) Discuss about different types of columns used in gas chromatography. (L-3)

(Or)

- b) Explain few applications of gas chromatography.. (L-3)

UNIT - V

- 15.a) Describe instrumentation of HPLC and explain the selection of the column.(L-3)

(Or)

- b) Give a detailed account on applications of HPLC. (L-3)

**M.Sc. DEGREE EXAMINATION
FOURTH SEMESTER**

Paper-III B : NANO CHEMISTRY

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks.
(10x2=20M)

1. What is bottom down approach? (L-1)
2. Explain the term nanoscale and nano material? (L-2)
3. Discuss the basic principle involved in TEM. (L-1)
4. Write a short note on natural and man made nano particles. (L-2)
5. What are quantum dots? Explain. (L-1)
6. List out the various types of techniques used in characterization of nanomaterials. (L-1)
7. Enumerate the role of nanomaterials in drug delivery. (L-2)
8. Give an account on biosensors. (L-2)
9. Explain in short about water strider. (L-2)
10. What is gecko foot climbing? (L-1)

SECTION – B

(10x5=50M)

UNIT – I

11. a) Define the following terms
(i) Nanoscale (ii) Nanomaterials (iii) Nanoscience (iv) Nanotechnology (L-1)

(Or)

- b) Write a note nanoscience practiced during ancient and modern periods. (L-2)

UNIT – II

12. a) Explain top down and bottom-up approaches for the synthesis of nanotubes. (L-2)

(Or)

- b) Write various methods for the synthesis of gold nanoparticles. (L-2)

UNIT – III

- 13 a) Write the principle and applications of scanning electron microscopy. (L-2)

(Or)

- b) Write the principle and applications of atomic force microscopy. (L-3)

UNIT - IV

- 14.a) Write the applications of nanomaterials in solar cells and smart materials. (L-3)

(Or)

- b) Explain the applications of detection of cancerous cells. (L-3)

UNIT - V

- 15.a) Write a note on lotus effect-self-cleaning property of lotus. (L-2)

(Or)

- b) Write a note on spider silk mechanical properties of the spider silk. (L-2)

M.Sc. DEGREE EXAMINATION
FOURTH SEMESTER

Paper-IV :: Organo Metallic Reagents

Time: 3 hours

Maximum Marks: 70

SECTION – A

Answer all the questions. Each question carries 2 marks.

(10x2=20M)

1. Explain the reaction of Grignard reagent with carbondioxide. (L-2)
2. Explain the preparation of grignard reagent with alkyl and allyl halide. (L-2)
3. What are Gilman reagents. Write any two reactions. (L-2)
4. Write the reactions of α,β – unsaturated carbonyl compounds with organocopper reagents. (L-2)
5. Write an account of suzuki coupling. (L-2)
6. Explain formation of π -allyl palladium complexes. (L-2)
7. Discuss the cyanoborate reaction. (L-2)
8. Write notes on isomerisation of organoboranes. (L-2)
9. Write an account of Peterson olefination. (L-2)
10. Write short notes of alkenyl silanes. (L-2)

SECTION – B

(10x5=50M)

UNIT – I

11. a) Explain the reaction of Grignard reagent with carbonyl compounds and Ester. (L-2)

(Or)

- b) Write the preparation and uses of Lithium Di isopropyl amide (LDA). (L-2)

UNIT – II

12. a) Explain synthesis and reactions of lithium organo cuprates. (L-2)

(Or)

- b) Write the synthesis and properties of π -allyl nickel complexes. (L-2)

UNIT – III

- 13 a) Explain the following reactions with mechanisms

(i) Heck reaction (ii) Still coupling reaction. (L-2)

(Or)

- b) Explain the reactions of π – allyl palladium complexes. (L-2)

UNIT - IV

- 14.a) Write an account of Hydroboration. (L-2)

(Or)

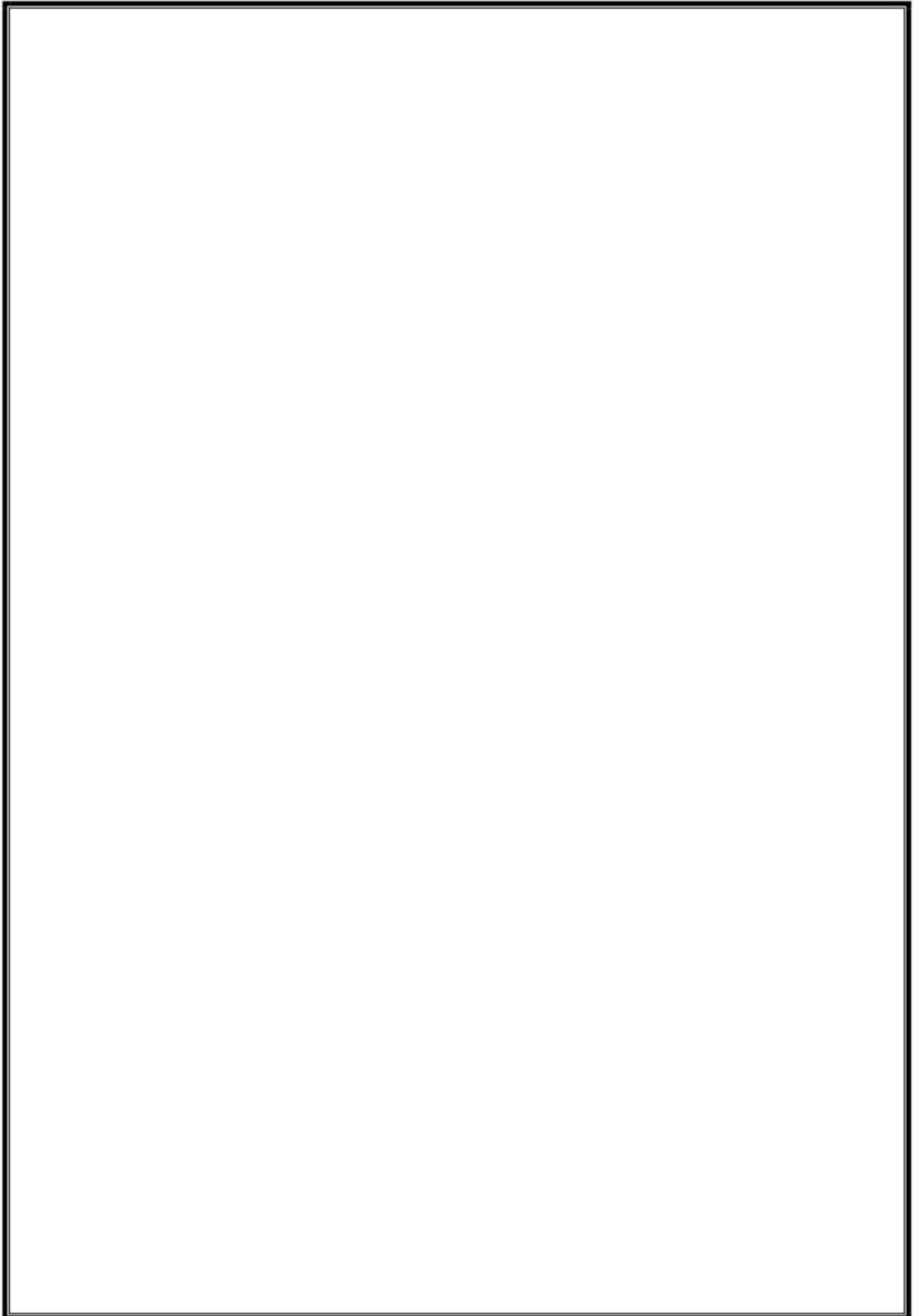
- b) Explain the protonolysis, oxidation, isomerisation reactions of organoboranes. (L-2)

UNIT - V

- 15.a) Write the synthetic applications of trimethyl silyl ethers and silyl enol ethers. (L-3)

(Or)

- b) Write the synthetic applications of α -silylcarbanion and β -silyl carbonyl compound (L-3)



**A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE,
VUYYURU-521165**

(An Autonomous College in the Jurisdiction of Krishna University) Accredited

at the level 'A' by the NAAC

Sponsors: Siddhartha Academy of General & Technical Education



DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for PG (M.Sc.)

Date: 10-06-2022



A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE::VUYYURU

(An Autonomous College in the Jurisdiction of Krishna University)
Accredited at the level 'A' by the NAAC
Sponsors: Siddhartha Academy of General & Technical Education

DEPARTMENT OF COMPUTER SCIENCE (PG)

Minutes of the meeting of Board of Studies in Computer Science for M.Sc. (Computer Science) programme
held on 10-06-2022 at 11:00A.M. for the Department of Computer Science.

Members Present		
Name of the Member	Role	Signature
Smt. T.Keerthi, I/C HOD, Dept. of Computer Science, A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru-521165. Mobile: 9959558485 E-Mail: keerthitineni16@gmail.com	Chairman	
Dr. K.Madhavi, Associate Professor, Dept of Computer Science, JNTUA. College of Engineering, Anantapur. Mobile: 9440206501 E-Mail: kasamadhavi@yahoo.com	University Nominee, Krishna University	
Dr.R.Satya Prasad, Professor, Department of Computer Science, Acharya Nagarjuna University, Nagarjuna Nagar-522508. Mobile: 9848487478 E-Mail: profrsp@gmail.com	Subject Expert	
Dr.T.S.Ravi Kiran, H.O.D & Assistant Professor, Dept of Computer Science, P.B. Siddhartha Degree College of Arts & Science-Vijayawada -520002. Mobile: 9441176980 E-Mail: kirantsr1@gmail.com	Special Invitee	
Sri.U.Sairam, C.E.O, Codegnan I.T Solutions OPC PVT LTD., Vijayawada 520002 Mobile: 9959555952 E-Mail: uppugundlasairam@gmail.com	Industrialist	
Ms. P.Srujana, Software Developer, TonmetriInfoSolutions, Vijayawada. Mobile: 9032671688 E-Mail: srujanapaladugu26@gmail.com	Alumni Representative	
Smt. V. Muni, Assistant Professor, A.G & S.G Siddhartha Degree College of Arts & Science. Mobile: 8099205522 E-Mail: muni.j2ee@gmail.com	Member	
Sri.B.MadhuSudhana Rao, Assistant Professor, A.G & S.G Siddhartha Degree College of Arts & Science. Mobile: 7842664766 E-Mail: ms.madhu27@gmail.com	Member	

PG

AGENDA

- To discuss and approve the *Structure, Syllabi and Model Question Papers* of *Second Semester* of M.Sc.(Computer Science) for the batch of students admitted from the academic year 2021-2022 and onwards.
- To discuss and approve the *Structure, Syllabi and Model Question Papers* of *Fourth Semester* of M.Sc.(Computer Science) for the batch of students admitted from the academic year 2021-2022 and onwards.

RESOLUTIONS

- **Resolved and recommended to continue the same syllabus, model papers without changes in the Second Semester for the following courses:**
 - Computer Networks (21CS2T1)
 - Data Structures (21CS2T2)
 - Web Technologies (21CS2T3)
 - Operating System (21CS2T4)
 - Data Structures Lab (21CS2L2)
- **Resolved and recommended to introduce new syllabus, model papers in the Second Semester for the following courses:**
 - Computer Networks & Operating System Lab (21CS2L1)
- **To discuss and approve the *Structure, Syllabi and Model Question Papers* of Open Electives “*Computer Fundamentals & office Tools*” for Second Semester**
- **Resolved and recommended to continue the same syllabus, model papers without changes in the Fourth Semester for the following courses:**
 - Cloud Computing (21MCS403)
- **Resolved and recommended to introduce new syllabus, model papers in the Fourth Semester for the following courses:**
 - PHP & MY SQL (21MCS401)
 - Big Data & Analytics (21MCS402)
 - Artificial Intelligence & Machine Learning (21MCS404)
 - Big Data & Analytics Lab (21MCS402L1)
 - Project Work (21MCS405)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme - II Semester

Course	COMPUTER NETWORKS		
Course Code	20CS2T1	Course Delivery Method	Class Room / Blended Mode
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2020-21	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

1. Course Outcomes:

At the end of this course students will be able to:

1. Understand functionality of *Layered Network Architecture*, Different types of *Transmission Media*. (CO1)
2. Understand various *Networks* and their functions.(CO2)
3. Understand the *IPAddresses*andvarious*RoutingAlgorithms*usedininternetworking.(CO3)
4. Understand different *Transport Layer Protocols*.(CO4)
5. Understand the various *Application Layer Protocols* and *Security Issues* over internet.(CO5)

Unit	Learning Units	Lecture Hours
I	<p>Introduction: Uses of Computer Networks: Business Application, Home Applications, Mobile Users, Social Issues,.</p> <p>Network Hardware: Local Area Networks, Metropolitan Area Networks, Wide Area Networks, Wireless Networks, Home Networks, Internetworks.</p> <p>Network Software: Protocol Hierarchies, Design Issues for the Layers, Connection Oriented and Connectionless Services, Service Primitives, The relationship of Services to Protocols,</p> <p>Reference Models: The OSI Reference Model, The TCP/IP Reference Model, A Comparison of OSI and TCP/IP Reference Model, A Critique of the OSI Model and Protocols, A Critique of the TCP/IP reference model,</p> <p>Example Networks: The Internet, The Third Generation Mobile Phone Networks, Wireless LANs, RFID and Sensor Networks.</p> <p>Physical Layer: Guided Transmission Media: Magnetic Media, Twisted Pair, Coaxial Cable, power lines, Fiber Optics</p>	14
II	<p>Data Link Layer: Data Link Layer Design Issues: Services Provided to the Network Layer, Framing, Error Control, and Flow Control.</p> <p>Error Correcting Codes, Error Detecting Codes, Elementary Data Link Protocols: An Utopian Simplex Protocol, A Simplex Stop and Wait Protocol, A Simplex Protocol for a Noisy Channel.</p> <p>Sliding Window Protocols: A One Bit Sliding Window Protocol, A Protocol Using Go Back N, A Protocol using Selective Repeat.</p> <p>The Medium Access Control Sub Layer: Ethernet: Ethernet Cabling, Manchester</p>	14

	<p>Encoding, The Ethernet MAC sub layer Protocol, The Binary Exponential Back off Algorithm, Ethernet Performance, Switched Ethernet, Fast Ethernet, Gigabit Ethernet, 10-bit Gigabit Ethernet.</p> <p>Wireless Lans: The 802.11 Protocol Stack, The 802.11 Physical Layer, The 802.11 MAC Sub Layer Protocol, The 802.11 Frame Structure, Bluetooth: Bluetooth Architecture, Bluetooth Applications, The Bluetooth Protocol Stack, The Bluetooth Radio Layer, The Bluetooth Link Layers, The Bluetooth Frame Structure,</p> <p>Data Link Layer Switching: Uses of Bridges, Learning Bridges ,Spanning Tree Bridges, Remote Bridges, Repeaters, Hubs, Bridges, Switches, Routers and Gateways, Virtual LANs.</p>	
III	<p>The Network Layer: Network Layer Design Issues: Store and Forward Packet Switching, Services provided to the Transport Layer, Implementation of Connectionless Services, Implementation of Connection Oriented Services, Comparison of Virtual Circuit and Datagram subnets. Routing Algorithms : The Optimality Principle, Shortest Path Routing, Flooding , Distance Vector Routing, Link State Routing, Hierarchical Routing, Broadcast Routing, Multicast Routing.</p> <p>Internet Working: How Networks Differ, How Networks can be connected, Concatenated Virtual Circuits, Connectionless Internetworking, Tunneling, Internetwork Routing, Packet Fragmentation. The Network Layer in the Internet: The IP Version 4 Protocol, IP address, Internet Control Protocols, OSPF, The Internet Gateway Routing Protocol, BGP, The Exterior Gateway Routing Protocol.</p>	10
IV	<p>The Transport Layer: The Transport Service: Services provided to the Upper Layers, Transport Services Primitives, and Berkeley Sockets.</p> <p>Elements of Transport Protocols: Addressing, Connection Establishment, Connection Release, Flow Control and Buffering, Multiplexing.</p> <p>The Internet Transport Protocols: Introduction to UDP: Remote Procedure Call, The Real Time Transport Protocol.</p> <p>The Internet Transport Protocols: Introduction to TCP, The TCP Service Model, The TCP Protocol, The TCP Segment Header, TCP Connection Establishment, TCP Connection Release, Modelling TCP Connection Management, TCP Sliding Window, TCP Congestion Control, TCP Timer Management, Future of TCP.</p>	10
V	<p>The Application Layer: DNS: The Domain Name System: The DNS Name Space, Resource Records, Name Servers.</p> <p>Electronic Mail: Architecture and Services, The User Agent, Message Formats, Message Transfer, Final Delivery.</p> <p>The World Wide Web: Architecture Overview, Static Web Pages, Dynamic Web Pages and Web Applications. HTTP-The Hyper Text Transfer Protocol.</p> <p>Streaming Audio and Video: Digital Audio, Digital Video, Streaming Stored Media, Streaming Live Media, Real Time Conferencing.</p> <p>Network Security: Introduction to Cryptography, Public Key Algorithms-RSA.</p>	12

Prescribed Text Book

	Author	Title	Publisher
1	Andrews.T anenbaum	Computer Networks	Fifth Edition, Pearson Chapters: 1.1 to 1.5, 2.2, 3.1 to 3.4, 4.3, 4.4, 4.6, 4.8, 5.1, 5.2.1 to 5.2.8, 5.5, 5.6.1 to 5.6.4, 5.6.6, 5.6.7, 6.1.1 to 6.1.3, 6.2.1 to 6.2.5, 6.4, 6.5, 7.1, 7.2, 7.3.1 to 7.3.4, 7.4.1 to 7.4.5, 8.1.1, 8.3.1

Reference Text Book

1	Behrouz A Forouzan, Firouz	Computer Networks A Top Down Approach	McGraw hill Education (India) Special Indian Edition
---	----------------------------	---------------------------------------	--

	Mosharaff		
2	JamesF.Kurose,Keith W.Ross	Computer Networking- A Top-Down Approach	6e,Pearson
3	Larry Peterson and Bruce Davie	Computer Networks-A System Approach	5e,ElsevierIndia

A.G &S.G Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.
(An Autonomous College in the jurisdiction of Krishna University)

M.Sc., (Computer Science) Programme-II Semester

Course Code: 20CS2T1 Title: COMPUTER NETWORK

Time: 3Hours

Max.Marks:70

SECTION-A

Answer ALL questions

(10×2=20Marks)

- 1a) Distinguish between *Computer Network* and *Distributed System*.(BTL4)
- b) What is *Bit Stuffing*? (BTL1)
- c) How *Ethernet Switch* works?(BTL1)
- d) What is *Ubiquitous Computing*?(BTL1)
- e) What is count to *Infinity Problem*? (BTL1)
- f) How *Router* works?(BTL1)
- g) What is *Berkley Socket*? (BTL1)
- h) What is *Port Mapper*?(BTL1)
- i) What are *Resource Records*? (BTL1)
- j) What is *POP3*?(BTL1)

SECTION-B

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks.

