Adusumilli Gopalakrishnaiah & Sugarcane Growers
Siddhartha Degree College of Arts & Science

Vuyyuru – 521165, Krishna District, Andhra Pradesh

(An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam)

Accredited by NAAC with "A" Grade   ISO 9001:2015 Certified Institution

2022-2023

EVEN SEMESTER

DEPARTMENT OF ZOOLOGY

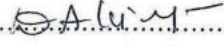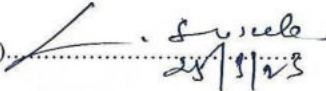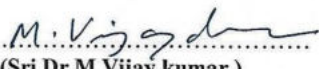## MINUTES OF BOARD OF STUDIES
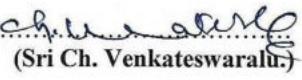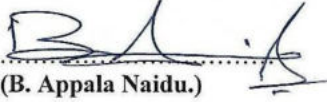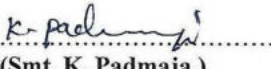
B.Sc. AQUACULTURE

25-03-2023

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 10:00 am on 25-03-2023 in the Department of Zoology.

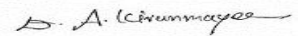Smt.D.A. Kiranmayee.   ...   Presiding

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.Vijay 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)....................... Industrialist   Principle Scientific Officer,
   (B. Appala Naidu.)   RGCA
                                                Manikonda.

6)...................... Member   Lecturer in Zoology,
   (Smt. K. Padmaja.)   A.G&S.G.S Degree College
                                                Vuyyuru-521165.

7)...................... Member   Lecturer in Zoology,
   (Smt. Dr.V.Subhashini.)   A.G&S.G.S Degree College
                                                Vuyyuru-521165.

8)...................... Student Represent   P.hd –Research Scholar,
   (Ch.Chiranjeevi.)   Dept.of Botany & Microbiology,
                                                Acharya Nagarjuna University,
                                                Guntur.

AQUACULTURE

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 2022-2023.

2. To recommend the syllabi (Theory & Practical), Model question paper for IV Semester of II B.Sc

(A.B.C) for the academic year 2022-2023.

3 To recommend the Blue print for the semester end exam for II&IV semester of I &II B.Sc

(ABC) for the academic year 2022 - 2023.

4. To recommend Semester End Internship (Apprenticeship) to students of III ABC for the academic year 2022-2023

5 To recommend the teaching and evaluation methods to be followed under Autonomous status.

6 Any other matter.

Chairman.

Aquculture -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 2022 – 2023.

2. It is resolved to implement 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 2022 – 2023. The title of the paper is Fish Nutrition and Feed Technology and Fish health Management.

3. It is resolved to follow the Model question paper and Blue print of II & IV semester of I & II B.Sc (A.B.C.) for the academic year 2022-2023.

4. It is resolved to implement the changed syllabi (Theory & Practical), model question paper of VI Semester of III B.Sc. (A.B.C) under Choice Based Credit System (CBCS) for the academic Year 2022 – 2023.

5. It is resolved to continue the following teaching & evaluation methods for the Academicyear 2022-23

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 I 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 B.Sc (A.B.C).

❖ Out of maximum 100 marks in each paper for II 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 assignment and remaining 5 marks seminars for IV semester.

❖ There is no pass minimum for internal assessment for I & II B.Sc

❖ **Semester – End Examination:**

❖ The maximum mark for I (ABC) semester – End examination shall be 70 marks and duration of the examination shall be 3 hours.

❖ The maximum mark for IV (ABC) semester – End examination shall be 75 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 semester for I & II B.Sc, (A.B.C).

Chairman

ALLOCATION OF CREDITS

Structure of AQUACULTURE Syllabus

For the Papers offered during II, IV& V/ VI Semesters

Year	Semester	Title	Teaching hours	Internal marks	External marks	Credits
I	II	Biology of fine fish &shell fish	4	30	70	03
		Practical - II	2	10	40	02
II	IV	Fish Nutrition & Feed Technology	4	25	75	03
		Fish Nutrition & Feed Technology - Practical	2	10	40	02
		Fisheries - Health Management, Extension and Marketing	4	25	75	03
		Fisheries - Health Management, Extension and Marketing - Practical	2	10	40	01
III	VI	Aquarium Management And Ornamental Fish Culture	3	30	70	03
		Practical – VI Lab Aquarium Management And Ornamental Fish Culture	3	25	25	02
		Postharvest Technology Of Fish And Fisheries	3	30	70	03
		Practical – VII Lab Postharvest Technology Of Fish And Fisheries	3	25	25	02
		Total Credits				

Title of the Paper:**Biology of fine fish &shell fish**

Semester: - II

Course Code	*AQTT21A*	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 2022-23	Year of Revision – 2021-22	Percentage of Revision: 50%

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
Course Details

Unit	Learning Units	Lecture Hours
I	**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 Specialized organs in fishes – electric organ, venom and toxins buoyancy in fishes- swim bladder and mechanism of gas secretion	11
II	**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 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	**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	09
IV	**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 Embryonic and larval development of crabs Environmentalfactorsaffectingreproductionanddevelopmentofcultivable Aquaticfin&shellfish	12

V	**5.0. Hormones & Growth** Endocrine system in fishes Neurosecretorycells,androgenicgland,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 academic &professional,LONDON
2. 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.

II SEMESTER END EXAMINATIONS
Model paper

Title of the paper: Biology of Fin fish and Shell fish   (W.E.F 2022-2023)
Cours Code: AQTT21A
 Time: 3 Hours   **Max. Marks: 70**

SECTION –A (20M)
Answer all Questions   Restrict to maximum of 2 sub divisions
Draw neat labelled diagrams wherever necessary.

1. i. Explain the Classification of fishes up to the level of Class. CO1 L1   4m
(Or)
  ii. Enumerate the general characters of Cultivable fin fish   CO1 L3

2. i. Explain the – electric organ –   CO2 L2   4m
                    (Or)
  ii. Explain the different fish feeding habitsCO2, L5
3. i. Describe the– Length-weight relationship   CO3, L2   4m
                    (Or)
 ii. Describe the – Breeding habits   CO3, L2
4. i. Distinguish Breeding in shrimp   –   CO4, L2   4m
                    (Or)
 ii. Explain Ovo-viviparity in Fishes –   CO4, L2

5. i. Explain the Embryonic and larval Development in Crabs- CO2, L5   4m
                    (Or)
   ii. Write a short note on Neurosecretary cells –   CO3, LI

          SECTION – B   (50M)
Answer all Questions   (Restrict to maximum of 2 sub divisions)
6. i. Explain the structure and function of Sense organs in fishes – CO1 , L2   10m
                    (Or)
ii. Give an account of Buoyancy in fishes –   CO5, L2
7. i. Explain different factors that determine the longevity of fishes – CO2, L4   10m
                    (Or)
ii. Describe the different methods of estimating age and growth of fish – CO2, L4
8. i. Describe the process of Induced breeding in Fishes-   CO2, L2   10m

                    (Or)
ii. Explain the breeding technique in shrimp-   CO2, L2

9. i. Explain the role of Environmental factors on reproduction and development of finfish 10m
CO2, L2
                    (Or)
ii. Write an essay on Embryonic and larval development in shrimp   CO2, L2
10. i. Describe the structure of Pituitary gland and explain the functions of its hormones –
CO2, L2 10M   (Or)

 ii. Describe the process of Moulting in Crustaceans-   CO2, L2
10M

AQUACULTURE

PRACTICAL - II

Semester- Ii   Max. Marks: 40

Title Of The Paper:-Biology of Fin Fish and 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 ofidentified 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.
7. 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)
<u>AQUACULTURE</u>
Biology of fin fish and shell fish
MODEL QUESTION PAPER
PARTICAL PAPER- II

SEMESTER-II   **COURSE CODE: AQT**
P21A
Time: 3 Hours   **Max. Marks: 40M**

1. Identify and draw labeled diagram of digestive system of Labeo rohita.
   Compare it with that of a carnivorous fish.   CO1, L2 &L3
   10M

                              Or

   Identify and draw labeled diagram of digestive system of Channa punctatus.
   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 Macrobrachium
   malcolmsonii. 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   Total   **40M**

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	**AQTT01**	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 2022-2023	Year of Revision – 2021-2022	Percentage of Revision: 100%

Learning Objectives:

1   To know the nutritional requirements of fish and shell fish at different stages of theirlife.
2   To understand the different types of feeds, and feed additives used in the preparation of fish andshell fish feeds.
3   To improve the knowledge on feed manufacture and feedstorage.
4   To gain knowledge on feeding and feed evaluationmethods.
5   To gain knowledge on feed manufacture andstorage
6   To know the nutritional pathology and remedial methods of cultivable fish andshrimp.
7   To improve the technical knowledge feed quality and nutritional valueanalysis.