(5×10=50Marks)

UNIT-I

- 11a) Explain *OSI Reference Model* with neat diagram. (BTL2)
- (OR)
- B) Explain *Error Correction And Detection Codes* with example.(BTL2)

UNIT -II

- 12a) Explain *Sliding Window Protocol* with neat diagram. (BTL2)
- (OR)
- b) Explain *Bluetooth Architecture* and its *Protocol Stack* with neat diagram.(BTL2)

UNIT -III

- 13a) Explain any two *Dynamic Routing Algorithms*. (BTL2)
- (OR)
- B) Explain *IPV4 Packet Format* with neat diagram. (BTL2)

UNIT-IV

- 14a) Explain *Real Time Protocol*. (BTL2)
- (OR)
- b) Explain *Connection Establishment and Termination* with neat diagram.(BTL2)

UNIT-V

- 15a) Explain *Session Initiation Protocol*.(BTL2)
- (OR)
- b) Explain *HTTP Request* and *HTTP Response* Messages.(L2)

A.G&S.G Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme-II Semester

COURSE	COURSE CODE	L	T	P	C	Year
COMPUTER NETWORKS & OPERATING SYSTEMS LAB	20CS2L1	-	-	8	4	2020-21

Course Outcomes:

On successful completion of this course, the students:

- Practice *Unix Shell Scripting* and *AWK Programming*.(CO1)
- Apply *Operating System Scheduling Algorithms*.(CO2)
- Prepare *Patch Cards* and Implement *Network Monitoring Tools*.(CO3)
- Implement Network Programming to obtain *IP address, Machine Name* and *Communication* etc.(CO4)
- Design various networks with *CISCO Packet Tracer* and implement *Network Algorithms*.(CO5)

LAB LIST PART A

Shell Scripting

1. Introduction to basic UNIX commands.
2. Write a shell script to accept the name of the file from standard input and perform the following tests on whether the file exists, if exists test file permissions whether file is executable, readable, writable, both read & writable.
3. Write a script that will ask user, full name (first, middle, last name) greet user by first name. Ask users DOB and calculate user's age.
4. Write a shell script which will display Fibonacci series up to a given number of arguments.
5. Write a shell script to accept student number, name, and marks in 5 subjects. Find total, average and grade. Display the result of student and store in a file called stu.dat Rules: if avg >= 90 grade A+, 80-89 grade B+, 70-79 grade B, 69-69 grade C+, 51-50 grade C, 41-49 grade D else grade F
6. Write a shell script to accept empno, empname, and basic. Find DA, HRA, TA, PF using following rules. Display empno, empname, and basic, DA, HRA, PF, TA, GROSS SAL and NETSAL. Also store details in a file called emp.dat. Rules: DA is 18% of basic if basic > 5000 otherwise 550 DA is 35% of basic, PF is 12% of basic + DA, TA is 10% of basic.
7. Write a shell script to display reverse numbers from given arguments

AWK scripting

Write a wk script for the following

1. To print the numbers of even lines in a file.
2. To print the Numbers Of odd lines in A file.
3. To delete empty lines in a File.
4. To display lines having more than 60 characters.
5. To display the lines which match the multiple patterns?
6. To display the lines which do not match the Patterns?
7. To display the Lines or Records 5-9 both inclusive.
8. Write a wk script for the following
9. To display the lines between two patterns (both inclusive).
10. To display the specified line 5 or record in a file.
11. List out the files which are created in March.
12. Print the total size occupied by the files in your directory.
13. Print the all lines by changing into upper case.

14. Print line where fields have multiple field separators.
15. Write an awk program to display employee's pay bill (data file may be comma separated file containing (eno,name,basic) calculate DA,HRA,TA,PF(basic+da))

PART B

1. Scheduling algorithms (BTL3)
2. Write program to implement FCFS scheduling algorithm.
3. Write program to implement Round Robin scheduling algorithm.
4. Write program to implement SJF scheduling algorithm.

PART C

1. Study different type of Guided media .Coaxial, UTP & OFC
2. Prepare straight and cross wire cable and test it.
3. Study net work devices in detail (repeater, hub, switch, router, and gateway).
4. Study of IP address (IPV4 –classification, Sub netting, super netting, IPV6).
5. Connect the computers in a local area Network.
6. Study basic net work commands (ping ,finger ,ftp ,tracer oute ,ns lookup ,pathping, telnet,arp).

PART D(Implementing Python/Java)

1. Program to fetch the IP address of a system.
2. Program to obtain the information about the(a)Host (b)Port(c)protocol.
3. Write a program to accept the Website name and return its IP address.
4. Write a program to implement echo client and echo server.
5. Write a program to implement TCP client-server program.
6. Write a program to use Simple Mail Transfer Protocol.
7. Write a program to use the Domain Name System using UDP.
8. Implementation of sliding window protocol.
9. Find the subnet mask and Net work address fort hegiven IP address.

PART E (Using Cisco packet tracer 6.5 (freely available))

1. Configure a net work using a server with five no disusing packet tracer.
2. Configure a net work using a DHCP server with five no disusing packet tracer.
3. Configure a net work using two DHCP servers with no disusing packet tracer.
4. Configure a net work using three DHCP servers with nodes using packet tracer.
5. Configure a net work with DHCP servers with wired and wireless no des using Cisco packet tracer.
6. Exhibit spanning tree algorithms

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme - II Semester

Course	DATASTRUCTURES		
Course Code	20CS2T2	Course Delivery Method	Class Room / Blended
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2020-21	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

Course Outcomes:

On successful completion of this course, the students:

1. To define data structures, operation of data structure, time and space complexities.(CO1)
2. To understand concepts of string processing, arrays, records and pointers, linked lists, stacks, queues, recursion, trees, graphs & searching techniques. about searching and sorting techniques.(CO2)
3. To implement applications of linked lists, stacks, queues, trees, graphs, sorting & searching techniques.(CO3)
4. To analyze applications of linked lists, stacks, queues, trees, graphs, sorting & searching techniques.(CO4)
5. To evaluate applications of linked lists, stacks, queues, trees, graphs, sorting & searching techniques in terms of time & space complexity.(CO5)

Unit	Title	Lecture Hours
I	Introduction and Overview: Elementary Data Organization, Data Structures, Data Structure operations, Algorithms: Complexity, Time-Space Trade off. Preliminaries: Mathematical Notation and Functions, Algorithmic Notation, Control Structures, Complexity of Algorithms, Other Asymptotic Notations, Sub Algorithms, Variables, Data Types.	14
II	String Processing: Storing Strings, Character Data Type, String Operations, Word Processing, Pattern Matching Algorithms. Arrays, Records and Pointers: Linear Arrays, Representation and Traversing Linear Arrays, Inserting and Deleting, Bubble Sort, Linear Search, Binary Search, Multidimensional Arrays, Pointer Arrays, Record Structures, Representation of records in memory, Parallel Arrays, Matrices, Sparse Matrices.	14
III	Linked Lists: Representation, Traversing, Searching, Memory Allocation: Garbage Collection, Insertion, Deletion, Header Linked Lists, Two-Way Lists. Stacks, Queues, Recursion: Stacks, Array representation, Linked List representation, Arithmetic Expressions; Polish notation, Quick Sort, Recursion, Towers of Hanoi, Implementation of recursive procedures by stacks, Queues, Linked representation of Queues, De-queues, Priority Queues.	14

IV	<p>Trees: Binary Trees, Representing and Traversing Binary trees, Traversal Algorithms Using Stacks, Header Nodes, Binary Search Trees, Searching, Insertion and deletion in Binary Search Trees, AVL Search Trees, Insertion and Deletion in AVL Search Trees, M-way Search Trees, Searching, Insertion and Deletion in M-way Search Trees, B-Trees, Searching, Insertion and Deletion in B-Trees, Heap: Heap Sort, Huffman's Algorithms, General Trees.</p>	14
V	<p>Graphs: Terminology, Sequential representation of Graphs, Warshall's Algorithm, Linked Representation of Graphs, Operations on Graphs, Traversing a Graph, Topological sorting.</p> <p>Sorting and Searching: Insertion Sort, Selection Sort, Merging, Merge Sort, Radix Sort, Searching and Data Modification, Hashing.</p>	14

Prescribed Text Book

	Author	Title	Publisher
1	Seymour Lipschutz	Data Structures	The Mc Graw Hill(Schaum's Outlines), 2011

Reference Text Books

	Author	Title	Publisher
1	Seymour Lipschutz	Theory and Problems of Data Structures	The Mc Graw Hill(Schaum's Outlines)
2	Aho, Hopcroft & Ullman	Data Structures & Algorithms	Addison-Wesley
3	M.A.Weiss	Data Structures & Algorithms in C	Addison Wesley

A.G&S.G Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme-II Semester

Course Code: **20CS2T2**

Title: **DATA STRUCTURES**

Time: 3Hours

Max.Marks:70

SECTION-A

Answer ALL questions

(10×2=20Marks)

1. Define *Data Structures*.(BTL1)
2. What is *Space Complexity*? (BTL1)
3. What is *Linear Array*?(BTL1)
4. What is *Sparse Matrix*?(BTL1)
5. Define a *Priority Queue*.(BTL1)
6. What is *Garbage Collection*?(BTL1)
7. Define a *Binary Tree*.(BTL1)
8. Define *AVL Tree*. (BTL1)
9. Define *Graph*.(BTL1)
10. What is *Sorting*?(BTL1)

SECTION-B

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks

(5x10=50Marks)

UNIT-I

11a) Discuss *Elementary Data Organization and Data Structure Operations*.(BTL6)

(OR)

b) Explain various *Control Structures*.(BTL2)

UNIT-II

12a) Explain *Binary Search Algorithm and Linear Search Algorithm* with an example.(BTL2)

(OR)

b) Discuss *The Second Pattern Matching Algorithm* with example.(BTL6)

UNIT-III

13a). Explain *Quick Sort Algorithm* with example.(BTL2)

(OR)

b) Explain *Operations of Stack* and its representation using *Linked List* and *Array* with example.(BTL2)

UNIT-IV

14a) Discuss *Binary Tree Traversal Techniques* using *Stack* in detail.(BTL6)

(OR)

B) Briefly discuss about the *insertion and deletion operations of Binary Search Trees* With example.(BTL6)

UNIT-V

15a) Explain the process of *Topological Sorting*.(BTL2)

(OR)

b) Discuss about *Merge Sort* with an example.(BTL6)

A.G&S.G Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.

(An Autonomous College in the jurisdiction of Krishna University)

M.Sc., (Computer Science) Programme-II Semester

COURSE	COURSE CODE	L	T	P	C	Year
DATASTRUCTURESLAB	20CS2L2	-	-	8	4	2020-21

Course Outcomes:

- On successful completion of this course ,the students:
- Understands the concept of Stacks, Queues, and Tree Traversals.(CO1)
- ApplytheoperationsofSinglyLinkedLists,DoublyLinkedLists,CircularLinkedListsandOperationsonStacksandQueues.(CO2)
- ApplyoperationsonBinarySearchTree,BinarySearchTreeTraversals,SparseMatrixandDFS&BFSAlgorithm.(CO3)
- Implement Searching& Sorting Algorithms.(CO4)
- Implement AVL-Trees and B-Trees.(CO5)

CYCLE1

1. Write a Java Program to create class called Stack and implement Stack Operations.
2. Write a Java Program to create a class called Queue and implement Stack Operations.
3. Write a Java Program to convert the Infix to Postfix Expression.
4. Write a Java Program to evaluate Post fix Expression.
5. Write a Java Program to obtain the Binary Number for a given Decimal Number.

CYCLE 2

1. Write a Java Class to implement the operations of a Singly Linked List.
2. Write a Java Class to implement the operations of a Doubly Linked List.
3. Write a Java Class to implement the operations of a Circular Linked List.
4. Write a java program for the following a) Reverse a Linked List b)Sort the data in a Linked List c)Remove Duplicates d)Merge Two Linked Lists
5. Write a java program for performing various operations on Stack using Linked List.
- 6 . Write a java program for performing various operations on Queue using Linked List.

CYCLE 3

1. Write a Java Program to implement operations on Binary Trees Using Recursive and Non-Recursive Methods.
2. Write a Java Program to perform Binary Search Tree Traversal.
3. Write a Java Program to implement Sparse Matrix.
4. Write a Java Program to implement DFS Algorithm.
5. Write a Java Program to implement BFS Algorithm.

CYCLE4

1. Write a Java Program to implement the following sorting techniques:
a.Bubble Sort b. Merge Sort. c. Quick Sort. d. Heap Sort.
2. Write a java program to implement Quick Sort of given elements.
3. Write a Java Program to implement the Following search techniques:
a. Linear Search b. Binary Search

CYCLE5

1. Write a java program to implement various operations on AVL Trees.
2. Write a java program to perform the following operations
a) Insertion in to a B-Tree b) Searching in a B-Tree

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme - I Semester

Course	WEB TECHNOLOGIES		
Course Code	20CS2T3	Course Delivery Method	Class Room / Blended
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2020-	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision:

Course Outcomes:

On successful completion of this course, the students:

1. Students are able to describe the concepts of WWW including browser and HTTP protocol and various HTML tags and use them to develop the user friendly WebPages.(CO1)
2. Students will be able to use the Java Script and VBScript to develop the dynamic WebPages.(CO2)
3. Students will be able to define the CSS with its types and develop the modern web pages using the HTML and XML elements with different layouts as per need of applications.(CO3)
4. Students use serverside scripting with PHP to generate the web pages dynamically using the database connectivity.(CO4)
5. Develop the modern Web applications using the client and serverside technologies and the web design fundamentals.(CO5)

Unit	Learning Units	Lecture Hours
I	<p>Introduction: What is Internet, History of Internet, Internet Services and Accessibility, Uses of the Internet, Protocols, Web Concepts: The Client/Server Model, Retrieving Data from the Web, How the Web Works?, Web Browsers, Searching information on the Web, Internet Standards.</p> <p>HTML: Outline of an HTML Document, Head Section Body Section: Headers, Paragraphs, Text Formatting, Linking, Internal Linking, Embedded Images, Lists, Tables, Frames, Other Special Tags and Characters, HTML Forms.</p>	12
II	<p>Java Script: Introduction to Scripting, Control Statements I, Control Statements II, Functions, Arrays, Objects, Document Object Model, Events.</p> <p>VB Script: Introduction, Embedded VBScript code in an HTML Document, Comments, Variables, Array Variables, Operator, Assignment Operators, Numerical Operators, String Concatenation, Procedures, Sub Procedure, Function Procedure, Conditional Statements, Looping Statements, Object and VB script, Cookies, Cookie Variables, Creating a Cookie, A Cookie with Multiple Values, Reading Cookie Value.</p>	12

III	<p>Dynamic HTML (DHTML): Introduction, Cascading Style Sheets (CSS), Coding CSS, Properties of Tags, Property Values, Other Style Properties, In Line Style Sheets, Embedded Style Sheets, External Style Sheets, Grouping, Inheritance, Class as Selector, ID as Selector, Contextual Selector, Pseudo Classes and Pseudo Elements, Positioning, Backgrounds, Element Dimensions, DHTML Document Object Model and Collections, Using the Collections All, Moving Object around the Document, Event Handling, Assigning Event Handlers, Event Bubbling, Filters and Transition Filters, Transitions, Data Binding, Using Tabular Data Control, Sorting Data, Dynamic Sorting, Filtering.</p> <p>XML: Introduction, HTML Vs. XML, syntax of XML document, XML attributes, use of elements Vs. use of attributes, XML validation, well formed XML documents, valid XML documents.</p> <p>XML DTD: Internal DTD, External DTD, the building blocks of XML documents.</p> <p>DTD Elements: Declaring an Element, Empty Elements, Elements with data, Elements with Children, Wrapping, Declaring only one occurrence of the same Elements, Declaring minimum one occurrence of the same Element, defining Zero or One occurrence of the same element, declaring mixed content.</p> <p>DTD Attributes: Declaring Attributes, Default Attribute Value, Implied Attribute, Required Attribute, Fixed Attribute Value, Enumerated Attribute Values, DTD Entries, DTD Validation, XSL, XSL Transformation, XSL Name Spaces, XML Schema.</p>	12
IV	<p>Servlets: Introduction, Advantages of Servlets over CGI, Installing Servlets, The Servlet Life Cycle, Servlets API, A Simple Servlet, Handling HTTP <i>Get</i> requests, Handling HTTP Post Requests, Cookies, Session Tracking, Multi Tier Applications using Database Connectivity, Servlets Chaining.</p> <p>PHP: Introduction ,PHP basics, String Processing and Regular Expressions, Form Processing and Business Logic, Connecting to a Database, Using Cookies, Dynamic Content, Operator Precedence Chart.</p>	12
V	<p>Java Server Pages (JSP): Introduction, Advantages of JSP, Developing first JSP, Components of JSP, Reading Request Information, Retrieving the Data Posted from a HTML File to a JSP File, JSP Sessions, Cookies, Disabling Sessions.</p> <p>Active Server Pages (ASP):Introduction, Advantages of ASP, First ASP Script, Processing ASP Scripts with Forms, Variables and Constructs, Subroutines, Include/Virtual, ASP Cookies, ASP Objects, Connecting to Data with ASP.</p>	12

Prescribed Text Book

	Author	Title	Publisher
1	N.P.Gopalan, J.Akilandeswari	Web Technologies-A Developer's Perspective	PHI(2008)
2	HarveyM.DeitelandPaulI.Deitel	InternetandWorldWideWebHowToProgram,5e	PrenticeHall;4th edition

Reference books

1	Robert W.Sebesta	Programming the world wide web.	Third Edition,
2	Anders Moller and MichaelSchwarzbach	An Introduction to XML and web Technologies.	Addison Wesley (2006)

A.G&S.G Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.