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.

Unit	Learning Units	Lecture Hours
I	Nutritional requirements of cultivable fish and shellfish Classification of nutrients; Nutritional requirements (energy, proteins, carbohydrates, lipids, fiber, micronutrients) of different stages of cultivable fish andshellfish. Essential aminoacids and fatty acids, protein to energy ratio, nutrient interactionsand proteinsparingeffect Dietary sources of energy, effect of ration on growth, determination of feedingrate, check tray, factors affecting energy partitioningandfeeding Importance of natural and supplementary feeds, balanceddiet**.**	10
II	**Types of feeds and Feed additives** Live foods**:** Fish food organisms – Bacterioplankton, phytoplankton, zooplankton and their role in larvalnutrition. 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; advantagesof pelletization Water stability feeds, farm made aqua feeds, micro-coated feeds, micro-encapsulated feeds andmicro-bounddiets Feed additives: Binders, antioxidants, probiotics, enzymes, pigments, growth promoters, feed stimulants; use ofpreservatives.	10
III	**Feed formulation, manufacture & storage** Feed ingredients**:** selection, nutrient composition and nutrientavailability. Feed formulation and manufacturing – extrusion processing and steam pelleting - grinding, mixing and drying, pelletization,andpacking Microbial,insectandrodentdamageoffeed,chemicalspoilageduringstorageperiod and feed storage methods.	15
IV	**Feeding methods** Feeding devices and methods: Manual feeding, demand feeders, automatic feeders, surface spraying, bag feeding &trayfeeding Feeding schedules: Frequency of feeding, feeding rates and rationsize Feed evaluation:feed conversion ratio, feed conversion efficiency and protein efficiencyratio.	15
V	**Nutritional pathology of fish and shrimp** Protein(Essential amino acid) and Lipid (Essential fatty acid) deficiency disorders; Fatty liver disease in fishes Vitamin and mineral deficiency disorders Anti-nutrients and afflatoxins.	10

A.G& S.G.S.DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU KRISHNA Dt.,A.P. AUTONOMOUS
SEMESTER-IV

Model Question paper   w.e.f. 2022 – 2023

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

Paper Code: AQTT01

Time: 3 hrs   Max.Marks:70

Note: Draw neat labelled Diagrams wherever necessary.

SECTION-A

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

1. List out the factors affecting energy partitioning. CO1 , L1
2. Explain the significance of Micronutrients   CO1, L2
3. Differentiate between FCE and FCR   CO2, L1
4. What is feeding frequency   CO2, L1
5. Mention the types of feed damage   CO4, L1
6. Explain the significance of aflatoxins in the feed– CO4, L2
7. Analyse the role of antioxidants in the fish nutrition CO3, L4
8. Explain the importance of supplementary feeds CO5, L2

SECTION-B

Answer all the Questions.
5X10=50M

9. Explain the nutritional requirements of cultured fish. CO1, L2
                                   OR
   Analyse the effect of ration on growth and determination of feeding rate. CO1, L2
10. Give an account of the different forms of fish feed– CO2, L2
                                   OR
    Explain the various feeding devices and methods. CO2, L2
11. Mention the various steps involved in feed preparation.   CO3, L1
                                   OR
    Describe the various feed ingredients and their selection. CO3, L1
12. Explain the role of probiotics in fish feed .CO4, L1
                                   OR
    List out the various feed attractants and feed stimulants used in aqua feeds. CO4, L1
13. List out the various diseases caused due to nutritional deficiency. CO5 L2
                                   OR
    Explain the importance of natural feed in aquaculture. CO5   L2

PRESCRIBED BOOK(S):

1. HalverJ.E 1989.Fish Nutrition.Academicpress, San Diego.
 2. NRC.NutritionalRequirements ofWarmWaterFishes.NationalAcademyofSciences, Washington.

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

<mark>ZOOLOGY PRACTICAL SYLLABUS</mark>

PAPERS – IV   w.e.f. 2022 – 2023.

Max.Marks:40
Credits: 2
<mark>Paper Title: Fish Nutrition & Feed Technology   Paper Code: AQTP01</mark>

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 pellet feeds
6.   Feed formulation and preparation in thelab
7.   Study of binders used in aquaculturefeeds
8.   Study of feed packing materials
9.   Study of physical and chemical change duringstorage
10.   Study on physical characteristics of floating and sinking feeds
11.   Visit to a aqua-feedproduction unit
12.   Visit to a farm for studyingfeeding practices

PRESCRIBED BOOK(S):
1.   HalverJE 1989.Fish Nutrition. Academicpress, San diego

REFERENCES:
1.   LovellR.T. 1998. Nutritionand Feedingof Fishes, Chapmann& Hall, NewYork
2.   SenaDeSilva,TrevorAAnderson1995.FishNutritioninAquaculture**.**Chapman andHall, AquacultureSeries,London.

****

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

EXTERNAL PRACTICAL- IV

w.e.f. 2022-2023.

MODEL QUESTION PAPER –IV   **Code: AQTP01**
2hrs/week)

Time: 3 hrs.   **Max.marks: 40m.**

----

1. Estimate the amount of protein/carbohydrate /lipid content in the fish feed.   **10 M**

                          Procedure: 5M

                          Calculation: 3M

                          Result: 2M

2. Explain the physical andchemical changeduringstorage of fish feed.

                          Or

  Explain the physical characteristics offloating and sinkingfeeds.   **10M**

3. Formulate a feed with the given ingredients**.**   **5 M**

4. Record Work Book   **5 M**

5. Field notes   **5 M**

6. VIVA   **5M**

                          Total 40M

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 Management and Fisheries Economics, Extension and Marketing**

Semester: - IV

Course Code	**AQTT42**	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 : 2022-2023	Year of Offering 2022-2023	Year of Revision –	Percentage of Revision:

AIM

     To know the fish health management strategies and different fisheries economic policies.

OBJECTIVES

- To understand the diseases of fin fish
- To understand the diseases of shell fish.
- To understand the fish health management strategies.
- To understand the different fisheries economic policies   .
- To understand the various schemes for the welfare of fishermen community

PREREQUISITE

- Knowledge of fisheries management acquired in Intermediate.

COURSE OUTCOMES

By the end of the course students will be able to

CO 1	Describe the various fungal, viral and bacterial diseases of fin fish and their prevention and therapy.
CO 2	Explain the various viral, bacterial and protozoan diseases of shell fish and their prevention and therapy.
CO 3	Describe the fish health management strategies.
CO 4	Explain different fisheries economic policies.
CO 5	Describe the various schemes for the welfare of fishermen community.

Unit	Learning Units	Lecture Hours
I	DISEASES OF FIN FISH .Fungal diseases– Saprolegniasis, branchiomycosis, ichthyophiriasis diseases – Lagenidium diseases – Fusarium disease, prevention andtherapy Viral diseases – Emerging viral diseases in fish, haemorrhagic scepticemia, springviremia of carps, infectious hematopoietic necrosis in trout,infectious pancreatic necrosis in salmonids, swim-bladder inflammation in cyprinids, channel cat fish viral disease, prevention andtherapy Bacterial diseases – Emerging bacterial diseases, *Aermonas,Pseudomonas* and*Vibrio*infections, columnaris, furunculosis, epizootic ulcerative syndrome, infectious abdominal dropsy, bacterial gill disease, enteric red mouth, bacterial kidney disease, proliferative kidney disease, prevention and therapy	10
II	DISEASES OF SHELL FISH Major shrimp viral diseases – *Bacculoviruspenaeii, MonodonBacculovirus*, Bacculoviralmidgut necrosis, Infectious hypodermal and haematopoietic necrosis virus, Hepatopancreaticparvo like virus, Yellow head bacculovirus, white spotbacculovirus. Bacterial diseases of shell fish – aeromonas, pseudomonas and vibrio infections, Luminous bacterial disease, filamentous bacterial disease. Prevention and therapy Protozoan diseases- Ichthyophthiriasis, Costiasis, whirling diseases,trypanosomiasis.Prevention and therapy	**10**
III	**FISH HEALTH MANAGEMENT** Diagnostic tools – immune detection- DNA/RNA techniques, General preventive methods and prophylaxis. Application and development ofvaccines. Quarantine – Significance, methods and regulations fortransplants**.** GoodFeedmanagement for healthy organisms, Zero water exchange, Probiotics in health management, Issues ofbiosecurity.	**15**
IV	**FISHERIES ECONOMICS** **.**Meaningand scopeof economics with referenceto fisheries Principles of aquaculture economics – Capital costs, variable costs, cost- benefit analysis,Aquaculture economics- Application of economics principles to aquacultureoperations Various inputs and production function, laws of variableproportions Cost and earnings of aquaculture systems – carp culture, shrimp farming systems,	**15**

	hatcheries, Cost andearnings of fishingunits andfreezingplants Socio-economic conditions of fishermen in Andhra Pradesh Role of Matsyafedand NABARD in uplifting fishermen's conditions, fishermen Cooperatives,Contribution of fisheries to the nationaleconomy	
V	**FISHERIESEXTENSION AND MARKETING** .Fisheriesextension-scopeandobjectives,principlesandfeaturesoffisheries extensioneducation .Fisheriesextensionmethods and rural development Fisheries Training and Education in India; Role of extension in community development .Fish marketing methods in India; Basic concepts in demand and price analysis**2** .Methods of economic analysisof business organizations Preparation ofproject and project appraisal	**10**

PRESCRIBED BOOK(S):

1. Shaperclaus W. 1991 Fish Diseases- Vol.I& II. Oxonian PressPvt.ltd
2. Roberts RJ 1989. Fish pathology. BailliereTindall, NewYork
3. Lydia Brown 1993. Aquaculture for veterinarians- fish husbandray and medicine. Pergamon Press.Oxford
4. Jayaraman R 1996. Fisheries Economics. Tamilnadu Veterinary and Animal Science University.Tuticorn
5. SubbaRao N 1986. Economics of Fisheries. Daya publishing house,Delhi
6.

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. AcademicPress
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, NewJersey
5. Post G 1987. Text book of Fish Health. TFH publications, NewJersey
6. Johnson SK 1995. Handbook of shrimp diseases. Texas A & M University,Texas
7. Dewwett KK and Varma JD 1993. Elementary economic theory. S.chand, NewDelhi
8. Korakandy R 1996. Economics of Fisheries Mangement. Daya Publishing House,Delhi
9. Tripathi SD 1992. Aquaculture Economics. Asian Fisheries Society,Mangalore.

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

Semester –IV   w.e.f. 2022-2023
Title of the paper: <mark>Fish Health Management and Fisheries Economics, Extension and Marketing</mark>

<mark>Code – AQTT42</mark>
<mark>Model question paper</mark>

<mark>Time: 3hrs.</mark>
<mark>Max.marks: 75</mark>

Note: Draw neat labelled Diagrams wherever necessary.
SECTION-A
Answer any Five of the following Questions.   **5X5= 25M**
1. Explain Spring Viremia of carp disease.
2. Explain Yellow head bacculovirus disease in shrimp
3. Write about probiotics in health management of fish.
4. Describe the contribution of fisheries to national economy
5. Give an account on rural development in aquaculture.
6. Write about the bacterial gill disease in fish
7. Explain IHHNV disease in shrimp
8. Write a short note on socio economic conditions of fishermen in A.P.

SECTION-B

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

9. a) Answer the following fungal diseases of fin fish
   i)Saprolegniasis   ii) Branchiomycosis
                              OR
   b) Explain the bacterial diseases of fish
      i) Columnaris   ii) Enteric red mouth disease

10. a)Write about the following shell fish diseases
      i) Luminous bacterial disease ii) Filamentous bacterial disease
                              OR
    b) Explain the following protozoan diseases
      i) Costiasis ii) Whirling disease
11. a) Write an essay on ELISA- immune detection technique
                              OR
    b) Write about Quarantine methods

12. a) Explain the role of Matsyafed And Nabard in uplifting fishermen's conditions.
                              OR
    b) Write an essay on principles of aquaculture economics

13. a) Describe the fisheries extension methods.
                              OR
    b) Explain fisheries training and education in India

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

Code: AQTP42   MAX.
Title of the paper:-Fish Health Management and Fisheries Economics, Extension and Marketing

----
LEARNING OUTCOMES:

By the end of the course students will be able to

- Identify the pathological changes in the visceral organs of fish, prawn and shrimp.
- Analyse the data for epidemiological investigations of viral diseases.
- Isolate, culture and characterize the bacterial pathogens.
- Identify the external parasites, prepare and evaluate antibiograms
- Develop skill in molecular and immunological techniques.
- Estimate the dose of antibiotics and probiotics used in aquaculture practices and methods of administering various chemotherapeutics.
- Maintain a neat record of experiments and exhibit the hidden creative talent.

Syllabus

1. Enumeration of Bacteria by TPC Method
2. Enumeration of total Coliformes
3. Observation of gross pathology and external lesions of fish and prawn with reference to the common diseases inaquaculture
4. Examination of pathological changes in gills and gut lumen, lymphoid organ, muscles and nerves offish
5. Examination of pathological changes in gutlumen, hepatopancreas, lymphoid organ, muscles and nerves of prawn andshrimp
6. Collection, processing and analysis of data for epidemiological investigations of viral diseases
7. Bacterial pathogens – isolation, culture and characterization
8. Identification of parasites in fishes: Protozoan, Helminths,Crustaceans
9. Antibiograms – 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 shellfish
12. Estimation of antibiotics used in aquaculture practices
13. Estimation of probiotics used in aquaculture
14. Field visit to farm for health monitoring and diseasediagnosis
15. Cost benefit analysis calculations

PRESCRIBED BOOK(S):
1. Shaperclaus W. 1991 Fish Diseases- Vol.I& II. Oxonian PressPvt.ltd
2. Roberts RJ 1989. Fish pathology. BailliereTindall, NewYork
3. Lydia Brown 1993. Aquaculture for veterinarians- fish husbandray and medicine. Pergamon Press.Oxford
4. Jayaraman R 1996. Fisheries Economics. Tamilnadu Veterinary and Animal Science University.Tuticorn
5. SubbaRao N 1986. Economics of Fisheries. Daya publishing house,Delhi

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

AQUACULTURE

PRACTICAL -IV

w.e.f. 2022-2023.

MODEL QUESTION PAPER -IV
Code: AQTP42
MAX.MARKS: 40.
(2hrs/week)
Title of the paper:-Fish Health Management and Fisheries Economics, Extension and Marketing

----

1. Enumeration of bacteria by TPC method?   **10M**
2. Examine the following pathological changes
   i) Gills ii) Gut lumen   **2x5 = 10M**
3. Identify the following
   i) Ichthyophthiriasis ii) Myxobolus   **2 ½ x 2 = 5 M**

4. Cost Benefit Analysis Calculations   **5M**

5. Record Book   **5M**

6. Field notes   **5M**

Title of the Paper: AQUARIUM MANAGEMENT AND ORNAMENTAL FISH CULTURE

Semester: - VI

Course Code	AQUSEC601	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 : 2022-23	Year of Offering 2022-2023	Year of Revision –	Percentage of Revision:

I. Learning Outcomes:

After successful completion of this course student will be able to

- Understand the design and construction of aquarium

- Identify the ornamental fresh water fishes

- Identify the marine ornamental fish resources

- Know the mass production of ornamental fishes

Syllabus: <mark>AQUARIUM MANAGEMENT AND ORNAMENTAL FISH CULTURE</mark> Course Code: **AQUSEC601**

Course Details

Unit	Learning Units	Lecture Hours
I	**Aquarium design and Construction** **Introduction** to aquarium. World aquarium trade and present status. Design and construction of home and public aquaria (freshwater and marine), oceanarium. Aquarium accessories - Aerators, filters (different types) and lighting. Water quality requirements.	13
II	**Aquarium Management** Setting up of aquarium – under gravel filter, pebbles, plants, drift wood, ornamental objects and selection of fishes, Quarantine measures. Aquarium maintenance and water quality management for fresh water and marine aquariums. Handling, care, packing and transportation of fishes - Use of anaesthetics. Temperature acclimation	**14**
III	**Freshwater Ornamental Fishes** Species of ornamental fishes - their taxonomy and biology- Live bearers, Gold fish and Koi, Gourami, Barbs and Tetras, angel fish, cichlids. Maturation, secondary sexual characters, breeding habits, spawning, parental care, fertilization and development of eggs. Hatching, larval rearing and their health.	**15**
IV	**Commercial Production** Commercial production of goldfish, live bearers, gouramies, barbs and tetras, angel fish. Natural ponds for the mass production of ornamental fishes. Multiplication of aquarium plants – different methods.	**11**
V	**Marine Ornamental Fishes** Marine ornamental fishes – varieties and their habitat. Major marine ornamental fish resources of India. Method of collection of live fish. Breeding of marine ornamental fishes (clown fishes and Damsel fishes).	**07**

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

w.e.f. 2022-2023.