(An Autonomous College in the jurisdiction of Krishna University)

M.Sc.,(Computer Science)Programme-II Semester

Course Code: 20CS2T3

Title: WEB TECHNOLOGIES

Time: 3Hours

Max.Marks:70

(10×2=20Marks)

Answer ALL questions

1. Write about *HTTP*.(BTL1)
2. Explain *TABLE* tag.(BTL2)
3. What are *Identifiers* in JavaScript?(BTL1)
4. Write the syntax of *VB Script*.(BTL1)
5. What is a *Valid XML document*?(BTL1)
6. Explain *Event Bubbling*.(BTL2)
7. What is a *Servlet*? (BTL1)
8. What are *Regular Expressions* in PHP?(BTL1)
9. What are *Scripts*?(BTL1)
10. Write about *Subroutines*.(BTL1)

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks.

(5×10=50Marks)

UNIT-I

11a)What is Internet? Explain Services of Internet.(BTL1)

Or

b) Illustrate Frame Set and Frame Attributes by writing program.(BTL2)

UNIT-II

12a)Explain the scope of Java Scrip Variables with example.(BTL2)

Or

b)Explain Document Object Model in Java Script briefly.(BTL2)

UNIT-III

13a)Discuss building an External Style Sheet. Explain advantages and disadvantages of External Style Sheets with an example.(BTL6)

Or

What is DTD? Explain the building blocks of DTD.(BTL1)

UNIT-IV

14a) Explain the Life Cycle of Servlets. Write the session tracker that tracks the number of access and last access of data of a particular webpage.(BTL2)

Or

b) Explain String Processing and Regular Expressions.(BTL2)

UNIT-V

15a) Explain Components of JSP and write a JSP Program to accept username and password from user and Validate them.(BTL2)

Or

b)Explain Processing *ASP Scripts* with *Forms*.(BTL2)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme - II Semester

Course	OPERATING SYSTEMS		
Course Code	20CS2T4	Course Delivery Method	Class Room / Blended Mode
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2020-21	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

Course Outcomes:

On successful completion of this course, the students:

1. Understand the Basic Concepts of Operating System, Operating System Structure and Process Concept.(CO1)
2. Applying concepts of Threads, Process Synchronization & CPU Scheduling.(CO2)
3. Understand Deadlock, Main Memory & Virtual Memory.(CO3)
4. Explain Mass Storage Structure, File System Interface & File System Implementation.(CO4)
5. Understanding on I/O Systems, Protection & Security.(CO5)

Unit	Learning Units	Lecture Hours
I	<p>Introduction: What Operating Systems Do Computer System Organization, Computer System Architecture, Operating System Structure, Operating System Operations, Process Management, Memory Management, Storage Management, Protection and Security, Kernel Data Structures, Computing Environments, and Open Source Operating Systems?</p> <p>Operating-System Structures: Operating System Services, User and Operating System Interface, System Calls, Types of System Calls, System Programs, Operating System Design and Implementation, Operating System Structure.</p> <p>Processes: Process Concept, Process Scheduling, Operations on Processes, Inter Process Communication, Communication in Client-Server Systems.</p>	12
II	<p>Threads: Overview, Multi core Programming, Multithreading Models, Thread Libraries, Implicit Threading, and Threading Issues.</p> <p>Process Synchronization: Background, The Critical Section Problem, Peterson's Solution, Synchronization Hardware, Mutex Locks, Semaphores, Classic Problems of Synchronization, Monitors.</p> <p>CPU Scheduling: Basic Concepts, Scheduling Criteria, Scheduling Algorithms, Thread Scheduling, Multiple Processor Scheduling.</p>	10

III	<p>Deadlocks: System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.</p> <p>Main Memory: Swapping, Contiguous Memory Allocation, Segmentation, Paging, Structure of the Page Table, Intel32 and 64-bit Architectures.</p> <p>Virtual Memory: Background, Demand Paging, Copy-on-Write, Page Replacement, Allocation of Frames, Thrashing.</p>	14
IV	<p>Mass Storage Structure: Overview of Mass Storage Structure, Disk Structure, Disk Attachment, Disk Scheduling, Swap Space Management, RAID Structure.</p> <p>File System Interface: File Concept, Access Methods, Directory and Disk Structure, File System Mounting Protection.</p> <p>File System Implementation: File System Structure, File System Implementation, Directory Implementation, Allocation Methods, Free Space Management Efficiency and Performance Recovery.</p>	10
V	<p>I/O Systems: Hardware, Application I/O Interface, Kernel I/O Subsystem, Transforming I/O Requests to Hardware Operations, STREAMS, Performance.</p> <p>Protection: Goals of Protection, Principles of Protection, Domain of Protection, Access Matrix, Implementation of the Access Matrix.</p> <p>Security: The Security Problem, Program Threats, System and Network Threats, Cryptography as a Security Tool, User Authentication, Firewalling to Protect Systems and Networks.</p>	14

Prescribed Text Book

	Author	Title	Publisher
1	Abraham Silbers chatz,	Operating Concepts	System

Reference Text Books

	Author	Title	Publisher
1	William Stallings	Operating Systems-Internals and Design Principles	Fifth(2007)
2	Achyut God bole	Operating Systems	Operating Systems
3	Flynn/McHoes	Operating Systems	Cengage Learning (2008).

(An Autonomous College in the jurisdiction of Krishna University)
M.Sc.,(Computer Science)Programme-II Semester

Course Code: 20CS2T4 Title: OPERATING SYSTEMS

Time: 3Hours Max.Marks:70

Answer ALL questions

(10×2=20Marks)

- 1a) Define *Kernel*(BTL1)
- b) What is *Process* (BTL1)
- c) What is *Deadlock*?(BTL1)
- d) What is *Semaphore*? (BTL1)
- e) What is *Multithreading*?(BTL1)
- f) What is *Swapping*?(BTL1)
- g) Describe any two *File Operations*.(BTL2)
- h) What is *File Pointer*? (BTL1)
- i) What is *Spooling*?(BTL1)
- j) What is *Access Matrix*? (BTL1)

**Answer Five Questions Choosing One Question from Each Unit.
All Questions Carry Equal Marks.**

(5×10=50Marks)

UNIT-I

2a) Explain *Operating System Services*.(BTL2)
(OR)

b) Explain various aspects of *Interposes Communication*.(BTL2)

UNIT-II

3a) Describe the *Dining Philosophers Problem* of Process Synchronization.(BTL2)
(OR)

b) Demonstrate (BTL2)

First-Come, First-Served Scheduling with the following data

Process	Burst Time
P1	24
P2	3
P3	3

Shortest-Job-First Scheduling with following data

Process	Burst Time
P1	6
P2	8
P3	7
P4	3

UNIT-III

4a) What are the *Necessary and Conditions* for *Dead Lock Situation* and also state methods for *Deadlock Prevention*.(BTL

(OR)

b) With reference string 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1 for a memory with three frames implement *Optimal Page Replacement* and *LRU Page Replacement*.(BTL4)

UNIT-IV

5a) Describe various levels of RAID. (BTL2)

(OR)

b) Describe various *Allocation Methods* of *File System Implementation*.(BTL2)

UNIT-V

6a) Explain the concepts of STREAMS in detail.(BTL2)

(OR)

b) What is Encryption? Describe *Symmetric Encryption* & *Asymmetric Encryption* in Detail. (BTL1)

A.G&S.G Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.
(An Autonomous College in the jurisdiction of Krishna University)
Open Elective-II Semester

COURSE	COURSE CODE	L	T	P	C	Year
DATAVISUALIZATION	20CS2OEL1	4	-	-	4	2020-21

Course Outcomes:

After completion of the course the student will be able:

- To know the importance of *Data Visualization* in the world of *Data Analytics* and *Prediction*.
- To get familiarized about creating visualization using *Different Types of Charts*.
- To know creating and handling *Tables* in Tableau.
- To gain knowledge about using *Maps* in Tableau
- To gain knowledge about *Adhoc Analysis*.

UNIT I:

Creating Visual Analytics with Tableau Desktop, Connecting to Your Data - How To Connect To Your Data, What Are Generated Values?, Knowing When to use a Direct Connection, Joining Tables With Tableau, Blending Different Data Sources in a Single Worksheet.

UNIT II:

Building Your First Visualization-How Me Works-Chart Types, Text Tables, Maps, Bar Chart, Line Charts, Area Fill Charts and Pie Charts, Scatter Plot, Bullet Graph, Gantt Charts, Sorting Data In Tableau, Enhancing Views With Filters, Sets Groups and Hierarchies.

UNIT III:

Creating Calculations to enhance Your Data - What is Aggregation, What are Calculated Values and Table Calculations, Using the Calculation Dialog Box to Create, Building Formulas Using Table Calculations, Using Table Calculation Functions.

UNIT IV:

Using Maps to Improve Insights - Create a Standard Map View, Plotting Your Own Locations on a Map, Replace Tableau's Standard Maps, and Shaping Data to enable Point-to-Point Mapping.

UNIT V:

Developing an Adhoc Analysis Environment - Generating New Data with Forecasts, Providing Self Evidence Adhoc Analysis with Parameters, Editing Views in Tableau Server.

Prescribed Text Book			
	Author	Title	Publisher
1	Daniel G. Murray and the Inter Works BI Team	Tableau Your Data	Wiley Publications

Reference Text Books			
	Author	Title	Publisher
1	Ashutosh Nandeshwar	Tableau Data Visualization Cookbook	PACKT Publishing
2	Cole Nussbaumer, Knaflic	Storytelling with Data : A Data Visualization Guide for Business Professionals	Wiley Publishing

A.G&S.G Siddhartha Degree College of Arts & Science, Vuyyuru - 521165.
(An Autonomous College in the jurisdiction of Krishna University)
OPEN ELECTIVE

Course Code: 20CS2OEL1

Title: DATAVISUALIZATION

Time: 3Hours

Max.Marks:70

Answer ALL questions

(10×2=20Marks)

1. What is *Analytics*?(BTL1)
2. Explain *Data*.(BTL2)
3. What is *Filter*?(BTL1)
4. Explain *Set*.(BTL2)
5. Explain *Aggregation*.(BTL2)
6. What is *Calculated Value*?(BTL1)
7. What is a *View*? (BTL1)
8. Explain *Standard Map*.(BTL2)
9. What is *Forecast*?(BTL1)
10. What is *Analysis*?(BTL1)

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks.

(5×10=50Marks)

UNIT-I

11a) what are generated values? (BTL1)

(OR)

b) Explain Joining Tables with Tableau. (BTL2)

UNIT-II

12a).How to build visualization using *Text Tables, Maps, Bar Chart, Line Charts*.(BTL1)

(OR)

b).Explain *Sorting Data* in Tableau.(BTL2)

UNIT-III

13a).What is *Building Formulas* using *Table Calculations*? (BTL1)

(OR)

b).Write about *Creating Calculations* to enhance your data and *Table Calculations*.(BTL1)

UNIT-IV

14a).Explain *Plotting Your Own Locations* on a Map.(BTL2)

(OR)

b).How to Replace Tableau's *Standard Maps*? (BTL2)

UNIT-V

15a) Explain Developing an *Adhoc Analysis Environment* and how to generate *New Data from Forecasts*.(BTL2)

(OR)

b).How to provide *Self Evidence Adhoc Analysis* with *Parameters*.(BTL1)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme – IV Semester

M.Sc(Cs)	IV	MOOCS	21MCS401	2020-21
-----------------	-----------	--------------	-----------------	----------------

Total No of Hours for Teaching – Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	4	-	3 Hours	30	70	4

Course Objectives

The Main Course Objective is to give knowledge for Students on MOOC’S Courses

Course Outcomes

After Studying this Paper Student will acquire knowledge about MOOC’s Courses

- The Student has to enroll and complete any one of the **Computer Related Course (4 Credits Equivalent)** from MOOC’s platforms like NPTEL, SWAYAM etc.
- The Student is expected to submit the above course pass certificate otherwise, the Department of M.Sc (cs) will conduct the evaluation (as per the prescribed format in the academic regulations) to issue the pass certificate.
- The selection of the course by the student can be done under the supervision of mentor.

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.

(An Autonomous College in the jurisdiction of Krishna University)

M.Sc., (Computer Science) Programme – IV Semester

Course	MOOCS		
Course Code	21MCS401	Course Delivery Method	Class Room / Blended Mode
Credits	4	CIA Marks	30
No. of Lecture Hours /Week	4	Semester End Exam Marks	70
Total No.of Lecture Hours	-	Total Marks	100
Year of Introduction:2020-21	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

COURSE OUTCOMES

CO1: To introduce the concept of PHP and to give basic Knowledge of PHP.

CO2: Learn about PHP Syntax., Arrays, PHP Loops,

CO3: Understood the PHP form handling.

CO4: Understand Working with Files and Directories:

Co5: Understand basic concepts of MySql and PHPMyAdmin, how a database stores information via tables, Understanding of SQL syntax used with MySQL, Review of some sample PHP projects interacting with MySQL

MODULE 1 Installing and Configuring MySQL:

10 Hrs

Current and Future Versions of MySQL, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Installing Apache on Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands, Trouble Shooting. Installing and Configuring PHP: Building PHP with Apache on Windows, The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow Loops.

MODULE 2 – Working with Functions and Arrays:

10 Hrs

Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope. Working with Arrays: Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

MODULE – 3 Working with Forms:

15Hrs

Creating Forms, Accessing Form – Input with User defined Arrays, Combining HTML and PHP code on a single Page, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session Ids in the Query String, Destroying Sessions and Unsetting Variables

MODULE – 4 : Working with Files and Directories:

10Hrs

Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system () or passthru (). Working with Images: Understanding the Image-Creation Process, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

MODULE – 5 : Interacting with MySQL using PHP:

15 Hrs

Introduction to My SQL and Interfacing with Databases through PHP understanding the database design process: The Importance of Good Database Design, Types of Table Relationships, Normalization. Learning basic SQL Commands: Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using REPLACE Command, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL. Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data.

References:

1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach yourself, Pearson Education (2007).
2. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme – IV Semester

Course Code: 21MCS401

Title: PHP MYSQL

Time: 3Hours

Max.Marks:70

SECTION-A

Answer ALL questions

(10x2 = 20 Marks)

1. a). What is PHP?
- b). List out PHP Data types?
- c). Define function?
- d). Describe objects?
- e). List out string functions?
- f). What is Cookie?
- g). how to create an image?
- h).what are the different types of table relationships?
- i). Write a syntax of Update command.
- j). differences between MYSQL and MYSQLi functions?

SECTION-B

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks.

(5×10=50Marks)

UNIT -I

2. a) Write a procedure to install PHP on windows
 (or)
 b) Explain flow control statements in PHP?

UNIT -II

3. a) Explain about arrays?
 (or)
 b) Explain about date and time functions in PHP.

UNIT -III

4. a) What is form? How to create and accessing a form with an Example.
 (or)
 b) What is Session? How to start and destroy sessions in PHP.

UNIT -IV

5. a) Explain about files?
 (or)
 b) Explain about working with Directories.

UNIT -V

6. a) Write about MySQL DDL and DML Commands?
 (or)
 b) How to connect with MYSQL with PHP

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme – IV Semester

Course	BIG DATA AND ANALYTICS		
Course Code	21MCS402	Course Delivery Method	Class Room / Blended
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2020-	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

Course Outcomes:

On successful completion of this course, the students:

- Understand basics of Big Data. (CO1)
- Gain knowledge on *Big Data Analytics*. (CO2)
- Be familiar with *HDFS, and Hadoop environment*. (CO3)
- Have knowledge on Mongo DB. (CO4)
- Gain knowledge on PIG and Jasper soft. (CO5)

Unit	Learning Units	LH
I	Types of Digital data: Classification of Digital Data. Introduction to Big Data: Characteristics of data, Evolution of Big Data, Definition of big data, Challenges with Big data, What is Big Data?, Why Big Data?, Traditional Business Intelligence versus Big Data, A typical Data Warehouse Environment, A typical Hadoop Environment.	12
II	Big data analytics: What is Big Data Analytics?, Top challenges facing Big Data Analytics, Why Big Data Analytics is important?, Data Science, Terminologies used in Big Data Environments.	10
III	The Big Data Technology Landscape: No-SQL, Hadoop, Why Hadoop?, Why not RDBMS?, RDBMS versus Hadoop, Hadoop Overview, HDFS, Processing Data with Hadoop, Interacting with Hadoop Ecosystem.	14
IV	Introduction to Mongo DB: What is Mongo DB?, Why Mongo DB?, Terms used in RDBMS and Mongo DB, Data types in Mongo DB, Mongo DB query language. Introduction to Map reduce programming: Introduction, Mapper, Reducer, Combiner, Practitioner, Searching, Sorting and Compression.	10

V	<p>Introduction to Pig: What is Pig?, Pig on Hadoop, Pig Latin Overview, Data Types in Pig, Running Pig, Execution Modes of Pig, HDFS commands, Relational Operators, Eval function, Complex Data Types, User-Defined Functions, Parameter Substitution, Word Count Example using Pig.</p> <p>Jasper Report using Jasper soft: Introduction to Jasper Reports, Connecting to Mongo DB No-SQL Database.</p>	14
---	--	----

Prescribed Text Book

	Author	Title	Publisher
1	Seema Acharya and Subhashini Chellappan	Big Data and Analytics	Wiley India Pvt. Ltd., 2016

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme – IV Semester

Course Code: 20MCS402

Title: BIG DATA AND ANALYTICS

Time: 3Hours

Max.Marks:70

SECTION-A

Answer ALL questions

(10x2 = 20 Marks)

1.
 - a). Define big data?
 - b). Describe any five characteristics of big data
 - c). what is HDFS? List and Explain all the components of HDFS
 - d). Explain different challenges in Big data?
 - e). what is Mango DB?
 - f) Write Differences between RDBMS and Hadoop?
 - g) What is Map Reduce?
 - h) What is Data Serialization?
 - i) What is Yarn?
 - j) Explain the need of big data Analytics

SECTION-B

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks.