2hrs/week)
Credits: 02   <mark>Code: AQUSEC 601P</mark>
                                                                  MAX.MARKS:50

Title of the paper   :- <mark>**AQUARIUM MANAGEMENT AND ORNAMENTAL FISH CULTURE**</mark>

II. Lab work - Skills Outcomes:
On successful completion of this practical course, student shall be able to:
- Classify different types of craft and gear used for fishing
- Asses the quality of yarn used in fishing gear
- Understand importance of natural fibers

Practical (Laboratory) Syllabus: (**30 hrs**)   (Max.50 Marks)
1. Fresh water Ornamental fishes (Exotic-Goldfish, Angel, Tiger barb, Sword tail, Fighter fish, Oscar.
Indigenous- Dwarf Gourami, Indian glass fish, Zebra Danio, Y loach, Peacock eel,
Rosy barb) – characters with diagrams – record work
2. Aquarium accessories (Aerators/filters/decors/feeding equipment/heaters/pumps/lights)
3. Aquarium plants (6 species)
4. Aquarium setting (Freshwater)
5. Aquarium fabrication and maintenance
6. Breeding trials on selected aquarium fishes.

III. Lab References:
1. Atz, W. 1971. Aquarium Fishes. Pelham Books Ltd., London, 110 pp.
2. https://www.agrifarming.in/ornamental-fish-farming-beginners
3. http://ecoursesonline.iasri.res.in/course/view.php?id=297
4. https://agritech.tnau.ac.in/fishery/fish_cul_ornamental.html
5. https://nfdb.gov.in/PDF/E%20Publications/4%20Mission%20Ornamental%20Fisheries%2
02017.pdf

IV. Co-Curricular Activities
a) **Mandatory:** (*Student training by teacher in field skills: Total 15 hrs., Lab:10 + field 05)*

1. For Teacher: Training of students by the teacher in the classroom or in the laboratory for atotal of not less than 10 hours various concepts aquarium – types –models- aquarium maintenance- ornamental fish culture-commercial production- importance - marketing
2. For Student: Individual laboratory work and visit to local aquarium for observation of aquarium fishes- aquarium accessories- ornamental fishes- marketing and maintenance
3. Max marks for Field Work Report: 05.
4. Suggested Format for Field work
Name of the aquarium /shop visited, date of visit, persons contacted, details of aquarium maintenance - details observed in marketing - breeding of ornamental fish - important points to be correlated with the theory/ practical curriculum in relation to ornamental fisheries
5. Unit tests (IE).

b) **Suggested Co-Curricular Activities**
1. Preparation of aquarium
2. Ornamental fish breeding
3. Listing out accessories of aquarium

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: **POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES**

Semester: - VI

Course Code	**AQUSEC-602**	Course Delivery Method	Class Room/Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours/ Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction : 2022-23	Year of Offering 2022-2023	Year of Revision	Percentage of Revision:

Objective of the course To prepare students to become future aqua culturists.

CO 1	Identify the types of preservation methods employed in aquaculture
CO 2	Choose the suitable processing methods in aquaculture
CO 3	They can earn while they learn
CO 4	Maintain the standard quality control protocols laid down in aqua industry
CO 5	Identify the best Seafood quality assurance system

Syllabus : <mark>**POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES**</mark>

<mark>*AQUSEC-602*</mark>

Course Details

Unit	Learning Units	Lecture Hours
I	**Handling and Principles of fish Preservation** Handling of fresh fish, storage and transport of fresh fish, post mortem changes (rigor mortis and spoilage), spoilage in marine fish and fresh water fish. Principles of preservation – cleaning, lowering of temperature, rising of temperature, denudation, use of salt, use of fish preservatives, exposure to low radiation of gamma rays.	15
II	**Methods of fish Preservation** Traditional methods - sun drying, salt curing, pickling and smoking. .Advanced methods – chilling or icing, refrigerated sea water, freezing, canning, irradiation and Accelerated Freeze drying (AFD).	08
III	**Processing and preservation of fish and fish by-products** Fish products – fish minced meat, fish meal, fish oil, fish liquid (ensilage), fish protein concentrate, fish chowder, fish cake, fish sauce, fish salads, fish powder, pet food from trash fish, fish manure. Fish by-products – fish glue, Using glass, chitosan, pearl essence, shark fins, fish Leather and fish maws.	17
IV	**Sanitation and Quality control** Sanitation in processing plants - Environmental hygiene and Personal hygiene in processing plants. Quality Control of fish and fishery products – pre-processing control, control during processing and control after processing.	08
V	**Quality Assurance, Management and Certification** Seafood Quality Assurance and Systems: Good Manufacturing Practices (GMPs); Good Laboratory Practices (GLPs); Standard Operating Procedures (SOPs); Concept of Hazard Analysis and Critical Control Points (HACCP) in seafood safety. National and International standards – ISO 9000: 2000 Series of Quality Assurance System, *Codex Aliment Arius*.	12

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

PRACTICAL - V

w.e.f. 2022-2023.

Code: AQUSEC 602P   *MAX.MARKS: 50.*

(2hrs/week)   **POSTHARVEST TECHNOLOGY OF FISH AND FISH**ERIES

Credits: 02

(30 hrs)   **PRACTICAL SYLLABUS**

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

• Identify the quality of aqua processed products.

• Determine the quality of fishery by products by observation.

• Analyze the protocols of aqua processing methods.

Practical Syllabus:

1. Evaluation of fish/fishery products for organoleptic, chemical and microbial quality.
2. Preparation of dried, cured and fermented fish
3. Examination of salt,protein,moisture in dried/cured products
4. Examination of spoilage of dried/cured fish products marinades, pickles, sauce.
5. Preparation of isinglass, collagen and chitosan from shrimp and crab shell.
6. Developing flow charts and exercises in identification of hazards–preparation of Hazard analysis work sheet
7. Corrective action procedures in processing of fish-flowchart-work sheet preparation.

References:

Balachandran KK. 2001. *Post-harvest Technology of Fish and Fish Products*. Daya Publ.

2. Bond, et al. 1971. *Fish Inspection and Quality Control.*Fishing News Books, England.

Websites of Interest:

Https://www.youtube.com/watch?v=xyf_g7fku-4

https://www.youtube.com/watch?v=bvtqb_ccmy4

Co-Curricular Activities

a) Mandatory: *(Lab/field training of students by teacher (lab 10 + field 05):* 1. For Teacher: Training of students by the teacher in laboratory/fieldfornotlessthan15hourson various steps of post-harvest techniques of fishes, on the advanced techniques in post-harvest technology – Training of students on other employability skills in the Post-harvest sector of Aquaculture Industry- like Processing, Packing, marketing of processed aqua products. 2. For Student: Students shall (individually) visit - Any fish/shrimp Processing Plant/Packing industry and make observations on post harvesting techniques and submit a brief handwritten Fieldwork/Project work Report with pictures and data /survey in 10 pages. 3. Max marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*

5. (IE): Unit tests,

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 BOTANY
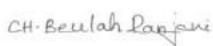
MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

31-03-2022

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
DEPARTMENT OF BOTANY
BOARD OF STUDIES MEETING: 31st March 2022

The Board of studies meeting of Department of Botany was convened at 3:00 pm on 31 /03/2023 under The chairmanship of Smt.Ch. Beulah Ranjani Head of the Department .The members present have discussed various aspects such as changes to be made in the syllabi, scheme of Evaluation and Blue print both for theory and practical papers, Departmental activities for 2022-2023, Estimated Budget proposals 2022 -2023 for implementing them effectively during the II, IV, & VI semester for the academic year 2022-2023 onwards.
The following members were present.

S.No	Name	Designation	signature
1.	**Smt. Ch. Beulah Ranjani** Head, Department of Botany A.G&S.G.S Degree College Vuyyuru.	Chair person	CH.Beulah Ranjani
2	**prof. Avasan Maruthi** Bio Sciences & Bio technology Krishna University Machilipatnam.	University Nominee	
3.	**Sri Dr. Ch. Srinivasa Reddy** Lecturer in Botany SRR & CVR Govt. Degree College, Vijayawada.	Subject Expert	ch.Srinivasa Reddy
4.	**P. Srinivasa Rao** Department of Botany, P.B. Siddhartha College,	Subject Expert	P Srinivasa Rao
5.	**Sri. S. Krishna Suman,** Natural farmer, yakamuru Vuyyuru.	Industrialist	S Krishna Suman
6.	**Sri. N. Ramana Rao** Lecturer in Botany, A.G &S.G.S Degree College Vuyyuru.	Member	N Ramana Rao.
	Miss. K. Anusha Lecturer in chaitnya college, Gudiwada.	Student Represent	K.Anusha

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,Aqua) for the academic year 2022 - 2023.

2. To recommend the syllabi (Theory & Practical), Model question paper for IV Semester of II B.Sc (B.Z.C, Aqua) for the academic year 2022 - 2023.

3. To introduce Skill Enhancement Course the syllabi (Theory & Practical), Model question paper for V Semester of III B.Sc (Aqua) for the academic year 2022 - 2023.

4. To recommend the Blue print for the semester end exam for II, IV & VI semester of I,II, III B.Sc (B.Z.C, Aqua) for the academic year 2022 - 2023.

5. To recommend the teaching and evolution methods to be followed under Autonomous status.

6. Any other matter.

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 semesters of I B.Sc (B.Z.C) and I B.Sc.Aquaculture under Choice Based Credit System (CBCS) for the academic year 2022-23.

2. It is resolved to implement the same syllabi (Theory & Practical), model question paper & guide lines to be followed by the question papers setters under Choice Based Credit System (CBCS) of IV semester of II B.Sc. (B.Z.C) and II B.Sc.Aquaculture

3It is resolved to send III B.Sc. BZC students to Internship in VI semester

4. It is resolved to continue the same Blue prints of I, III and V Semesters of B. Sc Botany for the Academic year 2022-23.

6. It is resolved to continue the following teaching and evaluation methods for the Academic year2022-23.

Teaching and Evaluation methods:

Internal Assessment

- Out of the maximum 100marks in each paper for I, & III B. Sc. BZC and Aquaculture 30 marks shall be allocated for Internal Assessment and for II B.Sc. BZC and Aquaculture 25 marks are allotted.
- Out of these 30 marks, 20marks are allocated for announced tests (ie; IA-I & IA-II) for I, & III B. Sc. BZC and Aquaculture and 15 marks for II B.Sc. BZC and Aquaculture. Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the students.5 marks are allocated on candidate's percentage of attendance.

Semester End Examination:

- The maximum marks for II, and VI Semesters BZC and ABC Semester End examination shall be 70marks and for II B.Sc. BZC and Aquaculture it is 75 marks, and duration of the examination is 3 hours. Even though the candidate is absent for both two IA exams/obtain Zero marks the external marks are considered if the candidate gets 40 out of 70 and the result shall be declared as PASS.
- Semester End Examination shall be conducted in theory and practical papers at the end of every semester of I, III, & V Semesters of I, II & III B. Sc. BZC and Aquaculture.
- Dicussed and recommended for organizing seminars, guest lectures, work-shops to upgrade the knowledge of students for the approval of the Academic council.

C. B. Rakini

Chairman

Course Structure of BZC, AQUA Syllabus

Year	Semester	Paper code	Title of the paper	Marks(100)		Credits
				Internal assessment	End semester	
I	II	BOT2IA	Basics of of vascular plants and Phyto geography	30	70	3
			Practical-I	10	40	2
II	IV	BOTT41A	Plant physiology and Metabolism	25	75	3
			Practical-III	25	25	2
	IV	BOTT42A	Cell biology ,Genetics and plant Breeding	30	70	3
			Practical-III	25	25	2
II	VI	BOT-501	Plant tissue culture.	30	70	3
			Practical-v – 501	25	25	2
II	VI	BOT-502	Mushroom Cultivation	30	70	3
			Practical-v- 502	25	25	2

Title of the Paper: **Basics ofVascularplants and Phytogeography**
(Pteridophytes, Gymnoperms, Taxonomy of Angiosperms and Phytogeography)

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 Pre requisites: 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 structureand 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: 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 Tracheo phytes 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 ofextinct and extant plants.
CO4: Analyze the morphology of the most common Angiosperm plants of theirlocalities and recognize their families.
CO5: Locate different Phytogeo graphical regions of the world and India and cananalyze their floristic wealth.

Syllabus
Course Details

Unit	Learning Units	Lecture Hours
I	**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) *Lycopodium* (Lycopsida) and (b) *Marsilea* (Filicopsida). Stelar evolution in Pteridophytes Heterospory and seed habit.	12
II	**Gymnosperms** General characteristics of Gymnosperms; Sporne classification upto classes. Occurrence, morphology, anatomy, reproduction (developmental details are not needed) and life history of (a) *Cycas (Cycadopsida)* and(b) *Gnetum* (Gnetopsida). Outlines of geological time scale. A brief account on Cycadeoidea.	12
III	**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 is techniques, BSI herbarium and Kew herbarium; concept of digital herbaria. Bentham and Hooker system of classification Systematic description and economic importance of the followingfamilies :(a) Annonaceae (b) Curcurbitaceae.	12
IV	**Systematic Taxonomy** Systematic description and economic importance of the following families: (a) Asteraceae (b)Ascleceae (c)Amaranthaceae,(d)Euphorbiacee (e) Orchidaceae,(f) Arecaceae(i) Poaceae Outlines of Angiosperm Phylogeny Group (APG IV).	12
V	**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.	12

Botany Textbook:

 (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 CentralBook Agency Pvt. Ltd., Kolkata
5. Hait, G., K. Bhattacharya & A.K. Ghosh (2011) A Text Book of Botany, Volume-I,
    New CentralBook 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 Vascul Plants, Volume –I:
Pteridophytes and Gymnosperms (Ed.K.Kubitzki) .Springe-Verlag, New York
4.Bhatnagar, S.P. &AlokMoitra (1996)Gymnosperms. New Age International, New Delhi Govil, C.M.
(2007)Gymnosperms : Extinct and Extant. KRISHNA PrakashanMedia (P)Ltd.Meerut& Delhi
5. Sporne, K.R.(1971)The Morphology of Gymnosperms.Hutchinsons Co. Ltd., London
6. Arnold, C.A., (1947) An introduction to PaleobotanyMcGraw –Hill BookCompany,INC, New York
7. stewart,W.N., and G.W.Rothwell (2005) Paleobotany and the evolution of plants Cambridge University
    Press, New York Cambridge. London.
8 . Sambamurty, A.V.S.S. (2005)Taxonomy of Angiosperms I. K .International Pvt.Ltd., New Delhi
9.Singh, G. (2012). Plant Systematics: Theory and Practice.Oxford& IBH Pvt. Ltd., NewDelhi.12.
    Simpson, M.G. (2006). Plant Systematics. Elsevier Academic Press, San Diego,CA,U.S.A.
    Cain, S.A . (1944)Foundations of Plant GeographyHarper& Brothers, N.Y.
10. Mani, M.S (1974)Ecology & Biogeography of IndiaDr. W. Junk Publishers, The Haque

 Course Delivery method: Face-to-face / Blended

 Course has focus on: Foundation

Websites of Interest:

https://www.youtube.com/watch?v=VA2LNWkZNWo
https://www.youtube.com/watch?v=zDUCacewuAg
https://www.youtube.com/watch?v=sfFDOSM-
EuAhttps://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 fromTheir 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, Stelar 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.: 70 Marks   **Min. Pass : 30 Marks**

Answer all questions

Section-A   (20Marks)

1. (a) What is meant by heterospory? Justify the advantage of heterospory over homospory CO1, L1

OR

   (b) Write about Protocorm and its morphological nature.CO1, L6.

2. (a) Explain the characteristics of Cycadeoidea. CO2, L2.

OR

   (b)Enumerate Geological time scale. CO2, L1.

3. (a) Describe ICBN rules for nomenclature. CO3, L2.

OR

   (b) Binomial nomenclature

4. (a) Write a note on Angiosperms Phylogeny Group. CO4, L6

OR

   Ray florate and dicsflorate

5. (a)Discuss about the Vegetation types in Andhra Pradesh.CO5, L2.