(5×10=50Marks)

UNIT -I

2. a) Explain different Types of Digital data: Unstructured, Semi-structured and Structured.
(Or)
b) Explain Need and Challenges in Big Data Environment?

UNIT -II

3. a) what is Business Intelligence? List different business Intelligence applications with a suitable example?
(or)
b) Explain Classification of Analytics with suitable example.

UNIT -III

4. a) Describe characteristics of a No-SQL database?
(or)
b) Explain the types of No-SQL Data Stores in detail.

UNIT -IV

- 5 a) Explain Hadoop architecture and its components with proper Diagram?
(or)
b) Explain the essentials of Hadoop Ecosystem.?

UNIT -V

6. a) Explain working of the following phases of Map Reduce with one common example
(i) Map Phase (ii) Combiner phase (iii) Shuffle and Sort Phase (iv) Reducer Phase?
(or)
b) Explain HDFS commands.

A.G & S.G Siddhartha Degree College of Arts and Science, Vuyyuru
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc.(Computer Science) Programme - IV Semester

COURSE	COURSE CODE	L	T	P	C	Year
BIG DATA AND ANALYTICS LAB	21MCS402	-	-	6	3	2020-21

Lab List

1. Hadoop standalone installation in Linux.
2. Hadoop installation on windows environment- VM virtual box.
3. Exploring Hadoop Distributed File System (HDFS).
4. Map Reduce Program - Word Count (Python).
5. Write a Map Reduce Program that mines weather data. (Python).
6. Installation of Apache Pig.
7. Pig-Basic Operations: LOAD, FOREACH, GENERATE, GROUP, JOIN, DUMP / STORE.
8. Run Hive then use Hive to create, alter, and drop databases, tables, views, functions, and indexes.
9. Installation of Mongo DB.
10. CRUD (Create, Read, Update and Delete) operations in Mongo DB.
11. Implementation of Aggregate and Map Reduce function in Mongo DB.

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.

(An Autonomous College in the jurisdiction of Krishna University)

M.Sc., (Computer Science) Programme - IV Semester

Course	ARTIFICIAL INTELLIGENCE WITH MACHINE LEARNING		
Course Code	21MCS403	Course Delivery Method	Class Room / Blended Mode
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2021-22	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

Course Outcomes:

1. Identify problems that are amenable to AI techniques and analyse search techniques to solve those problems.
2. Awareness of representation languages like first order logic.
3. Formalize and implement different AI algorithms, various Knowledge Representations and identify the importance of planning to solve AI problems.
4. Understands about basics of machine learning and conceptual learning.
5. To acquire knowledge about ANN and Instance based learning.

Unit	Learning Units	Lecture Hours
I	Introduction: What Is AI? The Foundations of Artificial Intelligence, The History of Artificial Intelligence. Solving Problems by Searching: Problem Solving Agents, Example Problems, Searching for Solutions, Uninformed Search Strategies, Informed (Heuristic) Search Strategies, Heuristic Functions.	12
II	First Order Logic: Representation Revisited, Syntax and Semantics of First Order Logic, Using First Order Logic, Knowledge Engineering in First Order Logic. Inference in First Order Logic: Propositional versus First Order Inference, Unification and Lifting, Forward Chaining, Backward Chaining, Resolution.	10

III	<p>Classical Planning: Definition of Classical Planning ,Algorithms for Planning as State Space Search, Planning Graphs, Other Classical Planning Approaches, Analysis of Planning Approaches.</p> <p>Knowledge Representation: Ontological Engineering, Categories and Objects Events, Mental Eventsand Mental Objects.</p>	14
IV	<p>Learning from Examples: Forms of Learning, Supervised Learning ,Learning Decision Trees, Evaluating and Choosing the Best Hypothesis, The Theory of Learning, Regression and Classificationwith Linear Models.</p> <p>Reinforcement Learning: Introduction, Passive Reinforcement Learning, Active Reinforcement Learning, Generalization in Reinforcement Learning, Policy Search, Applications of Reinforcement Learning.</p>	10
V	<p>Artificial Neural Networks: Neural Network Representation, Appropriate Problems for Neural Network Learning, Perceptrons, Multilayer Networks and the Back Propagation Algorithm, Remarks on the Back Propagation Algorithm, Recurrent Networks, Dynamically Modifying Network Structure.</p> <p>Instance Based Learning: Introduction, K-Nearest Neighbour Learning, Locally WeightedRegression, Radial Basis Functions, Case Based Reasoning.</p>	14

Prescribed Text Book

	Author	Title	Publisher
1	Stuart J. Russell andPeter Norvig	Artificial IntelligenceA Modern Approach	Prentice Hall, Third edition,2010 1.1,1.2,1.3,3.1,3.2,3.3,3.4,3.5,3.6,8.1,8.2,8.3, 8.4,9.1,9.2,9.3,9.4,9.5, 10.1,10.2,10.3,10.4,10.5,12.1,12.2, 12.3,12.4,18.1,18.2,18.3,18.4,18.5, 18.6,21.1, 21.2, 21.3, 21.4, 21.5, 21.6
2	Tom.M. Mitchell	Machine Learning	TMH(2013)4.2,4.3,4.4,4.5,4.6,4.8.3 ,4.8.4,8.1,8.2,8.3,8.4,8.5

Reference Text Books

	Author	Title	Publisher
1	Winston. P.H	Artificial Intelligence	Addison Wesley (1993)
2	Peter Flach	Machine Learning The Art and Science ofAlgorithms that Make Sense of Data	Cambridge University Press
3	Elaine Rich& Kevin Knight	Artificial Intelligence	TMH (1991)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme – IV Semester

Course Code: 21MCS403

Title: ARTIFICIAL INTELLIGENCE WITH MACHINE LEARNING

Time: 3Hours

Max.Marks:70

SECTION-A

1. Answer ALL questions

(10x2 = 20 Marks)

- a) Define Artificial Intelligence (AI).
- b) Define Rational Agent
- c) Define Back Propagation
- d) Define Vector Machines
- e) What is K-Means Cluster?
- f) Define Kernal Methods.
- g) What is Polynomial regression?
- h) Define Kernal Estimator
- i) What is Q Learning?
- j) What is Fixed Combination Rules

SECTION-B

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks.

(5×10=50Marks)

- 2 a) What is AI? Discuss the Heuristic Search Techniques for solving problems.(BTL1)
(or)
b) Discuss Problem Solving Agents with Examples. (BTL6)
- 3 a) Explain the Syntax and Semantics of First Order Logic.(BTL2)
(or)
b) Demonstrate the concept of resolution with an example.(BTL2)
- 4 a) Explain how to design algorithms for Planning as State Space Search. (BTL2)
(or)
b) Discuss On to logical Engineering in Knowledge Representation.(BTL6)
- 5 a) Describe Learning Decision Trees and Evaluating and Choosing Best Hypothesis.(BTL2)
(or)
b) Explain Policy Search and Applications of Reinforcement Learning.(BTL2)
- 6 a) Discuss the Back Propagation Algorithm, Remarks on the Back Propagation Algorithm.(BTL6)
(or)
b) How does K-Nearest Neighbour Learning help in Instance Based Learning and also state the Importance of Radial Basis Functions. (BTL1)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme – IV Semester

Course	CLOUD COMPUTING		
Course Code	21MCS404	Course Delivery Method	Class Room / Blended
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2021-22	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

Course Outcomes:

On successful completion of this course, the students:

6. Understand the Basic Concepts of Operating System, Operating System Structure and Process Concept.(CO1)
7. Applying concepts of Threads, Process Synchronization & CPU Scheduling.(CO2)
8. Understand Deadlock, Main Memory & Virtual Memory.(CO3)
9. Explain Mass Storage Structure, File System Interface & File System Implementation.(CO4)
10. Understanding on I/O Systems, Protection & Security.(CO5)

Unit	Learning Units	Lecture Hours
I	<p>Era of Cloud Computing : Getting to know the cloud - Peer-To-Peer, Client- Server, and Grid Computing – Cloud computing versus Client-server Architecture - Cloud computing versus Peer-To-Peer Architecture - Cloud computing versus Grid Computing - How we got to the Cloud - Server Virtualization versus cloud computing - Components of Cloud computing – Cloud Types – Cloud Computing Service delivery Models.</p> <p>Introducing Virtualization : Introducing Virtualization and its benefits – Implementation levels of Virtualization – Virtualization at the OS Level – Virtualization Structure – Virtualization Mechanisms – Open Source Virtualization Technology – Binary Translation with Full Virtualization – Virtualization of CPU, Memory and I/o Devices – Hardware support for Virtualization in Intel x86 Processor</p>	12
II	<p>Cloud Computing Services: Infrastructure as a Service – Platform as a Service – Language and Pass – Software as a Service – Database as a Service.</p> <p>Open Source Cloud Implementation and Administration: Open-source Eucalyptus Cloud Architecture – Open-source Open stack Cloud Architecture.</p>	10
III	<p>Application Architecture for Cloud: Cloud Application Requirements – Recommendations for Cloud Application Architecture – Fundamental Requirements for Cloud Application Architecture – Relevance and use of Client- server architecture for Cloud Applications – Service oriented Architecture for Cloud Applications.</p> <p>Cloud Programming: Programming support for Google Apps Engine – Big Table as Google’s NOSQL System – Chubby as Google Distributed Lock Service – Programming support for Amazon EC2 – Elastic Block Store (ESB).</p>	14

IV	<p>Risks, Consequences and Costs for Cloud Computing : Introducing Risks in Cloud Computing – Risk Assessment and Management – Risk of Vendor Lock-in – Risk of Loss Control – Risk of Not Meeting Regulatory Compliances – Risk of Resource Scarcity – Risk in Multi Tenant Environment – Risk of Failure – Risk of Failure of Supply Chain – Risk of Malware and Internet attacks – Risk of Inadequate SLA – Risk of Management of Cloud Resources – Risk of Network Outages – Risks in the Physical Infrastructure – Legal Risk due to Legislation – Risks with Software and Application Licensing – Security and Compliance Requirements in a Public Cloud – Direct and Indirect Cloud Costs – Calculating Total cost of Ownership for Cloud Computing – Cost Allocations in a Cloud.</p> <p>AAA administration for clouds : The AAA Model, Single Sign-on for Clouds – Industry Implementations for AAA- Authentication management in the Cloud – Authorization management in the Cloud.</p>	10
V	<p>Application Development for cloud : Developing On-Premise Versus Cloud Applications – Modifying Traditional Applications for Deployment in the Cloud Stages during the development process of Cloud Application - Managing a Cloud Application – Using Agile Software Development for Cloud Applications</p> <p>Cloud Applications: What Not to do - Static code analysis for cloud applications – Developing Synchronous and Asynchronous Cloud Applications.</p> <p>Mobile Cloud Computing : Definition of Mobile Cloud Computing – Architecture of Mobile Cloud Computing – Benefits of Mobile Cloud Computing</p> <p>Mobile Cloud Computing Challenges.</p>	14

Prescribed Text Book			
	Author	Title	Publisher
1	Thomas Erl, Zaigham Mahmood, Ricardo	Cloud Computing - Concepts Technology and Architecture	Pearson
2	Raj Kumar Buyya, Christen vecctiola,S Tammarai selvi	Mastering Cloud Computing, Foundations and Application Programming	TMH

Reference Text Books			
	Author	Title	Publisher
1	Kailash Jayaswal, Jagannath Kallakurchi, Donald J. Houde Dr. Deven Shah	Cloud Computing, Black Book	Dreamtech press

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (Computer Science) Programme – IV Semester

Course Code: 21MCS404

Title: CLOUD COMPUTING

Time: 3Hours

Max.Marks:70

1. Answer ALL questions

(10x2 = 20 Marks)

- a) Define cloud computing.
- b) What is Grid computing?
- c) Define Virtualization.
- d) Explain Database as a service.
- e) Explain cloud application requirements.
- f) Define Service oriented Architecture.
- g) Explain ESB.
- h) Explain Malware and Internet attacks.
- i) What is a Synchronous cloud application?
- j) Explain the benefits of Mobile cloud computing.

Answer Five Questions Choosing One Question from Each Unit.

All Questions Carry Equal Marks.

(5×10=50Marks)

UNIT -I

2. a) Explain virtualization mechanisms?

(Or)

- b) Write about peer-to-peer network families?

UNIT -II

3. a) Explain cloud computing services?

(or)

- b) Explain open-source Eucalyptus Cloud Architecture?

UNIT -III

4. a) Explain NO-SQL system?

(or)

- b) Explain fundamental requirements for Cloud Application Architecture?

UNIT -IV

5. a) Explain Authentication management in the cloud?

(or)

- b) What is utility computing? Explain utility model for cloud web services?

UNIT -V

6. a) Explain how to manage a Cloud Application?

(or)

- b) Write about Mobile Cloud Computing Challenges?

Criteria for Internal Assessment in Lab Courses

- There should be one internal practical lab examination for 15 marks at the end of each semester and the assessment of internal practical examination is to be done for 5 marks for **Written Procedure**, plus 5 marks for **Program Execution**, plus 5 marks for **Viva-Voce / Online Test** in respective Laboratory Courses(papers).

Written Procedure	Program Execution	Viva Voce/Online Test	Total
A	B	C	D=(A+B+C)
5Marks	5Marks	5Marks	15Marks

- Maximum 15marks are to be awarded for practical laboratory performance basing on the average of best75% marks scored in completed lab exercises from the complete lab list. The schema for awarding these 15marks is given as under:

Schem of Continuous Internal Evaluation of Individual Student for Practical Laboratory Courses							
Course: M.Sc.,(ComputerScience)			Course Code:		Semester:	Title of Laboratory:	Total No of Exercises:
Registration Number:			Name of the Student:				
Exercise Number	Exercise Name	DateofExecution	Record (5Marks)	Execution (10Marks)	Total(15Marks)	Signature of Student	Signature of Faculty

1. Internal Assessment for Seminar Based Courses

- Internal marks for seminar are based on Seminar Report of 25Marks and End Semester ExaminationViva-voce of 25Marks.
- The time duration allotted for each student to deliver the seminaris10-20 minutes.

Seminar Report	End Semester Examination(Viva-voce)	Total
	The Viva Voice shall be conducted by a committee consisting of HOD, faculty in Charge and a senior faculty member of the department.	
A	B	(A+B)
25Marks	25Marks	50Marks

2. ExternalEvaluationof LabCourses

- The external evaluation of *practical examination* shall comprise of 10Marksfor **LabRecord**,25Marksfor **Written Procedure**, 25Marksfor **Program Execution**and10Marksfor**Viva-Voce/ Online Test**.

Evaluation Method for External Practical Examination				
Lab Record	Written Procedure	Program Execution	Viva Voce/ Online Test	Total
A	B	C	D	(A+B+C+D)
10Marks	25	25Marks	10Marks	70Marks

Evaluation Criteria for allocation of the 10Marks to Lab Record in External Practical Examination		
S.No.	Percentage of Lab Exercises completed in the Lab List	Marks to be Awarded
1	Above or Equalto95%	10Marks
2	Above or Equalto90 and below 95%	9Marks
3	Above or Equalto85and below 90%	8Marks
4	Above or Equalto80and below 85%	7Marks
5	Above or Equalto75and below 80%	6Marks
6	Less than 75%	5Marks

5.ProjectWorkEvaluation

- Internal assessment of Project Work will be done by the concerned *Project Internal Guide, Committee consisting of HOD* for 100 marks.

Evaluation Schema for Continuous Internal Assessment of Project Work	
Project midterm Review and Evaluation	50Marks
Project Report/ Thesis /Record.	50Marks
Total	100Marks

- *External evaluation and Viva-voce* of Project Work will be carried out by *Committee Consisting of HOD, Project Supervisor* and an *External Examiner* nominated by the controller of examinations for 100Marks.

Evaluation Schema for External Project Work Assessment	
Project Report/ Thesis /Record	50Marks
End Semester Examination through Viva-voce.	50Marks
Total	100Marks

- Every faculty member must guide a minimum of five students in *Project Work* off the designated workload.

**A.G& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS &
SCIENCE**

VUYYURU-521165, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2021-2022



DEPARTMENT OF COMMERCE (PG)

M.Com

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

24-03-2022



AG&SGS DEGREE COLLEGE OF ARTS AND SCIENCE
VJAYAWADA-10

(An Autonomous college under the jurisdiction of Krishna University)
 Reaccredited at the level 'A+' by the NAAC

DEPARTMENT OF COMMERCE

Minutes of Board of Studies Meeting (Online) of Department of Commerce for M.Com held on 24/03/2022, Monday at 10.00 AM. The following members were present.