OR

   (b)Explain the causes and types of Endemism. CO5, L2.

Section-B

Answer the following questions   **5 x 10M = 50Marks**

1. (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.

2. (a) Describe the anatomy of *Cycas* leaflet. Add a note on xerophytic features ofit. CO2, L2.

(Or) Unit II

   (b) Describe the structure of *Gnetum* male and female cones. CO2, L2.

3. (a) What is Natural System of Classification, Bentham and Hooker System ofClassification? CO3, L1.

(Or) Unit III

   (b) Describe vegetative and floral characters of Cucurbitaceae. Add a note on andeconomic Importance CO3, L1.

4. (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.

5. (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

Title of the Paper: **Basics of vascular plants and** Phytogeography
(Pteridophytes, Gymnoperms, Taxonomy of Angiosperms and Phytogeography)

SEMESTER - II	BOTT21A	2022-23	B.Sc, B.Z.C,A.B.C

Total Number of Lecture Hours: 30

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 structureand functions. Enable the student with depth of topics and helps them to gain an appreciation in theembryology 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, prep aring slides, identifying ofthe material and drawing exact figures.
CO2: Compare and contrast the morphological, anatomical and reproductive featuresof vascular plants.
CO3: Identify the local angiosperms of the families prescribed to their genus andspecies level and prepare herbarium.
CO4: Exhibit skills of preparing slides, identifying the given twigs in the lab anddrawing figures of plant twigs, flowers and floral diagrams as they are.
CO5: Prepare and preserve specimens of local wild plants using h erbariumtechniques.

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 / taxonomicstudy 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**

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

Semester: IV

Course Code	**BOTT 41A**	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: -

Course Prerequisites: Knowledge of Plant Physiology and Metabolism at +2 level.

Course Description:

This course will provide one with a basic and comprehensive understanding of plant water relations. Enable the student with depth of topics and helps them to gain appreciation of the mineral nutrition, enzymes and respiration. On the other hand, importance of understanding photosynthesis and photorespiration are also learnt. A part from these the student will be enhanced with the knowledge of nitrogen and lipid metabolism. The course provides a vast knowledge in plant growth development and stress physiology.

Course Objectives

On successful completion of this course, the students will be able to:

1. To understand the plant water relations.

2. To understand the mineral nutrition, enzymes and respiration.

3. To understand the photosynthesis and photorespiration.

4. To understand the nitrogen and lipid metabolism.

5. To understand the plant growth-development and stress physiology.

Course Outcomes:

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

CO1: Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.

CO2: Evaluate the role of minerals in plant nutrition and their deficiency symptoms, Interpret the role of enzymes in plant metabolism.

CO3: Criticallyunderstand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.

CO4: Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.

CO5: Evaluate the phytohormones that regulate growth and development in plants, examine the role of light on flowering and explain physiology of plants under stress conditions.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Plant-Water relations** 1. Importance of water to plant life, physical properties of water, diffusion, imbibitions, osmosis. Water potential, osmotic potential, pressure potential. 2. Absorption and lateral transport of water; Ascent of sap 3. Transpiration: stomata structure and mechanism of stomatal movements (K+ion flux). 4. Mechanism of phloem transport; source-sink relationships.	12
II	**Mineral nutrition, Enzymes and Respiration** Essentialmacroandmicromineralnutrientsandtheirroleinplants;symptomsof mineral deficiency Absorption of mineral ions; passive and active processes. Characteristics, nomenclature and classification of Enzymes. Mechanism of enzyme action, enzyme kinetics. Respiration: Aerobic and Anaerobic; Glycolysis, Krebs cycle; electron transport system, Mechanism of oxidative phosphorylation, Pentose Phosphate Pathway (HMPshunt).	12
III	**Photosynthesis and Photorespiration** Photosynthesis:Photosyntheticpigments,absorptionandactionspectra;Reddrop and Emerson enhancement effect Conceptoftwophotosystems;mechanismofphotosyntheticelectrontransport and evolution of oxygen; photo phosphorylation Carbon assimilation pathways (C3, C4 and CAM); Photorespiration-C2 pathway	12
IV	**Nitrogen and lipid metabolism** Nitrogen metabolism: Biological nitrogen fixation– asymbiotic and symbiotic nitrogen fixing organisms. Nitrogenase enzyme system. Lipid metabolism: Classification of Plant lipids, saturated and unsaturated fatty acids. Anabolism of triglycerides, β-oxidation of fatty acids, Glyoxylate cycle.	12
V	**Plant growth-development and stress physiology** Growth and Development: Definition, phases and kinetics of growth. Physiological effect of Plant Growth Regulators(PGRs)- Auxins, Gibberellins, Cytokinins, ABA, Ethylene and Brassino steroids. Physiology of flowering: Photoperiodism, role of phytochrome in flowering. Seed germination and senescence; physiological changes.	12

Textbook:

- Botany–IV(Vrukshasastram-II): Telugu Academy, Hyderabad
- Pandey,B.P. (2013)*CollegeBotany, Volume-III,*S. Chand Publishing, New Delhi

Recommended Reference book:

- Aravind Kumar&S.S. Purohit (1998) *Plant Physiology – Fundamentals and Applications,* Agro Botanica, Bikaner

- Datta, S.C. (2007) *Plant Physiology,* New AgeInternational (P)Ltd., Publishers, New Delhi

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

Course has focus on: Foundation

Websites of Interest:

https://youtu.be/4to_4guDx50

https://youtu.be/j0BN8RfeqD0

https://youtu.be/Uc4lDTd1JXs

https://youtu.be/LVxdoH9MLU4

https://youtu.be/MSsVrzYibI8

https://youtu.be/YoNgSOIsk0A

Co-curricular Activities:

Question and answer session at the end of class.

Observing animations.

Written assignments.

Group Discussion (GD)/ Quiz.

 Power Point Presentations.

Max.: 75 Marks   **Min. Pass: 30 Marks**
………………………………………………………………………………………………………..

Section-A
Answer Any Five at least one from each unit   **5 x 5M = 25Marks**

1. Identify role of Water potential in plants **CO1L2**
2. Carrier concept**CO2L1**
3. Oxidative phosphorylation**CO2L1**
4. CAM plants **CO3L1**
5. Emerson enhancement effect**CO3L1**
6. Classification of plant lipids **CO4L4**
7. Brassino steroids. **CO5L1**
8. Phytochrome**CO5L1**

Section-B
Answer the following questions (5 x 10M = 50Marks)
9. (a) Explain osmosis, diffusion and imbibition with the help of experiments.**CO1L2**

                    or   **Unit I**

  (b) Explain the various theories on mechanism of stomatal movements.**CO1L2**

10. (a) Define enzymes. Illustrate the properties and structure. Mention the mechanism of enzyme action.**CO2L1**

                    or   **Unit II**

  (b) Explain the bio chemical reactions that occur in kreb's cycle.**CO2L1**

11. (a) Explain carbon assimilation how many methods of carbon assimilation are   shown by plants explain carbon assimilation in C3 plants.**CO3L1**

                    or   **Unit III**

  (b) What is photorespiration? Differentiate photorespiration and respiration in plants? Explain photorespiration.**CO3L1**

12. (a) what is biological nitrogen fixation? Explain types of biological nitrogen fixation.**CO4L2**

                    or   **Unit IV**

  (b) what are lipids? Give an account of classification of plant lipids.**CO4L2**

13. (a) What are phyto harmones? Analyse the physiological effects of cytokinines.in plant growth.**CO5L4**

                    or   **Unit V**

  (b) What is photo periodism? Distinguish the role of phytochrome in physiology   of flowering.**CO5L4**

Title of the Paper: **Plant Physiology and Metabolism** **(practicals)**

....

Course Prerequisites: Knowledge of Plant Physiology and Metabolism at +2 level

Course Description: This course will provide one with a basic and comprehensive skill in understanding plant water relations. Enable the student with depth of topics and helps them to gain appreciation of the mineral nutrition, enzymes and respiration. On the other hand, importance of understanding photosynthesis and photorespiration are also learnt. A part from these the student will be enhanced with the knowledge of nitrogen and lipid metabolism. The course provides a vast knowledge in plant growth development and stress physiology.

Course Objectives:

On successful completion of this course, the students will be able to:

1. To understand the plant water relations.
2. To understand the mineral nutrition, enzymes and respiration.
3. To understand the photosynthesis and photorespiration.
4. To understand the nitrogen and lipid metabolism.
5. To understand the plant growth-development and stress physiology.

Course Outcomes:

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

CO1: Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.

 CO2: Evaluate the role of minerals in plant nutrition and their deficiency symptoms, Interpret the role of enzymes in plant metabolism.
 CO3: Critically understand the light reactions and carbon assimilation processes responsible
for synthesis of food in plants.
CO4: Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.

 CO5: Evaluate the phyto hormones that regulate growth and development in plants, examine the role of light on flowering and explain physiology of plants under stress conditions.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	Determination of osmotic potential of plant cellsap by plasmolytic method using *Rhoeo* / *Tradescantia* leaves. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte. Determination of rate of transpiration using Cobalt chloride method / Ganong's potomete (at least for a dicot and a monocot). Effect of Temperature on membrane permeability by colorimetric method. Minor experiments– Osmosis, Arc-auxonometer, ascent of sap through xylem, cytoplasmic streaming.	
II	Study of mineral deficiency symptoms using plant material/photographs. Demonstration of amylase enzyme activity and study the effect of substrate and Enzyme concentration. Separation of chloroplast pigments using paper chromatography technique. Demonstration ofPolyphenol oxidase enzymeactivity(Potato tuber orApple fruit)	
III	Anatomyof C3, C4 and CAM leaves Estimation of protein bybiuret method/Lowry method	

Textbook:
1. Taiz, L., Zeiger, E., (2010). Plant Physiology. Sinauer Associates Inc., U.S.A. 5th Edition.
2. Hopkins, W.G., Huner, N.P., (2009). Introduction to Plant Physiology. John Wiley & Sons, U.S.A. 4th Edition.
Recommended Reference book:
1. Bajracharya, D., (1999). Experiments in Plant Physiology- A Laboratory Manual. Narosa Publishing House, New Delhi.
Course Delivery method: Face-to-face / Blended.
Course has focus on: Skill Development.
Websites of Interest:
https://youtu.be/VPwLN6U1spk
https://youtu.be/wBDC8gFuobo
https://youtu.be/Fi33E5sC0To
https://youtu.be/Hc3Mg0Yc7kI
https://youtu.be/IigeZ7PtWQU
https://youtu.be/q50VbVyWy6o
https://youtu.be/ug5p2CRqjDk
https://youtu.be/W56RHxu2Hpc
https://youtu.be/3PYdMaClUmw
https://youtu.be/VyKsT6q1O-s
https://youtu.be/1kTbPx0WFiA
Co-curricular Activities:
Question and answer session at the end of class.
Observing animations.
Written assignments.
Group Discussion (GD)/ Quiz.
Power Point Presentations.

Model Question Paper Structure for SEE

Max. Time: 3Hrs.   **Max. Marks: 40**

1. Conduct the experiment **'A'** (Major experiment), write aim, principle, material and
    apparatus/equipment, procedure, tabulate results and make conclusion.   **15M**
2. Demonstrate the experiment **'B'**(Minor experiment), write the principle,

    Procedure and give inference.   **5M**

3. Identify the following with apt reasons.   **3x4=12M**
    C. Plant water relations /Mineral nutrition

    D. Plant metabolism

    E. Plant growth and development
4. Record +Viva-voce   **5+3=8M**

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: **Cell Biology, Genetics and Plant Breeding**

Course Code	**BOT T42A**	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: 2017 - 18	Year of Revision: -- 100%	Percentage of Revision: -

Course Prerequisites: Knowledge of Cell Biology, Genetics and Plant Breeding studied in intermediate.

Course Description: This course will provide one with a basic and comprehensive understanding of cell biology. Enable the student with depth of topics and helps them to gain an appreciation in the genetics. On the other hand, importance of understanding plant breeding provides an extensive knowledge to the student.

Course Objectives:

1. Knowledge of Cell Biology.

2. The study of Chromosomes.

3. The study of Mendelian and Non-Mendelian genetics.

4. Study of Structure and functions of DNA.

5. Knowledge of Plant breeding

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

CO1: Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
CO2: Explain the organization of a eukaryotic chromosomeand the structure of genetic material.
CO3: Demonstrate techniques to observe the cell and its componentsunder a microscope.
CO4: Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
CO5: Elucidate the role of extra-chromosomal genetic material for inheritance of characters.
Evaluate the structure, function and regulation of genetic material.

CO6: Understand the application of principles and modern techniques inplant breeding.
Explain the procedures of selection and hybridization for improvement of crops.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**The Cell** 1. Cell theory; prokaryotic vs eukaryotic cell; animal vs plant cell; a brief account on ultra-structure of a plant cell. 2. Ultra-structure of cell wall. 3. Ultra-structure of plasma membrane and various theories on its organization. 4. Polymorphic cell organelles (Plastids); ultra structure of chloroplast. Plastid DNA.	12
II	**Chromosomes** 1. Prokaryotic vs eukaryotic chromosome. Morphology of a eukaryotic chromosome. 2. Euchromatin and Heterochromatin; Karyotype and ideogram. 3. Brief account of chromosomal aberrations - structural and numerical changes 4. Organization of DNA in a chromosome (solenoid and nucleosome models).	12
III	**Mendelian and Non-Mendelian genetics** 1. Mendel's laws of inheritance. Incomplete dominance and co-dominance; Multiple allelism. 2. Complementary, supplementary and duplicate gene interactions (plant-based examples are to be dealt). 3. A brief account of linkage and crossing over; Chromosomal mapping - 2 point and 3-point test cross. 4. Concept of maternal inheritance (Corren's experiment on *Mirabilis jalapa*);	12
IV	**Structure and functions of DNA** 1. Watson and Crick model of DNA. Brief account on DNA Replication (Semi-conservative method). 2. Brief account on Transcription, types and functions of RNA. Gene concept and genetic code and Translation. 3. Regulation of gene expression in prokaryotes - Lac Operon.	12
V	**Plant Breeding** 1. Plant Breeding and its scope; Genetic basis for plant breeding. Plant Introduction and acclimatization. 2. Definition, procedure; applications and uses; advantages and limitations of :(a) Mass selection, (b) Pure line selection and (c) Clonal selection. 3. Hybridization – schemes, and technique; Heterosis (hybrid vigour). 4. A brief account on Molecular breeding – DNA markers in plant breeding. RAPD, RFLP.	12

Textbook:

1.Botany – III (Vrukshasastram-I): Telugu Akademi, Hyderabad

2.Pandey, B.P. (2013) *College Botany, Volume-III,* S. Chand Publishing, New Delhi

3.Ghosh, A.K., K.Bhattacharya&G. Hait (2011) *A Text Book of Botany, Volume-III,* New Central Book Agency Pvt. Ltd., Kolkata

4.Chaudhary, R. C. (1996) *Introduction to Plant Breeding,* Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi

Recommended Reference book:

1.S. C. Rastogi (2008)*Cell Biology,*New Age International (P) Ltd. Publishers, New Delhi

2.P. K. Gupta (2002)*Cell and Molecular biology,*Rastogi Publications, New Delhi

3.B. D. Singh (2008) *Genetics,*Kalyani Publishers, Ludhiana

4.A.V.S.S. Sambamurty (2007) *Molecular Genetics,*Narosa Publishing House,New Delhi

5.Cooper, G.M. & R.E. Hausman (2009)*The Cell – A Molecular Approach,* A.S.M. Press, Washington

6.Becker, W.M., L.J. Kleinsmith& J. Hardin (2007)*The World of Cell,* Pearson Education, Inc., New York

7.De Robertis, E.D.P. & E.M.F. De Robertis Jr. (2002)*Cell and Molecular Biology,* Lippincott Williams & Wilkins Publ., Philadelphia

8.Robert H. Tamarin (2002)*Principles of Genetics,*Tata McGraw –Hill Publishing Company Limited, New Delhi.