Members Present		
Name of the Member	Role	Signature
Dr. T.Venkateswara Rao HOD Department of Commerce Mobile No: 9848726150/9491737921	Chairman	
Dr. R. Padmaja, Assistant Professor in Business Management, Krishna University, Machilipatnam. Mobile: 9440532444,	University Nominee	
Dr.R. Siva Ram Prasad. Santha Kumari, Professor, Dean Department of Commerce & Business Administration Acharya Nagarjuna University, Nagarjuna Nagar, Guntur Mobile No: 9849856589	Subject Expert	
Prof. Rajesh C Jampala Dean Department of Commerce & Business Management PBS College of Arts & Science, Vijayawada. Mobile No: 9866806069	Subject Expert	
Sai Babu, Vuyyuru	Alumnus	
Sri V.V. Punna Rao General Manager KCP Sugar Pvt., Ltd, Vuyyuru. Mobile No: 9704456972	Industry Expert	
Kum Mohana Krishna Department of Commerce (PG) AG&SGS Degree College of Arts & Science, Vuyyuru	Member	
Y. Swarna Latha Department of Commerce (PG) AG&SGS Degree College of Arts & Science,	Member	
G. Kiran Kumar Department of Commerce (PG) AG&SGS Degree College of Arts & Science, Vuyyuru	Member	

**Agenda for Board of Studies meeting for the
Master of Commerce (M.Com)
PGDepartment of Commerce**

To evaluate and recommend Programme Structure for Master of Commerce program (M.Com) under CBCS for the students admitted in the academic year 2021-2022.

1. To explore the possibility of new courses or combination of courses.
2. To assess the potential of the courses against the employment prospects.
3. To assess the compatibility of practical courses with theory courses.
4. To approve the structure of Model Question Papers with COs and for all courses of II & IV semesters of M.Com.
5. To approve the list of examiners and paper setters of all the courses.
6. To approve the course outcomes (COs) for all the courses of II & IV (EVEN) Semesters of M.Com.
7. Any other matter with the permission of the chair.

RESOLUTIONS

- i. Discussed the Syllabi of II and IV Semesters of M.Com, with **Dual Specialisation in 1. Accounting & Taxation 2. Banking, Insurance & Finance** for the approval of the BOS.

They recommended to continue the same Course Structure designed by me with **Single specialisation** as lack of required strength to adopt **Dual Specialisation** (and the syllabi of II and IV Semesters of M.Com, is nearest to the KRU Syllabus and also to avoid confusion in the students due to least strength of 13 in numbers and there is no I Year Students).

- ii. Discussed and recommended to continue **MOOCs**.
- iii. Discussed and recommended to conduct **Comprehensive Seminar** (Internal Assessment for 50 marks with 2 Credits).
- iv. Discussed and recommended the following teaching and evaluation methods for the approval of BOS.

Teaching Methods:

Besides the conventional methods of teaching, we use modern technology i.e., using of LCD projector to display on U boards and online teaching etc., for better understanding of concept.

Evaluation of student is done by the following procedure:

- i. Out of maximum 100 marks in each paper, 30 marks shall be allocated for internal assessment.
- ii. Out of 30 marks, 20 marks are allocated for announced internal tests. Two announced internal tests will be conducted and average of these Two tests shall be deemed as the marks obtained by the students, out of 10 marks 5 marks are allocated to Assignments, Seminars and Online Exam and remaining 5 marks are allocated to candidate's percentage of attendance.

445

Semester-End Examinations:

- i. The maximum marks for Semester-End Examinations shall be 70 marks and duration of the examination shall be 3 Hours.
 - ii. Semester-End Examinations shall be conducted in theory papers at the end of every Semester.
-
- v. Discussed and recommended for organising National seminars, Guest Lectures, Work-shops to upgrade the knowledge of students, for the approval of the BOS.
 - vi. Discussed and empowered the H.O.D. to suggest the panel of paper setters and Examiners to the Controller of Examinations.

CHAIRMAN



(Dr. T. Venkateswara Rao)

M.Com:

PSOs:

PSO1: To provide an opportunity for graduates to acquire theoretical as well as practical inputs in commerce to enter a career in professional areas of commerce and finance such as taxation, consultancy and financial services.

PSO2: To develop advanced theoretical knowledge and research capabilities to able to pursue academic and research focused careers.

POs:

PO1: Business Environment and Domain Knowledge (BEDK): Economic, legal and social environment of Indian business. Graduates are able to improve their awareness and knowledge about functioning of local and global business environment and society. This helps in recognizing the functioning of businesses, identifying potential business opportunities, evolution of business enterprises and exploring the entrepreneurial opportunities.

PO2: Critical thinking, Business Analysis, Problem Solving and Innovative Solutions (CBPI): Competencies in quantitative and qualitative techniques. Graduates are expected to develop skills on analyzing the business data, application of relevant analysis, and problem solving in other functional areas such as marketing, business strategy and human resources.

PO3: Global Exposure and Cross-Cultural Understanding (GECCU): Demonstrate a global outlook with the ability to identify aspects of the global business and Cross Cultural Understanding.

PO4: Social Responsiveness and Ethics (SRE): Developing responsiveness to contextual social issues/ problems and exploring solutions, understanding business ethics and resolving ethical dilemmas. Graduates are expected to identify the contemporary social problems, exploring the opportunities for social entrepreneurship, designing business solutions and demonstrate ethical standards in organizational decision making. Demonstrate awareness of ethical issues and can distinguish ethical and unethical behaviours.

PO5: Effective Communication (EC): Usage of various forms of business communication, supported by effective use of appropriate technology, logical reasoning, articulation of ideas. Graduates are expected to develop effective oral and written communication especially in business applications, with the use of appropriate technology (business presentations, digital communication, social network platforms and so on).

PO6: Leadership and Teamwork (LT): Understanding leadership roles at various levels of the organization and leading teams. Graduates are expected to collaborate and lead teams across organizational boundaries and demonstrate leadership qualities, maximize the usage of diverse skills of team members in the related context.

PO7: Knowledge Application (KA): Acquire knowledge in different areas of management such as finance, marketing, accounting, human resource and operations and apply quantitative techniques such as operations research, statistical methods, financial models, econometrics for making informed business decisions in organizations.

APPENDIX – I

Scheme of Instruction and Evaluation for M.Com. Programme for the batch of students admitted during 2021-22 and onwards.

SEMESTER – II								
CO211	Financial Accounting & Packages	4	1	1	4	30	70	3 Hrs.
CO212	Financial Management	4	1	1	4	30	70	3 Hrs.
CO213	Human Resources Management	4	1	1	4	30	70	3 Hrs.
CO214	Marketing Management	4	1	1	4	30	70	3 Hrs.
CO215	Business Research Methods	4	1	1	4	30	70	3 Hrs.
CO216	E-Commerce	4	1	1	4	30	70	3 Hrs.
Generic Elective Courses (Choose any one out of three Courses)								
GE01	Excel & Tally Practical's	1	1	1	2	50	-	-
GE02	Human Values & Ethics	1	1	1	2	50	-	-
GE03	Personality Development Lab	1	1	1	2	50	-	-

CIA = Continuous Internal Assessment; SEE = Semester End Examinations

Note: Course Codes will be allotted by the Examination Section.

IV SEMESTER

Sl. No.	Title of the Course	Instruction Hours per week			Credits	Evaluation		
		L	T	P		CIA Marks	SEE	
							Marks	Duration
Generic Core Courses								
411	Project Planning and Control	4	1	1	4 ✓	30	70	3 Hrs.
412	International Business	4	1	1	4 ✓	30	70	3 Hrs.
413	MOOCS – Organisational Behaviour	4	1	1	4 ✓	30	70	3 Hrs.
FUNCTIONAL SPECIALISATIONS								
From the following three specialization areas choose any one specialization area of your choice :								
1. Accounting & Taxation 2. Banking, Insurance & Finance 3. International Business								
Accounting & Taxation								
421	Advanced Management Accounting	4	1	1	4	30	70	3 Hrs.
422	Auditing & Assurance	4	1	1	4	30	70	3 Hrs.
423	GST & Customs	4	1	1	4	30	70	3 Hrs.
424	Corporate Tax Planning & Management	4	1	1	4	30	70	3 Hrs.
Banking, Insurance & Finance								
431	International Banking	4	1	1	4 ✓	30	70	3 Hrs.
432	Financial Services	4	1	1	4 ✓	30	70	3 Hrs.
433	Banking and Technology	4	1	1	4 ✓	30	70	3 Hrs.
434	Insurance Products and Management	4	1	1	4 ✓	30	70	3 Hrs.
International Business								
441	Foreign Exchange and Risk Management	4	1	1	4	30	70	3 Hrs.
442	Global Logistics & Supply Chain Mgt.	4	1	1	4	30	70	3 Hrs.
443	International Business Negotiations	4	1	1	4	30	70	3 Hrs.
444	India's Foreign Trade & Documentation	4	1	1	4	30	70	3 Hrs.
451	Comprehensive Viva-Voce	-	-	-	4	-	100	
452	Comprehensive Seminar	-	-	-	2	50		

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

A.G&S.G .Siddhartha Degree College of Arts & Science-Vuyyuru- 521165			
List of Paper Setters			
Subject Name: Business Law	Course: M.Com.	Course Code: CO211	Department: Commerce (PG)
1. . Mrs.B.Kalpna Assistant Professor Department of Commerce & Business Administration, P.B Siddhartha College of Arts & Science Vijayawada. Mobile No. 7842669134			2. Dr. B. Sankhar Babu, Assistant Professor, Department of Commerce, P.B Siddhartha College of Arts & Science Vijayawada Mobile No.: 9346487036

A.G&S.G .Siddhartha Degree College of Arts & Science-Vuyyuru- 521165			
List of Paper Setters			
Subject Name: Financial Management	Course: M.Com	Course Code: CO212	Department:Commerce (PG)
1. Dr. P.D M. Raju Professor, Department of Commerce Prabhas College, Vijayawada. Mobile No. 9440751609			2. . Dr. B. Sankhar Babu, Assistant Professor, Department of Commerce, P.B Siddhartha College of Arts & Science Vijayawada Mobile No.: 9346487036

A.G&S.G .Siddhartha Degree College of Arts & Science-Vuyyuru- 521165

List of Paper Setters

Subject Name: Human Resources Management	Course: M.Com	Course Code: CO213	Department:Commerce (PG)
1. Mrs. A. Siva Naga Lakshmi, Assistant Professor Department of Commerce & Business Administration P.B Siddhartha College of Arts & Science Vijayawada.		2 Mrs.G.Lalitha Madhavi Assistant Professor Department of Commerce & Business Administration P.B Siddhartha College of Arts & Science Vijayawada. Mobile No.: 7799209460	

A.G&S.G .Siddhartha Degree College of Arts & Science-Vuyyuru- 521165

List of Paper Setters & External Examiners

Subject Name: Marketing Management	Course: M.Com	Course Code: CO214	Department:Commerce (PG)
1. Mrs.B.Kalpana Assistant Professor Department of Commerce & Business Administration, P.B Siddhartha College of Arts & Science Vijayawada. Mobile No. 7842669134		2. P. Padmanabam Assistant Professor Department of Commerce, SRR & CVR College, Vijayawada.	

A.G&S.G .Siddhartha Degree College of Arts & Science-Vuyyuru- 521165

List of Paper Setters & External Examiners

Subject Name: Business analytics and Research Methods	Course: M.Com	Course Code: CO215	Department:Commerce (PG)
---	---------------	--------------------	--------------------------

1. Dr.B.Jaya Prakash,
Associate Professor, Deputy Head,
Department of Commerce & Business
Administration
P.B Siddhartha College of Arts & Science
Vijayawada.
Mobile No. 9849813969

2 Dr. P.D M. Raju
Professor,
Department of Commerce
Prabhas College,
Vijayawada.
Mobile No. 9440751609

A.G&S.G .Siddhartha Degree College of Arts & Science-Vuyyuru- 521165

List of Paper Setters & External Examiners

Subject Name: E-commerce	Course: M.Com	Course Code: CO216	Department: Commerce (PG)
--------------------------	---------------	--------------------	---------------------------

1. . Mrs. A. Siva Naga Lakshmi,
Assistant Professor
Department of Commerce & Business
Administration
P.B Siddhartha College of Arts & Science
Vijayawada.

2. M J Rajpaul,
Assistant Professor
Department of Commerce,
SRR & CVR College,
Vijayawada.
Mobile No. 9502093357

Course structure and scheme of Teaching and Examination

Master of Commerce

I SEMESTER

Paper Code	Paper Title	Teaching Hours/ week		Core / Elective	Internal Marks	External Marks	No. of Credits
		Lecture	Tutorial/ Practical				
CO111	Management theory and practice	5	1	Core	30	70	5
CO112	Business Economics	5	1	Core	30	70	5
CO113	Business Environment	5	1	Core	30	70	5
CO114	Entrepreneurship Development	5	1	Core	30	70	5
CO115	Information Technology for Business	5	1	Core	30	70	5
CO116	Quantitative Techniques for Business decisions	5	1	Core	30	70	5

II SEMESTER

Paper Code	Paper Title	Teaching Hours/ week		Core / Elective	Internal Marks	External Marks	No. of Credits
		Lecture	Tutorial/ Practical				
CO211	Business Law	5	1	Core	30	70	5
COM212	Financial Management	5	1	Core	30	70	5
COM213	Human Resources Management	5	1	Core	30	70	5
COM214	Marketing Management	5	1	Core	30	70	5
COM215	Business analytics and Research Methods	5	1	Core	30	70	5
COM216	E-commerce	5	1	Core	30	70	5
GE02	CBCS Paper -1	3	1	Elective	50	--	3

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

Business Laws

Subject Code :	CO201	I A Marks	30
No. of Lecture Hours / Week	05	End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03

Course Outcomes: By the end of the course, students will be able:

CO-1 To provide knowledge and understanding nature of the company and how to conduct the board meetings , appointment of the directors

CO-2 To know about how to prevent the money laundering in the business

CO-3 To provide expert knowledge on how to protect consumers and also provide the knowledge about to Right to Information Act

CO-4 To provide expert knowledge on Information Technology Act

CO-5 To know about the powers and freedom of corporate and business ethics

Unit –I

Companies Act 2013: Definition and Nature of Company - Incorporation of company – Prospectus - Shares and Debentures - Acceptance of Deposits - Appointment and Qualification of Directors - Meetings of Boards and its powers - Inspection and investigation - Compromises, arrangements and amalgamations - Prevention of oppression and Mismanagement - SEBI Act, 1992

Unit- II

Depositories Act, 1996 – Prevention of Money Laundering Act, 2002.

Unit- III

Consumer Protection Act, 1986 – Competition Act, 2002 – Environment Protection Act – Right to Information Act, 2005

Unit –IV

Foreign Exchange Management Act, 1999- Cyber laws-Information Technology Act, 2000.

Unit – V

Corporate Governance and Business Ethics – Ethical practices and guidelines: Internal to the Organization –Power and freedom: External to the organization.

References

1. Bulchandani RR : Business Law, Himalaya Publishing House.
2. SC Kuchal: Business Law, Vikas publishing House.
3. Agarwal UK : Consumer Protection in India (Deep & Deep)
4. Gulshan SS : Business Law (Excel)
5. Bare Acts

The Guidelines to be followed by the question paper setters in BUSINESS LAW for the second semester-end exams

PAPER TITLE: BUSINESS LAWS

PAPER-I Semester-II Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- Each short answer question carries 4 marks in section-A.
- Each long answer question carries 8 marks in section-B.
- Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

MODEL QUESTION PAPER

M.COM. (REGULAR) DEGREE EXAMINATION

Second Semester

BUSINESS LAWS

(2017-2018 Regulation Onwards)

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer the Following Questions

5×4=20 Marks

1. a. (i) Compromises.

(OR)

(ii) Debentures.

b. (i) Objectives of Deposition Act, 1926

(OR)

(ii) Scope of prevention of money laundering act 2002.

c. (i) complaints

(OR)

(ii) Information exchange.

d. (i) Fintech

(OR)

(ii) Foreign policy

e. (i) Corporate governance.

(OR)

(ii) Code of conduct

SECTION – B

Answer All Questions

5×8=40Marks

2. a) Discuss the prevention of the companies act 1950. Is regard to removal of directors by the Central Government?

(Or)

- b) Define a manager and distinguish between a manager, managing director and a whole-time direction.

3. a) What is money laundering? Discuss how money laundering takes place?

(Or)

- b) Explain how is a depository similar to a bank?

4. a) Explain the objectives and main provisions of Competition Act 2002.

(Or)

- b) Explain the Right to Information Act 2005 in detail.

5. a) discuss the applicability and overall structure of FEMA Act 1999.

(Or)

- b) State and explain the digital signatures, digital certificates and R.S.A algorithm

6. a) what do you understand by the term “Corporate Governance” ? Why is it important?

(Or)

- b) Explain in detail the ethical practices by business in India.

SECTION C

Answer the following question.

(1 x 10=10 marks)

7. a) Explain briefly important clauses of Memorandum of Associations of a Company?

(Or)

- b) Explain Information Technology Act, 2000.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

FINANCIAL MANAGEMENT

Subject Code :	CO202	I A Marks	30
No. of Lecture Hours / Week	05	End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03

Course Outcomes: By the end of the course, students will be able:

- CO 1 To understand the perspective on financial management function in the company and in its relation to domestic and international economy.
- CO 2 To provide illustration on financial management practices and policies, processes, techniques and strategies those are used in the financial management.
- CO 3 To develop knowledge on the type and characteristics of problems and the possibility of the occurrence of financial management problems,
- CO 4 To develop planning skill and monitoring skill in financial management functions effectively.
- CO 5 To apply the appropriate working capital management strategy to face the company challenges.

Unit-I: Introduction: Nature, Scope and Objectives of Financial Management: Finance Function–Profit Goal vs. Wealth Goal Maximization - Financial Manager in Modern business Organizations (Theory)

Unit-II: Investment decision: Capital Budgeting process –Methods of appraisal: Traditional Techniques and Discounted Cash Flow Methods – NPV vs. IRR - Capital rationing (Theory & problems)

Unit-III: Financing decisions: Concept of leverage – Types of Leverages –EBIT – EPS Analysis – Capital Structure – Theories of Capital Structure – Net Income approach – Net Operating income approach – Traditional view – MM Hypothesis Cost of Capital: Types of Cost of Capital - Weighted average Cost of capital. Capital Structure Determinants.(Theory & problems)

Unit-IV: Dividend decisions: Kinds of dividends, Dividend Policy types, Dividend Theories – Walter’s Model – Gordon’s Model – M-M Hypothesis (Theory & problems)

Unit-V: Working Capital Management: Meaning, Significance, Types of Working capital, Determinants of working capital, and Methods of Measuring working Capital Requirements - Operating cycle -Financing of Working Capital-Management of Cash, Receivables, and Inventory (Theory & problems)

References

1. Chandra Bose D., Fundamentals of Financial Management, 2nd Edition (2006) Prentice Hall of India.
2. Khan M Y and Jain P. K., Basic Financial Management: Text and Problems, 2nd Edition (2005) Tata McGraw Hill.
3. Pandey I M., Financial Management, 11th Edition (2015) Vikas Publishing House Pvt. Ltd.
4. .Pandey & Bhat, Cases in Financial Management, 2nd Edition (2000) Tata McGraw Hill.
5. Prasanna Chandra, Financial Management - Theory and Practice, 10th Edition (2019) Tata McGraw Hill.

The Guidelines to be followed by the question paper setters in FINANCIAL MANAGEMENT for the second semester-end exams

PAPER TITLE: FINANCIAL MANAGEMNT

PAPER-II Semester-II Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- Each short answer question carries 4 marks in section-A.
- Each long answer question carries 8 marks in section-B.
- Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Second Semester
FINANCIAL MANAGEMENT
(2017-2018 Regulation Onwards)

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer Any Five of the Following Questions

5×4=20Marks

1. Write short notes on:

a. (i) Financing function.

(OR)

(ii) NPV method

b. (i) Operating leverage

(OR)

(ii) Cost of equity

c. (i) WACC

(OR)

(ii) Operating cycle

d. (i) Gross VS Net working capital

(OR)

(ii) Kinds of dividends

e. (i) Objectives of Financial Management

(OR)

(ii) Significance of Working Capital Management.

SECTION – B

Answer All Questions 5×8=40Marks

2. a) Discuss in detail, the scope of Financial Management.

(OR)

b) Do you support the concept of Profit Maximization or Wealth Maximization? Give Reasons.

3. a) What is Capital Budgeting? Explain briefly about techniques of Capital Budgeting?

(OR)

b) A company is considering an investment proposal to install a new machine at a cost of Rs.50,000/-. The machine will last for 5 years and has no salvage value. The estimated cash flows after taxes are:

Years	1	2	3	4	5
Estimated Cash flows after taxes (Rs.)	10,000	10,450	11,800	12,250	16,750

Compute the following :

a) Pay-Back period b) Average rate of Return c) NPV at 10% d) IRR

4 .a) Explain Net Income and Net Operating Income approach of capital structure theories.

(OR)

b) A firm forecasts that it will produce 15,000 units and generate EBIT of Rs. 3,00,000. The DOL for a quantity level of 15,000 units is 2.5. There is a possibility that the actual output could range from 10% below to 5% above the forecast value. Calculate the range of possible forecast errors for EBIT in % terms and also corresponding EBIT values.

5. a) Show the implications of dividend policy according to Gordon's Model for the give information:

Particulars	Growth Firm	Normal Firm	Declining Firm
r	15%	10%	8%

All the firms have $k=0.10$ and $EPS= Rs 10$. Show the values when the firms adopt 40% and 60% pay-out ratio.

(OR)

b) What is the substance of Miller and Modigliani 'dividend irrelevance' theorem?

6. a) Explain the concept of working capital and the factors that determine the working capital needs of the firm.

(OR)

b) A cost sheet of a company provides the following data:

Particulars	Cost per unit Rs
Raw Material	52
Direct labour	19.5
Overheads	39
Total Costs	110.5
Profit	19.5
Selling Price	130

The following is the additional information available:

Average raw material in stock: one month;
 Average materials in process: half month
 Credit allowed by suppliers: one month
 Credit allowed to debtors: two month;
 Time Lag in payment of wages: one and a half weeks.
 Overheads: one month.
 One fourth of sales are on cash basis.

Cash balance is expected to be Rs. 1, 20,000. You are required to prepare a statement showing the working capital needed to finance a level of activity of 70,000 units of output. Assume that production is carried on evenly throughout the year and wages and overheads accrue similarly.

SECTION C

Answer the following question.

(1 x 10=10 marks)

7. a) A company is considering an investment proposal to install new machine at a cost of Rs.50, 000. The machine will last for 5 years and has no salvage value. The estimated cash flows after taxes are:

Year	Estimated Cash flows after taxes
1	Rs. 10,000
2	Rs.10,450
3	Rs. 11,800
4	Rs. 12,250
5	Rs. 16,750

Compute the following:

- Payback period
- Average rate of return
- Internal rate of return
- Net present value at 10%

(OR)

b) Explain about various dividend theories.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

HUMAN RESOURCE MANAGEMENT

Subject Code :	CO203	I A Marks	30
No. of Lecture Hours / Week	05	End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03

Course Outcomes: By the end of the course, students will be able:

- CO-1 To cover the basic concepts of Human Resource management.
- CO-2 To contribute the development of human resource planning, implementation, and evaluation of employee recruitment, selection, and retention plans and processes)
- CO-3 To develop, implement, and evaluate employee orientation, training, and development programs
- CO-4 To administer and contribute to the design and evaluation of the performance management program
- CO-5 To develop the students' ability to learn concepts like compensation, employee welfare, and industrial relation issues

Unit- I: Human Resource Management: Nature and significance, functions of HRM, Qualities and Role of HR Manager, HRM Model, HRM in a changing Environment.

Unit-II: Human Resource Planning: Objectives, process, factors affecting HR Planning, Requisites for successful HR Planning, Recruitment – Factors influencing, Sources of Recruitment – E- Recruitment-Selection Process – Placement, induction and Socialization – Promotion and Transfers

Unit-III: Employee Training: Significance – Identification of Training Needs – Employee Training Methods – Executive Development Methods – Evaluation of Training and Development Programs – Methods of Evaluation -Limitations to its effectiveness

Unit-IV: Performance Appraisal: Scope & Significance – Methods of Appraisal – Limitations of Appraisal - Career Planning and Development – Counseling- Mentoring-Coaching

Unit – V:Wage and Salary Administration: Wage Structure and Policy – Wage Differentials – Wage Payment Methods – Incentives – Fringe Benefits –Industrial Relations: Causes of Disputes and Settlement - Role of State in Industrial Relations - Collective Bargaining -Employee Participation in Management - Quality of Work Life.

References:

1. Aswathappa. Human Resource Management 6thEdition (2010). Tata McGraw Hill, New Delhi.
2. Biswanath Ghosh. Human Resource Development and Management, (2005) Jain Book Depot , New Delhi
3. C. B. Mamoria. Personnel management 21stEdition (2012). Himalaya Publishing House , New Delhi:
4. Edwin Flippo. Personnel management 5thEdition (1994). Tata McGraw Hill, New Delhi.
5. Rajashree Shinde, A. Abhilasha, A. Ramakumar Human Resource Management 1st Edition (2017). Himalaya Publishing House, New Delhi.
6. Sahni Personnel Management 5th Edition (2005). Kalyani Publisher, New Delhi.
7. SubbaRao. Human Resources management 12thEdition (2011). Himalaya Publishing House, New Delhi.
8. V. S. P. Rao, Human Resources Management, 3rd Edition (2010). Excel Books, New Delhi.

The Guidelines to be followed by the question paper setters in HUMAN RESOURCE MANAGEMNT for the second semester-end exams

PAPER TITLE: HUMAN RESOURCE MANAGEMNT

PAPER-III Semester-II Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- Each short answer question carries 4 marks in section-A.
- Each long answer question carries 8 marks in section-B.
- Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

MODEL QUESTION PAPER

M.COM. (REGULAR) DEGREE EXAMINATION

Second Semester

HUMAN RESOURCE MANAGEMENT

(2017-2018 Regulation Onwards)

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer Any Five of the Following Questions

5×4=20 Marks

1. Write Short Notes on:

a. (i) Role of HRM

(OR)

(ii) Human Resource planning.

b. (i) Vestibule Training.

(OR)

(ii) Career planning.

c. (i) Quality of Work Life.

(OR)

(ii) Fringe benefits.

d. (i) E-Recruitment

(OR)

(ii) HRM Model.

e. (i) Sources of Recruitment.

(OR)

(ii) Wage Payment Methods.

SECTION – B

Answer All Questions

5×8=40Marks

2. a) Define Human Resource Management and discuss the objectives and functions of HRM.

(Or)

b) Explain the role of HRM in the changing environment.

3. a) What is human resource planning? Analyze various steps in the process of human resource Planning.

(Or)

b) Explain the Sources Recruitment with relevant merits and limitations

4. a) Identify the employee training methods.

(Or)

b) Show the Importance of training and Distinguish between employee training and executive development.

5. a) Discuss the methods of performance appraisal.

(Or)

b) Examine the Significance and limitations of Performance appraisal.

6.a) Define the concept wage and salary administration. Explain the wage payment methods.

(Or)

b) Evaluate the Methods of Employee participation in management.

SECTION C

Answer the following question.

(1 x 10=10marks)

7. a) what is meant by the term Industrial Disputes? Discuss its causes and settlement mechanism.

(Or)

b) Define HRM. Explain the nature, scope& significance of HRM.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

MARKETING MANAGEMENT

Subject Code :	CO204	I A Marks	30
No. of Lecture Hours / Week	05	End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03

Course Outcomes: By the end of the course, students will be able:

- CO-1 Understand the concepts of marketing and to know the changing context of marketing environment.
- CO-2 Appreciating the knowledge of consumer behaviour in implementing the marketing strategies to satisfy target customer and also distinguish between Marketing Information System and Market Research.
- CO-3 Conceptual understanding of product management and issues relating with marketing of services.
- CO-4 Understand different price strategies and the dynamics of channel management.
- CO-5 Be able to know the elements of promotion mix and the importance of integrated marketing communications.

Unit-I: Marketing-Concepts-Approaches to the Study of Marketing – Functions of Marketing-Marketing Environment.

Unit-II: Consumer Behavior – Factors affecting Consumer Behavior- Market Segmentation – Market Targeting and Positioning – Marketing Information System and Marketing Research.

Unit-III: Marketing Mix: Product Planning – New Product Development – Product Life Cycle– Branding &Packaging – Product line- Product Mix Management- Product Vs Service.

Unit-IV: Pricing and Distribution: Pricing Objectives – Methods and Strategies ; Channels of distribution – Channel Selection and Management -Retail Management.

Unit-V: Promotion: Promotion Mix-Personal Selling-Advertising - Sales Promotion, Publicity and Public Relations – Direct Marketing; Promotional strategies- Web Marketing – Integrated Marketing Communications.

References

1. Aparna Tembulkar, Marketing Management, 2nd Edition. (2014) Nirali Prakashan, Pune.
2. Kazmi S H, marketing Management: Text and Cases, 1st Edition, (2007), Excel Books, New Delhi.
3. Philip Kotler, Kevin Lane Keller, Marketing Management –Global Edition, 15th Edition. (2016) Pearson India Education Services Pvt Ltd.
4. Rajan Suksena, Marketing Management, 5th Edition.(2017) McGraw Hill Education (India) Private Limited.
5. Ramaswamy, Namakumari, Marketing Management: planning, Implementation & Control, 6th Edition, (2018), Sage Publisher, New Delhi.
6. Sherlekar S.A, Marketing Management, 13th Edition, (2008), Himalaya Publishing House, Mumbai.

The Guidelines to be followed by the question paper setters in
 MARKETING MANAGEMENT for the second semester-end exams

PAPER TITLE: MARKETING MANAGEMNT

PAPER-IV Semester-II Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- Each short answer question carries 4 marks in section-A.
- Each long answer question carries 8 marks in section-B.
- Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Second Semester
MARKETING MANAGEMENT-CO204
(2017-2018 Regulation Onwards)**

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer Any Five of the Following Questions

5×4=20 Marks

1. Write short notes on:

- (a) (i) Product vs Service.
(OR)
(ii) Targeting
- (b) (i) Marketing Information System
(OR)
(ii) Channel Conflict
- (c) (i) Integrated Marketing Communication
(OR)
(ii) Psychological Pricing
- (d) (i) Global Marketing
(OR)
(ii) Positioning.
- (e) (i) Functions of Marketing.
(OR)
(ii) Pricing Objectives.

SECTION – B

Answer All Questions

5×8=40Marks

2. a) Differentiate between sales and marketing. What are the core concepts of marketing?
(Or)
b) What are the elements of marketing environment? Explain their influence on marketing.
3. a) Define Marketing Research. Explain various steps involved in Marketing Research.
(Or)
b) Define Market Segmentation. What are the types of Market Segmentation? Explain them briefly.

4. a) What is meant by Product Life Cycle? Explain the stages of Product Life Cycle with Suitable illustration.
(Or)
b) Define Brand. What are the various Brand strategies?
5. a) Explain the objectives of Pricing. What are the various price adjustment strategies?
(Or)
b) What factors are to be considered in the selection of Channel Members? Explain the Channel selection criteria.
6. a) Describe the role of 'Web Marketing' in present day business context.
(Or)
b) Define 'Sales Promotion'. What are the sales promotion techniques followed by marketing companies? Explain with suitable examples.

SECTION - C

Answer the following question.

(1 x 10=10 marks)

7. a) Define 'Consumer Behaviour'. Explain various factors influencing Consumer Behaviour.
(Or)
b) Define 'Advertising'. Explain its role in promotion of fast moving consumer goods.

BUSINESS ANALYTICS AND RESEARCH METHODS

Subject Code :	CO205	I A Marks	30
No. of Lecture Hours / Week	05	End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03

Course Outcomes: By the end of the course, students will be able:

- CO-1 To understand basic concepts of research and formulate research problems and process.
- CO-2 To generate an awareness of research design and data collection methods.
- CO-3 To develop and understand of sampling design and techniques.
- CO-4 To understand how to analyse and interpretation of the data.
- CO-5 To provide expert knowledge about to write a research report and thesis.

Unit –I : Introduction-Importance of Research, Types of research , Research Process-Problem Identification- Formulation-Classification, Concept and Construction of Hypothesis – Steps in Testing Hypothesis.

Unit-II: Research Design-Meaning, purpose and Principles – Types of Research Design – Exploratory- Descriptive- Experimental, Data Collection-Sources of Data-Methods of Data Collection-Questionnaire Design and Pre Testing of Questionnaire.

Unit-III: Sampling & Sampling Designs-Determination of Sample Size-Census Survey Vs Sample Survey –Advantages of Sampling-Sampling Methods-Probability Sampling-Non Probability Sampling.

Unit-IV: Data Tabulation-Analysis and Interpretation: Tabulation of data and general rules of tabulation Graphic and Diagrammatic Representation of Data-ANOVA-One way and Two way classification.

Unit-V: Research Report Writing and Presentation: Concept, Purpose, Guidelines for Research Report Writing –Steps in Report Writing-Layout of Report-Types of Research Reports-Presentation of Research Report.

Reference Books:

1. Panneer Selvam- Research Methodology, 2nd Edition (2014) PHI
2. Bhattacharya D.K., “Research Methodology” New Delhi. 2nd Edition (2006) Excel Books
3. Cooper, “Business Research Methods”, , New Delhi. 11th Edition (2012) Tata McGraw Hill

The Guidelines to be followed by the question paper setters in BUSINESS ANALYTICS AND RESEARCH METHODS for the second semester-end exams

PAPER TITLE: BUSINESS ANALYTICS AND RESEARCH METHODS

PAPER-V Semester-II Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- Each short answer question carries 4 marks in section-A.
- Each long answer question carries 8 marks in section-B.
- Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION**

Second Semester

BUSINESS RESEARCH METHODS

(2017-2018 Regulation Onwards)

Time: Three hours

Maximum Marks: 70

SECTION- A

Answer Any Five of the Following Questions

(5X4 = 20 Marks)

1. Write short notes on:

a) (i) Importance of Research

(OR)

(ii) Simple Random Sampling

b) (i) Research Problem

(OR)

(ii) Primary Vs Secondary data

c) (i) Procedure for Testing of Hypothesis

(OR)

(ii) Bar and Pie charts

d) (i) Layout of report

(OR)

(ii) Types of Tabulation

e) (i) ANOVA

(OR)

(ii) Research Design.

SECTION- B

Answer All Questions.

(5X8 = 40 Marks)

2. a) What is Research? Explain the research process in details.

(OR)

b) Explain different types of research.

3. a) What is Research Design ? Distinguish between diagnostic and Exploratory Research designs.

(OR)

b) Briefly explain various techniques of data collection in business research.

4. a) Explain Principal steps in a Sample Survey?

(OR)

b) Distinguish between Systematic and Stratified Sampling.

5. a) What are different parts of statistical table? Give an example to illustrate.

(OR)

b) Explain the procedure for analysis of variance (ANOVA) two-way classification.

6. a) Explain various types of research reports used in business research?

(OR)

b) Explain the significance of research report and narrate the various steps involved in writing such a report.

SECTION- C

Answer the following question.

(1 x 10=10 marks)

7. a) Set up an analysis of variance table for the following per acre production data for three varieties of wheat, each grown on 4 plots and state if the variety differences are significant.

Plot of Land	Per acre production data		
	Variety of Wheat		
	A	B	C
1	6	5	5
2	7	5	4
3	3	3	3
4	8	7	4

(OR)

b) Explain the criteria of Good Research and also explain problems encountered by researchers in India.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

E-COMMERCE

Subject Code :	CO206	I A Marks	30
No. of Lecture Hours / Week	05	End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03

Course Outcomes: By the end of the course, students will be able:

- CO-1 To remember and understand the basic concepts of E-commerce, E-business Internet and World Wide Web.
- CO-2 To understand how different technologies are implemented in e-commerce.
- CO-3 To analyse the role of e-marketing and advertisements in e-commerce.
- CO-4 To analyse the impact of CRM and SCM on e-commerce.
- CO-5 To learn about different types of electronic payment system, protocols, security schemes and cash less economy.

Unit-I : History of E-commerce and Indian Business Context: origin of E-commerce – Traditional vs. E-Commerce - Internet and World Wide Web- Business Models for e-Commerce-B2C, B2B, C2C & C2B, Merits and Limitations- Advantages and Disadvantages of E-commerce - Introduction to E-business -E-commerce vs E-business

Unit-II: Technologies of the World Wide Web- Internet client-server application-Telnet, PTP, IRC, Chat, ICQ & MIME, Networks & Internet :communication switching -Network routers-URL-IPv6-TCP web site-Website goals & Objectives Strategies for website Development-ISP Broadband Technologies- Hypertext- JavaScript and XML

Unit-III: E-Marketing- Traditional Marketing, Online Marketing- Advantages of online Marketing - Advertisements in E-commerce- various means of advertising- advertisement strategies-Intelligent Agents.

Unit-IV: CRM-Traditional methods-Technology support-E-CRM-Customer Life Cycle- CRM Capabilities and Customer Life Cycle-Data Mining in CRM - e-Supply Chain- Old ways of Managing supply and information flow-new ways of managing supply chain- several ways to reduce inventory- Real time benefits of e-Supply Chain- objectives of SCM -E-supply chain Components and architecture-Major trends in E-SCM

Unit-V: E-Commerce Payment Systems-Electronic Payments with Protocols-Security schemes-Electronic Fund Transfer and Debit Cards-E-Cash, Properties of E-Cash-E-Cash in Action- Operational Risk and E-Cash-Legal issues- E- Cheque - Risk and E-Payments Systems- Cashless Economy

References

1. PT Joseph SJ E-Commerce, An Indian Perspective, 3rd Edition, Volume 2, (2010), Prentice Hall of India
2. Effraim Turban, Joe Lee, David Kind-H Michael Chung E-Commerce, A Management Perspective, 6th Edition (2009), Pearson Education Asia.
3. Pandey US & ShuklaEr. S., E-Commerce & M- Commerce Technology, Revised Edition (2018), S. Chand& Company New Delhi.
4. Gary P. Schneider, E-Commerce Strategy Technology & Implementation, 9th Edition (2012), Cengage Learning, New Delhi.
5. Trepper, E-Commerce Strategies, Prentice Hall of India (2006) revised Edition, New Delhi.
6. Jonathan Reynolds, E-Business A Management Perspective 2nd Edition (2009), Oxford University Press.

The Guidelines to be followed by the question paper setters in E-COMMERCE for the second semester-end exams

PAPER TITLE: E-COMMERCE

PAPER-VI Semester-II Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- Each short answer question carries 4 marks in section-A.
- Each long answer question carries 8 marks in section-B.
- Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Second Semester
E-COMMERCE
(2017-2018 Regulation Onwards)**

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer Any Five of the Following Questions

5×4=20 Marks

1. Write short notes on:

a) (i) B2C

(OR)

(ii) World Wide Web

b) (i) Software Agent

(OR)

(ii) XML

c) (i) Intelligent Agents

(OR)

(ii) Supply Chain Management

d) (i) Electronic Fund Transfer

(OR)

(ii) Online Marketing

e) (i) E-Cash

(OR)

(ii) Website Goals

SECTION – B

Answer All Questions

5×8=40Marks

2. (a) Explain Business models of E-commerce.

(Or)

(b) What are the advantages and Disadvantages of E-commerce? s

3. (a) Explain Internet Client-Server Applications.

(Or)

(b) Explain Website goals, Objectives and Strategies.

4. (a) What is e-marketing? Distinguish E-marketing and Traditional Marketing

(Or)

(b) What are the strategies and advantages of advertisements in e-commerce?

5. (a) Explain Old ways of managing supply and information flow-new way of Managing supply chain and Supply chain Architecture.

(Or)

(b) Explain CRM Technology, CRM toolkit and CRM customer life cycle.

6. (a) Explain various security schemes in Electronic Payment System.

(Or)

(b) Explain Different protocols used in Electronic Payment system.

SECTION - C

Answer the following question.

(1 x 10=10 marks)

7. (a) Explain the concept of ISP Broadband Technologies.

(Or)

(b) Explain the Role of E-commerce in India.

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An Autonomous college under the jurisdiction of Krishna University)

Reaccredited at the level 'A' by the NAAC

HUMAN VALUES AND ETHICS (1L + 1T + 1P)

Subject Code :	GE02	I A Marks	50
No. of Lecture Hours / Week	03	End Exam Marks	-
Total Number of Lecture Hours	45	Total Marks	50
Practical Component	01 Hour/Week	Exam Hours	03

Course Outcomes: By the end of the course, students will be able:

- CO 1 To provide the basic understanding about importance of Value Education, Self-Exploration, and Human aspirations.
- CO 2 To understand the importance of Process for Value Education
- CO 3 To gain knowledge on Understanding Harmony in the Human Being
- CO 4 To understand the concept of Harmony in Myself
- CO 5 Understanding Harmony in the Family and Society – harmony in Human - Human Relationship

Unit – I: Introduction –Need, Basic Guidelines and Content

1. Understanding the need , basic guidelines, content and process for value Education
2. Self-Exploration – What is it? – its content and process: 'Natural Acceptance' and Experiential Validation – as the mechanism for self-explanation
3. Continuous Happiness and Prosperity – A look at basic Human Aspirations

Unit – II: Process for Value Education

1. Right Understanding, Relationship and Physical Facilities – basic requirements for fulfillment of aspirations of every human being with their correct priority
2. Understanding Happiness and prosperity correctly – A critical appraisal of the current Scenario 17
3. Method to fulfill the above human aspirations; understanding and living in harmony at various levels

Unit – III: Understanding Harmony in the Human Being

1. Understanding human being as a co-existence of the sentient 'I' and the material 'Body'
2. Understanding the needs of Self ('I') and 'Body'
3. Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)

Unit –IV: Harmony in Myself

1. Understanding the characteristics and activities of 'I' and harmony in 'I'
2. Understanding the harmony of I with the Body - correct appraisal of Physical needs, meaning of Prosperity in detail
3. Programs to ensure Sanyam and Swasthya – practice exercises and Case Studies will be taken up in Practice Sessions.

Unit – V: Understanding Harmony in the Family and Society – harmony in Human - Human Relationship

1. Understanding harmony in the family – the basic unit of human interaction
2. Understanding values in human relationship; meaning of Nyaya and Program for its fulfillment to ensure Ubhay-tripti
3. Trust (Vishwas) and Respect (Samman) as the foundational values of relationship.

Text Books

- R R Gaur, R, Sangal, G.P Bagaria, 2009, A Foundation Course in value Education(English)
Pradeep Kumar Ramancharla, 2013, A foundation course in value education (Telugu)
R R Gaur, R Sangal G P Bagaria, 2009, Teacher’s Manual (English)
Pradeep Kumar Ramancharla, 2013, Teacher’s Manual (Telugu)

Reference Books

1. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, USA
2. E.F. Schumacher, 1973, small is Beautiful; a study of economics as if people mattered, Blond & Briggs, Britain
3. A Nagraj, 1998, Jeevanvidya to Na Prayanam, Hyderabad
4. R.Pradeep Kumar, 2013, JeevanVidya to Na Prayanam, Hyderabad
5. Susan George, 1976, How the other half Dies, Penguin Press, Reprinted 1986, 1991
6. PL Dhar, RR Gaur, 1990, Science and Humanism, common wealth publishers
18
7. A.N. Tripathy, 2003, Human values, New Age International Publishers
8. Subhas Palekar, 2000, How to practice natural Farming, Pracheen (Vaidik)
Krishitantrashodh, Amravati
9. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – club of Rome’s report, universe Books
10. E.G. Seebauer & Robert, L BERRY, 2000, Foundations of Ethics for Scientists & Engineers, Oxford University Press
11. M. Govindrajran, S Natrajan & V.S. Senthikumar, Engineering Ethics (including human Values), Eastern Economy Edition, Prentice hall of India Ltd
12. B P Banerjee, 2005, Foundations of Ethics and Management, Excel books
13. B.L. Bajpai, 2004, Indian Ethos and Modern Management, New Royal book Co;
Lucknow, Reprinted 2008

Relevant CDs, Movies, Documentaries & Other Literature

1. Value Education Website, <http://www.uptu.ac.in>
2. Story of Stuff, <http://www.storyofstuff.com>
3. Al Gore, An Inconvenient Truth, paramount Classics, USA
4. Charlie Chaplin, Modern Times, United Artists, USA



A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.
NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: PROJECT PLANNING AND CONTROL

Semester: IV

PROJECT PLANNING AND CONTROL (4L + 1T + 1P)

Course Code	CO411	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II M.Com		

Course Outcomes: By the end of the course, students will be able:

- CO 1 To identify the new projects and investment opportunities.
- CO 2 To understand the market and demand analysis for new project.
- CO 3 To develop Investment criteria and appraisal process.
- CO 4 To enable the students to understand social cost benefit analysis.
- CO 5 To imparts skills in the use of network techniques for project implementation.

UNIT-I

Generation and Screening of Project Ideas – Generation of ideas – Monitoring Environment – Corporate Appraisal – Profit Potential of Industries – Porter Model – Scouting for Project Ideas – Preliminary screening – Project Rating Index – Sources of Positive Net Present Value.

UNIT-II

Market and Demand Analysis: Information required for market and demand analysis; sources of information – primary and secondary; demand forecasting – Technical Analysis – Materials and inputs; Production technology – Product mix – Plant location and layout – Selection of plant and equipment.

UNIT-III

Financial Estimates and Investment Criteria – Cost of Project – Means of Finance – Estimates of sales and production – Cost of Production – Investment Criteria: Net Present Value – Benefit Cost Ratio – Internal Rate of Return – Pay Back Period – and Accounting Rate of Return. Investment Appraisal: Indian Practice.

UNIT-IV

Social Cost Benefit Analysis – Rationale for social cost benefit analysis – Methodology of SCBA – L&M approach and UNIDO approach – Measurement of the impact on distribution – SCBA in India

UNIT-V

Network techniques for Project Implementation – Monitoring and Control – PERT and CPM techniques – Critical path – event slacks and activity floats – Measures of variability and probability of completion by a specified date – Project implementation practices in India.

References:

1. Prasanna Chandra, Projects – Planning – Analysis – Financing – Implementation – and Review. 9th(2019) Edition Tata McGraw Hill
2. Chandra Prasanna, Project Preparation – Appraisal and Implementation, 3rd Edition (1987) Tata McGraw Hill – Delhi
3. Timothy – D.R. and W.R. Wesell, Project Appraisal and Review– 76 (11) 1992 Macmillan – India.
4. Chaudhary S, Project Management, 5th Edition (1995), Tata McGraw Hill New Delhi.
5. Little I.M.D. and Mirrless JA, Project Appraisal and Planning for Developing Countries (1974) Heinemann Education Books London.

The Guidelines to be followed by the question paper setters in **CO402- PROJECT PLANNING AND CONTROL** for the fourth semester-end exams

PAPER TITLE: **PROJECT PLANNING AND CONTROL**

PAPER- II Semester-IV Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- CO 1 Each short answer question carries 4 marks in section-A.
- CO 2 Each long answer question carries 8 marks in section-B.
- CO 3 Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.**

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Fourth Semester
PROJECT PLANNING AND CONTROL
(2021-2022 Regulation Onwards)**

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer All Questions

5×4=20 Marks

1. Write short notes on

- i. a) Environmental scanning. OR
b) Project Rating Index.
- ii. a) Product mix. OR
b) Primary data..
- iii. a) Payback period.. OR
b) Cost of project
- iv. a) Shadow Prices. .OR
b) Social cost benefit
- v. a) Total and free floats. .OR
b) Critical path

SECTION – B

Answer All Questions

5×8=40 Marks

2. a) Explain the process of generating and screening of project ideas.
OR
b) Explain porter model for profit potential of industries
3. a) What is plant location? Explain the factors influencing plant location.
OR
b) Explain different sources of primary and secondary information.
4. a) What are the components of cost of project? Discuss them in brief.
OR
b) Discuss briefly the various means of financing a project.

5. a) What is social cost benefit analysis and explain UNIDO approach.

OR

b) Explain social cost benefit analysis in India.

6. a) What is network analysis? Explain the rules for construction of network diagrams.

OR

b) Discuss the project implementation practices in India.

SECTION C - (1 x 10 =10 marks)

Case study (Compulsory)

7. Explain environmental scanning and opportunity analysis.

OR

What is demand forecasting? Explain qualitative and time series projection methods. .

A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.
NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: INTERNATIONAL BUSINESS

Semester: IV

INTERNATIONAL BUSINESS (4L + 1T + 1P)

Course Code	CO412	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II M.Com		

Course Outcomes:By the end of the course, students will be able:

- CO 1 To familiarize the students with international trade theories
- CO 2 To enable the students to understand the international trade regulatory framework.
- CO 3 To equip the students with the basic concept of international financial framework
- CO 4 To impart knowledge on international economic institutions
- CO 5 To understand how to organise international business.

UNIT-I: International Business: Concept of international business – Stages of internationalization of business – Impact of globalization - International economic, political, legal, competitive, social demographic and cultural frame work - International trade theories.

UNIT -II: International trade regulatory frame work -Trade barriers – Export promotion and import substitution - Role of World Trade Organization (WTO) - Integrity pact.

UNIT -III: International financial frame work - Balance of payments – Foreign exchange market mechanism, export financing, and incentives – Role of MNCs in International Business.

UNIT -IV: International Economic Institutions Agencies and Agreements: Regional Trading agreements – The European Union and NAFTA – Debate on Trade Policy i.e. Free Trade Vs Protectionism.

UNIT -V: Organizing for international business – Designing global organization structure – Developing global competitiveness - EOUs, EPZs - Role of State and Centre to promote international trade

References

1. Francis Cherunilam, International Business, PHI.
2. Bhattacharya, International Business, Excel Books, New Delhi.
3. John D.Daniels & Lee H. Radebaugh., International Business, Pearson Education.
4. P. Subba Rao, International Business, Himalaya Publishing House.
5. R. Chandran, International Business, Jaico Publishing House
6. Vyuptakesh Sharam, International Business, Pearson education, 2006.
7. K.Aswathappa, International Business, Tata McGraw-Hill, 2006.
8. Bhalla Madhava. V.K., International Business, New Delhi.
9. Shukla, International Business, Excel Books, New Delhi.
10. Sundarmos Black; International Business Environment, Prentice Hall of India.
11. Ramesh Mohan Joshi, International Business, Oxford University Press
12. Pradip Kumar Sinha, Sanchari Sinha, International Business Management, Excel Book

The Guidelines to be followed by the question paper setters in **CO403-INTERNATIONAL BUSINESS** for the fourth semester-end exams

PAPER TITLE: _____ - INTERNATIONAL BUSINESS

PAPER- III Semester-IV Maximum Marks: 70 Duration: 3 Hours

Weight age for the question paper

Syllabus	Section –A (Short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (Essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- CO 1 Each short answer question carries 4 marks in section-A.
- CO 2 Each long answer question carries 8 marks in section-B.
- CO 3 Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.**

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Fourth Semester
INTERNATIONAL BUSINESS
(2021-2022 Regulation Onwards)**

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer All Questions

5×4=20 Marks

1. Write short notes on

- i. a) International Business. OR
b) Globalisation.
- ii. a) WTO. OR
b) Trade barriers.
- iii. a) Balance of Payments. OR
b) MNCs
- iv. a) Regional Trading Agreements. OR
b) Trade Policy.
- v. a) EOUs. OR
b) EPZs

SECTION – B

Answer All Questions

5×8=40Marks

2. a) Explain the concept of international business.
OR
b) Explain the stages of internationalisation of business.
3. a) Explain the concept of export promotion and import substitution.
OR
b) Explain the role of World Trade Organisation in international business.
4. a) Explain the Foreign exchange market mechanism.
OR
b) Discuss the role of MNCs in international business.
5. a) Explain the concept of free trade Vs protectionism.
OR
b) Explain the European Union NAFTA.
6. a) What is the role of state and centre for promote international trade?
OR
b) Discuss the designing of global organisation structure.

SECTION C - (1 x 10 =10 marks)

Case study (Compulsory)

7. a) Explain the international social, political and economic framework.
OR
b) Explain the barriers in international trade.

A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.
NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: MOOCS – Organisational Behaviour

Semester: IV

Course Code: MOOCS - Organizational Behaviour

Course Code	CO413	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II M.Com		

Course Objectives: The course is to make student aware of the concept to provide opportunity for learner to interact directly with world class teachers who are offering courses on MOOCs platform.

Course Outcomes:

CO-1 To provide students with audio and video content relating with the contemporary subjects.

CO-2 To improve the self-learning capabilities of the students

CO-3 To help the learners to learn continuously while doing the course and after the course completion.

CO-4 To provide opportunity for learner to interact directly with world class teachers who are offering courses on MOOCs platform.

CO-5 To expose the learners with peer learning facility

Unit-I: Organizational Behaviour: Meaning, concept, importance and fields of study, roles & skills of managers, Organizational Behaviour challenges, field of OB : individual, groups & systems as building blocks, OB models.

Unit-II: Evolution of Organizational Behaviour, Research of OB, International OB, Perception, Personality, Learning: concept & theories, facilit

Unit-III: Attitude : meaning, concept, formation and change, Motivation : process theories, job satisfaction, emotions and emotional intelligence, formation of groups, types of groups.

Unit- IV: Team dynamics, group decision making, interpersonal relations, Communication : nature, types and barriers, Leadership : nature, importance, styles, theories of leadership, power & politics, conflicts, foundations of organization structure.

Unit- V: Organizational design, diversity and it's management, stress among employees, work life balance, Organizational change & development, Organizational culture, employee empowerment, learning organization, ethical behavior in organization

Reference :

1. Stephen P. Robbins, Organizational Behaviour Concepts, Prentice hall, India.
2. L. M. Prasad, Management Process and Organizational, Sultan Chand & Sons.
3. Aswathappa. K, Organizational Behaviour , Himalaya Publishing House.
4. Nair, S. R, Organizational Behaviour (text & cases) Himalaya Publishing House.

The Guidelines to be followed by the question paper setters in **CO401- MOOCS: ORGANIZATIONAL BEHAVIOUR** for the fourth semester-end exams

PAPER TITLE: CO401 - MOOCS : ORGANIZATIONAL BEHAVIOUR

PAPER- I Semester-IV Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (Short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (Essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- Each short answer question carries 4 marks in section-A.
- Each long answer question carries 8 marks in section-B.
- Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.**

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Fourth Semester
MOOCS- Organisational Behaviour
(2021-2022 Regulation Onwards)**

Section - A

Answer any **FIVE** of the following:

(5 x 4 = 20M)

1. a i. Organizational Behaviour or
ii. Skills of managers
- b i. Perception or
ii. Learning
- c i. Job satisfaction or
ii. Emotional intelligence
- d i. Leadership or
ii. Communication
- e i. Organizational design or
ii. Employee empowerment

Section – B

Answer any **FIVE** of the following:

(5 x 8 = 40M)

2. a. Discuss the concept and importance of Organizational Behaviour.
or
b. Discuss the various models of Organizational Behaviour.
3. a. Explain various stages in personality development.
or
b. Discuss various steps in perceptual process.
4. a. Elucidate the concept of motivation and motives. Why motivation is needed?
or
b. What do you understand by group? Explain the various stages of group formation.
5. a. Define leadership and explain various styles of leadership.
or
b. State the process and importance of communication with examples.
6. a. Discuss the importance of organizational culture.
or
b. Identify the factors causing stress and suggest suitable stress management techniques.

Section – C (1x10 Marks = 10 Marks)

7. a. Discuss the importance of group dynamics in modern organizations.
or
b. Explicate the concept of behaviour modification. Highlight various behaviour modification techniques.

A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.
NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: INTERNATIONAL BANKING

Semester: IV

INTERNATIONAL BANKING (4L + 1T + 1P)

Course Code	CO431	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II M.Com		

Course Outcomes:By the end of the course, students will be able:

- CO 1 Understand the global trends and developments in international banking
- CO 2 Get familiar with the international financial centres
- CO 3 Able to identify banking system in UK, USA etc.
- CO 4 Able to understand the functioning of international financial institutions
- CO 5 Able to develop knowledge about regulatory framework in india.

UNIT – I :

Introduction- Global trends and developments in International Banking Wholesale banking- Retail banking- private banking- inter-bank business

UNIT – II :

International Financial Centres - Offshore Banking units - SEZs- Asset Liability Management- Profitability of International Banking Operations

UNIT – III :

Investment Banking: Wholesale Banking - Unit Banking – Federal Banking System – Investment Banking - Correspondent Banking – Banking System in UK, USA, Germany and Japan - Global trends and developments in International Banking.

UNIT – IV :

International Financial Institutions; IMF , IBRD, BIS, IFC, ADB, WTO, Treasury and Risk Mitigation

UNIT – V :

Regulatory Framework in India and FEMA, Letter of Credit mechanism and UCPDC URC / URR Buyers' / Sellers' credit- Bilateral trade- counter trade- high seas sales.

References

1. International Banking Operations, Libf, Macmillan Publishers India Limited, 2007.
2. Domestic and International Banking, M.K. Lewis & K.T. Davis, The MIT Press, 1987.
3. Hand Book of International Banking, A. W. Mullineux & Victor Murinde, Edward Elgar Publishing, 2003.
4. International Banking, Nicholas L. Deak & JoAnne Celusak, New York Institute of Finance, 1984.
5. International Banking and Finance, Francis A. Lees, Macmillan Press, 1980.
6. Multinational and International Banking, Geoffrey Jones, E.Elgar, 1984.

The Guidelines to be followed by the question paper setters in **CO404-INTERNATIONAL BANKING** for the fourth semester-end exams

PAPER TITLE: CO404-INTERNATIONAL BANKING

PAPER- IV Semester-IV Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

CO 4 Each short answer question carries 4 marks in Section-A.

CO 5 Each long answer question carries 8 marks in Section-B.

CO 6 Each essay answer question carries 10 marks in Section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.**

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Fourth Semester
INTERNATIONAL BANKING
(2021-2022 Regulation Onwards)**

Section - A

Answer any FIVE of the following:

(5 x 4 = 20M)

1. a i. Private Banks. (or)
ii. Nature of international banking.
- b i. Special Economic zones. (or)
ii. Asset Management.
- c i. Unit banking. (or)
ii. Banking system in UK.
- d i. BIS. (or)
ii. ADB.
- e i. URC Buyers. (or)
ii. Unilateral trade.

Section – B

Answer any FIVE of the following:

(5 x 8 = 40)

2. a. Explain the nature and objectives of retail banking.
(or)
b. Write about recent developments in international banking?
3. a. What are the various privileges available to SEZs? Explain.
(or)
b. Explain about profitability of international banking operations.
4. a. Write about banking system in Germany?
(or)
b. Give an overview on federal banking systems.
5. a. State the functions of world bank.
(or)
b. List out the objectives of WTO.
6. a. Discuss about foreign exchange mechanism in India.
(or)
b. What are the features of bilateral trade agreements?

Section – C (1x10 Marks = 10 Marks)

7. a. Explain about risk mitigation in international financial institutions.
(or)
b. Give an overview on inter-bank business.

A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.
NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: FINANCIAL SERVICES

Semester: IV

FINANCIAL SERVICES
(4L + 1T + 1P)

Course Code	CO432	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II M.Com		

Course Outcomes: By the end of the course, students will be able:

- CO 1 To create awareness among the students about the significance of investment particularly strategic investment and finance decision-making.
- CO 2 The objective of the course is to provide students with the knowledge of merchant banking services along with guidelines of SEBI.
- CO 3 To understand Mutual Funds and the origin of venture capital.
- CO 4 To understand the types of lease agreements and factoring services in India.
- CO 5 To examine the emerging trends in financial services.

UNIT – I

Financial Services – Range of services – Characteristics – Institutions offering different services – Characteristics of financial services market – Problems and challenges in financial services marketing.

UNIT – II

Merchant Banking – Nature and scope of merchant banking services – Management of public issues and support services – Depository services – Marketing of services – SEBI guidelines.

UNIT – III

Mutual Funds – Meaning, Origin, Types/Classification of Funds, Importance, Mutual Funds Industry in India – **Venture Capital**: Meaning, Origin, Importance, Methods, India Scenario.

UNIT – IV

Leasing – Concept, Types, Lease Agreements – Potentiality of Leasing as a means of financing – Advantages, and Disadvantages – Lease Financing in India – **Factoring** – Meaning, Modus operandi, types, and functions – Factoring services in India.

UNIT V

Trends in Financial Services – Financial technology firms (Fintech Firms), Data-Driven Product Development, Digital Transformation, AI (artificial intelligence)& Block Chain, Big Data, Cyber Security, Mobile Banking, OMNI-Channel, Investor Education.

Reference Books:

1. David and Zenoff, **Marketing of Financial services**, Ballinger publishing.
2. Avadhani, V.A., **Marketing of Financial Services**, Himalaya Publishing House, Mumbai.
3. J.C. Verma, **Merchant Banking**, Tata McGraw- Hill.
4. Bhalla. V.K. **Management of Financial Services**, Anmol Publications, New Delhi.
5. ChinmaoySahu, **Management of Financial Services**, Excel Books, New Delhi.

The Guidelines to be followed by the question paper setters in **CO405- FINANCIAL SERVICES** for the fourth semester-end exams

PAPER TITLE: CO405 - FINANCIAL SERVICES

PAPER- V Semester-IV Maximum Marks: 70 Duration: 3 Hours

Weight age for the question paper

Syllabus	Section –A (Short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (Essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- CO 1 Each short answer question carries 4 marks in section-A.
- CO 2 Each long answer question carries 8 marks in section-B.
- CO 3 Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.**

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Fourth Semester
FINANCIAL SERVICES
(2021-2022 Regulation Onwards)**

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer All Questions

5×4=20 Marks

1. Write Short Notes on:

- i. a) characteristics of financial services market OR
b) challenges of a financial services market
- ii. a) Merchant banking OR
b) Depository services
- iii. a) Classification of funds OR
b) Venture Capital
- iv. a) Leasing OR
b) Factoring
- v. a) Digital Transformation OR
b) Investor Education.

SECTION – B

Answer All Questions

5×8=40 Marks

2. a) Explain different services offered by financial institutions.
OR
b) Explain the problems in financial services marketing
3. a) Explain the nature and scope of merchant banking services.
OR
b) Explain marketing of services – SEBI guidelines.
4. a) Explain the importance and mutual funds industry in india.
OR
b) Discuss the methods of venture capital.
5. a) Explain the lease agreements.
OR
b) Discuss factoring services in India.
6. a) Discuss the Data-Driven Product Development.
OR
b) Explain the advantages of Artificial Intelligence.

SECTION C - (1 x 10=10 marks)

Answer the following question.

7. a) Explain the management of public issues and support services in merchant banking.
OR
b) Discuss the types and functions of factoring.

A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.
NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: BANKING AND TECHNOLOGY

Semester: IV

BANKING AND TECHNOLOGY (4L + 1T + 1P)

Course Code	CO433	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II M.Com		

Course Outcomes: By the end of the course, students will be able:

- CO-1 To explain the role of information technology in Indian Banking Industry.
- CO-2 To explain the role of electronic banking and electronic fund management.
- CO-3 To explain how integrated communication networks works in banks and the role of CRM.
- CO-4 To explain how to manage disaster management and computer security. The role of computer audit and security control aspects.
- CO-5 To explain the importance of data warehousing and data mining techniques and its advantages.

UNIT – I

IT in Banking – Information Technology and its implications – Information Technology – Indian Banking Scenario – Initiatives and Trends.

UNIT – II

Applications in Banking – Computer based information System for Banking and Electronic Banking, Electronic Fund Management.

UNIT – III

Enabling Technologies of Modern Banking – Electronic Commerce and Banking – Customer Relationship Management – Integrated Communication Networks for Banks

UNIT – IV

Security and Control Systems – Computer Security and Disaster Management System – Audit and Computer Crime – Security and Control Aspects of Emerging Banking Technologies

UNIT – V:

Planning and Implementation of Information System – Data Warehousing and Data Mining – Designing and Implementing Computerization in Banking Sector

References:

1. Hawtrey. The Art of Central Banking. (1970) New York: Augustus M Kelley Publishers.
2. Desai, Vasant, Indian Banking, Nature and Problems 1st Edition (1980) Mumbai, Himalaya Publishing House.
3. Murdick, R.G., Ross, J.E., Clagget J.R, Information Systems for Modern Management. 3rd Edition (1988) PHI

The Guidelines to be followed by the question paper setters in **CO406- BANKING AND TECHNOLOGY** for the fourth semester-end exams

PAPER TITLE: CO406: BANKING AND TECHNOLOGY

PAPER- VI Semester-IV Maximum Marks: 70 Duration: 3 Hours

Weightage for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- CO 1 Each short answer question carries 4 marks in section-A.
- CO 2 Each long answer question carries 8 marks in section-B.
- CO 3 Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.**

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Fourth Semester
BANKING AND TECHNOLOGY
(2021-2022 Regulation Onwards)**

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer All Questions

5×4=20 Marks

1. **Write Short Notes on:**

- i. a) Information technology. OR
b) Banking trends.
- ii. a) Electronic Banking. OR
b) Computer based information system
- iii. a) Relationship Management. OR
b) Integrated communication network
- iv. a) Computer Security. OR
b) Computer Audit.
- v. a) Data Mining. OR
b) Data Warehousing

SECTION – B

Answer All Questions

5×8=40 Marks

2. a) Explain the role technology in Indian banking.
OR
b) Discuss the initiatives and new trends in Indian banking.
3. a) Discuss the role of computer based information system.
OR
b) Explain electronic fund management.
4. a) Explain Customer Relationship Management.
OR
b) Discuss integrated communication networks in banks.
5. a) Explain disaster management techniques.
OR
b) Discuss security control aspects in banking industry.
6. a) Discuss Data ware housing techniques.
OR
b) Explain the advantages of data mining.

SECTION C - (1 x 10=10 marks)

Answer the following question.

7. a) Explain how technology is playing a vital role in customer service.
OR
b) Discuss the future of Indian banking industry with latest technological developments.

A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.
NAAC recredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: INSURANCE PRODUCTS AND MANAGEMENT

Semester: IV

INSURANCE PRODUCTS AND MANAGEMENT (4L + 1T + 1P)

Course Code	CO434	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	30
No. of Lecture Hours / Week	5	Semester End Exam Marks	70
Total Number of Lecture Hours	75	Total Marks	100
Practical Component	01 Hour/Week	Exam Hours	03
Year of Introduction:	Year of Offering: 2021 - 22	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	II M.Com		

Course Outcomes:

By the end of the course, students will be able:

- CO 1 To develop and understand what life insurance and variation of whole life insurance
- CO 2 To familiarize students with life insurance contractual provisions
- CO 3 To discuss the matter related to health insurance coverage
- CO 4 To make the students understand employee benefits and retirement plans
- CO 5 To make them understand the concept of reinsurance.

UNIT – I :

Life Insurance Concept – Basic Principles of Life Insurance Utmost Good Faith – Insurance Interest – Types of Insurance – Variations of Whole Life Insurance – Other types of Life Insurance.

UNIT – II :

Life insurance Contractual Provisions – Dividend Options – Non Forfeiture Options – Settlement Options – Additional Life Insurance Benefits – Insurance Pricing– Rate Making in Life Insurance- objectives.

UNIT – III :

Health and Disability – Income – Insurance – Types of Individual Health Insurance Coverage – Individual Medical Expense, Contractual – Group Insurance Plans – Group Medical Expense Insurance.

UNIT – IV :

Employee Benefits – Retirement Plans – Fundamentals of Private Retirement Plans – Types of Qualified Retirement Plans – Profit Sharing Plans – Self Retirement Plans for Employed – Single Retirement Plans – Simplified Retirement Pension.

UNIT – V :

Re-insurance: Reasons for Reinsurance – Types of Reinsurance – Alternatives to Traditional Reinsurance – Functions of Reinsurance – Advantages and Disadvantages of Reinsurance.

Suggested Books:

1. George E Rejoa, Principles of Risk Management and Insurance, Pearson Education, New Delhi, 2004.
2. Black Jr Skipper Jr. Health Insurance, Pearson Delhi, 2003.
3. M.N.Mishra, Insurance Principles and Practices, S.Chand, New Delhi, 2003.
4. M.J.Mathew, Insurance Principles and Practices, RBSA Publishers, Jaipur, 2005.
5. M.Y. Khan “ Financial services, Tata Mcgraw Hill, New Delhi, 2008
6. Prof. N. Vijaya Ratnam & Prof. B. Mohan, Financial Services – Banking & Insurance, Telugu Academy, Hyderabad.

The Guidelines to be followed by the question paper setters in **CO407- INSURANCE PRODUCTS AND MANAGEMENT** for the fourth semester-end exams

PAPER TITLE: CO407- INSURANCE PRODUCTS AND MANAGEMENT

PAPER- VII Semester-IV Maximum Marks: 70 Duration: 3 Hours

Weight age for the question paper

Syllabus	Section –A (short answer questions) (with internal choice)	Section- B (Long answer questions) (with internal choice)	Section –C (essay question) (with internal choice)
Unit -1	1 (a or b)	1 (a or b)	Any unit
Unit -2	1 (a or b)	1 (a or b)	
Unit -3	1 (a or b)	1 (a or b)	
Unit -4	1 (a or b)	1 (a or b)	
Unit -5	1 (a or b)	1 (a or b)	

- CO 1 Each short answer question carries 4 marks in section-A.
- CO 2 Each long answer question carries 8 marks in section-B.
- CO 3 Each essay answer question carries 10 marks in section-C.

The Question Paper Setters are requested to cover all the topics in the syllabus stipulated as per the weightage given by us.

**A. G & S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(Autonomous), Vuyyuru-521165.**

**MODEL QUESTION PAPER
M.COM. (REGULAR) DEGREE EXAMINATION
Fourth Semester**

**INSURANCE PRODUCTS AND MANAGEMENT
(2021-2022 Regulation Onwards)**

Duration: 3 hours

Maximum Marks: 70

SECTION- A

Answer All Questions

5×4=20 Marks

1. **Write Short Notes on:**
- i. a) Define Life Insurance. OR
b) Insurance Interest
 - ii. a) Dividend Options. OR
b) Insurance Pricing
 - iii. a) Explain types individual health insurance coverage OR
b) What is group insurance?
 - iv. a) What is retirement benefit? OR
b) Explain the types of qualified retirement plans.
 - v. a) Explain the types of reinsurance. OR
b) Explain the self retirement plans for employed.

SECTION – B

Answer All Questions

5×8=40 Marks

2. a) Explain the variations of whole life insurance.
OR
b) Explain the basic principles of life insurance.
3. a) Discuss the additional life insurance benefits.
OR
b) What is group insurance? Explain the various group insurance plans.
4. a) Explain the fundamentals of private retirement plans.
OR
b) Discuss the profit sharing plans.
5. a) Discuss the reasons for reinsurance.
OR
b) Explain the functions of reinsurance.
6. a) Discuss the objectives of rate making in life insurance.
OR
b) Explain the alternatives to traditional reinsurance.

SECTION C - (1 x 10=10 marks)

Answer the following question.

7. a) Discuss the other types of life insurance.
OR
b) Explain the dividend, non- forfeiture and settlement options in life insurance.