9.Gardner, E.J., M. J. Simmons & D.P. Snustad (2004)*Principles of Genetics,* John Wiley & Sons Inc., New York

10.Micklos, D.A., G.A. Freyer& D.A. Cotty (2005) *DNA Science: A First Course,* I.K. International Pvt. Ltd., New Delhi

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

Course has focus on: Foundation

Websites of Interest:

https://youtu.be/LFyjJBiltFI

https://youtu.be/hUJZ4X3Hkbw

https://youtu.be/rBkE5SAL7IA

Co-curricular Activities:

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, Lamp brush 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 mitoticcell cycle in roots of*Alliumcepa*
2. Study of mitoticcell cycle in roots of*Aloe vera*
3. Observation of chromosomal aberrations in *Allium cepa* root cells exposed
   toindustrial effluent(s).
4. Observation of chromosomal aberrations in *Allium cepa* root cells exposed
   toheavy metal(s).
5. Observation of polyembryony in *Citrus* spp.and *Mangiferaindica.*

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

Formal:

1. Assessment of practical skills
2. Individual and group project reports
3. Seminar presentations

Max.: 75 Marks   **Min.Pass: 30 Marks**

……

Section-A

Answer Any Five at least one from each unit   **5 x 5M = 25Marks**

1. Distinguish the difference between eukaryotic cell and prokaryotic cell. **CO1**, **L4**.
2. Explain the ultra-structure of Chloroplast. **CO1**, **L2**.
3. State the difference between euchromatin and heterochromatin. **CO2**, **L1**.
4. Explain 2-point test cross. **CO2**, **L2**.
5. Describe incomplete dominance. **CO3**, **L2**.
6. Discuss about the semi conservative method of DNA replication. **CO4**, **L6**.
7. What is pure line selection? Explain. **CO5**, **L1**.
8. Elucidate the role of RAPD in molecular breeding. **CO5**, **L2**.

Section-B

Answer the following questions   **5 x 10M = 50Marks**

9.   (a) Explain ultra structure of plasma membrane. **CO1**, **L2**.
                    or   **Unit I**
         (b) Explain the ultra structure of cell wall. **CO1**, **L2**.
10.   (a) Write a detailed account of chromosomal aberrations. **CO2**, **L6**.
                    or   **Unit II**
         (b) Describe the organization of DNA in a chromosome (solenoid and nucleosome models).**CO2, L2.**
11.   (a) Design a detailed account on Linkage. **CO3**, **L5**.
                    or   **Unit III**
         (b) Compose a detailed account on Crossing Over. **CO3**, **L5**.
12.   (a) Discuss about the Watson and Crick model of DNA. **CO4, L6.**
                    or   **Unit IV**
         (b) Elucidate the regulation of gene expression in prokaryotes - Lac Operon.**CO4, L2.**

13.   (a) Develop a note on advantages and limitations of :(a) Mass selection, (b) Pure line selection. **CO5, L3.**
                    or   **Unit V**
         (b) Explain the process of Hybridization, with respect to the schemes and techniques.**CO5, L2.**

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: **Cell Biology, Genetics and Plant Breeding (practicals)**

....

Semester: IV   **Credits: 02**

Hours Taught: 30 hrs. Per Semester   **Max.Time**: 3 Hours

Course Prerequisites: Knowledge of Cell Biology, Genetics and Plant Breeding studied in intermediate.

Course Description: This course will provide one with a basic and comprehensive understanding of cell biology. Enable the student with depth of topics and helps them to gain an appreciation in the genetics. On the other hand, importance of understanding plant breeding provides an extensive knowledge to the student.

Course Objectives:

1. Knowledge of Cell Biology.

2. The study of Chromosomes.

3. The study of Mendelian and Non-Mendelian genetics.

4. Study of Structure and functions of DNA.

5. Knowledge of Plant breeding.

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

CO1: Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
CO2: Explain the organization of a eukaryotic chromosome and the structure of genetic material.
CO3: Demonstrate techniques to observe the cell and its components under a microscope.
CO4: Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
CO5: Elucidate the role of extra-chromosomal genetic material for inheritance of characters.
Evaluate the structure, function and regulation of genetic material.

CO6: Understand the application of principles and modern techniques inplant breeding.
Explain the procedures of selection and hybridization for improvement of crops.

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 squashtechnique; 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.

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

Course has focus on: SkillDevelopment

Websites of Interest:

https://youtu.be/LFyjJBiltFI

https://youtu.be/hUJZ4X3Hkbw

https://youtu.be/rBkE5SAL7IA

Model Question Paper Structure for SEE

Time: 3hrs.   **Max. Marks 40M**

1. Make a cytological preparation of given material 'A' (mitosis or meiosis in Onion) by squash technique, report any two stages, draw labelled diagrams and write the reasons. **10M**

2. Solve the given Genetic problem (Dihybrid cross/ Interaction of genes/ 3-point test cross) 'B' and write the conclusions. **10M**

3. Identify the following and justify with apt reasons. **3x4 =12M**
C. Cell Biology (Cell organelle)
D. Genetics (DNA/RNA)
E. Plant Breeding

4. Record + Viva-voce **5 + 3 =8M**

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 CHEMISTRY

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

29-03-2023

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 29-03-2023 in the Department of Chemistry

Sri. K.RAMESH   Presiding

Members Present:

1)........K. Ramu........   Chairman   · HOD, Dept. of Chemistry,

(Sri. K.RAMESH)   A.G. & S.G.S.Degree College,Vuyyuru.

2)..................................   University Nominee   Assistant Professor,

(Prof.D.Ramasekhar Reddy)   Dept. of Chemistry,Krishna University, MTM.

3)..................................   Academic Council Nominee   HOD, Dept. of Chemistry,

(Dr. S. Kalpana)   SDMS M College, Vijayawada.

4)..................................   Academic Council Nominee   Lecturer in Chemistry,

(Dr. 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)..................................   Member   Lecturer in Chemistry,

(Dr. G.Giri prasad)   A.GS.G.S.Degree College,Vuyyuru

8)..................................   Member   Lecturer in Chemistry,

(Smt. M.V.Santhi)   A.G. & S.G.S.Degree College,Vuyyuru.

9)..................................   Member   Lecturer in Chemistry,

(Sri. P.Suresh)   A.G.& S.G.S.Degree College, Vuyyuru.

10)..................................   Member   Lecturer in Chemistry,

(MS. M.Santhi)   A.G.& S.G.S.Degree College,Vuyyuru.

11)..................................   Member   Rtd.Lecturer in Chemistry,

(Sri. J.Nageswara Rao)   A.G.& S.G.S.Degree College,Vuyyuru.

1

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 2022-2023.
2. To recommend the syllabus and model papers for IV semester of II Degree B.Sc., Chemistry for the Academic year 2022-2023.
3. To recommend the syllabus and model papers for V/VI semester of III Degree B.Sc. Chemistry for the Academic year 2022-2023.
4. To recommend the Blue print of V/VI semesters of B.Sc. Chemistry for the Academic year 2022-2023.
5. To recommend the Guidelines to be followed by the question paper setters in Chemistry for II, IV, V/VI Semester – end exams.
6. To introduce SDC programme
7. To recommend the teaching and evaluation methods to be followed under Autonomous status.
8. Any suggestions regarding certificate course, seminars, workshops, Guest lecture to be organized.
9. Recommend the panel of paper setters and Examiners to the controller of Examinations of
10. Any other matter.

K. Ramesh
Chairman

RESOLUTIONS

1. It is resolved to follow the same syllabus **(theory and practical) for II semesters of IB.Sc.** under Choice Based Credit System (CBCS) for the Academic year 2022--2023.

2. It is resolved to follow the same syllabus **(theory and practical) for IV semesters of II B.Sc.** under Choice Based Credit System (CBCS) for the Academic year 2022--2023.

3. It is resolved to follow the new syllabus **(theory and practical) for V/VI semesters of III B.Sc.** under Choice Based Credit System (CBCS) for the Academic year 2022--2023.

Paers introduced: Analytical methods in Chemistry-I with course code SEC CHE 501C/601C and Analytical methods in Chemistry-II with course code SEC CHE 502C/602C

Internship in V/VI semesters for MCCs and MPCs students

4. It is resolved to follow the **Blue prints** as proposed by members of BOS I,III & V semester of Degree B.Sc. for the Academic year 2022-2023.

5. It is resolved to follow the **guidelines** to be followed by the question paper setters of Chemistry for I,III & V semesters of Degree B.Sc. for the Academic Year 2022-2023.

6. SDC in Food Adulteration is introduced with course code SDCCHETO1 for II Semester.

7. It is resolved to continue the following teaching and evaluation methods for Academic year 2022-23.

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, 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).

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).

Out of maximum 100 marks in each paper for 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 I,II,III B.Sc.

There is no pass minimum for internal assessment for I, II, III B.Sc.

Semester – End Examination:

The maximum marks for I,III,V B.Sc Semester – End examination shall be 70/75/70 marks 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 40/70/75) 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 I,III &V 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

    1.   NIL.

K. Ramesh

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 GENERALCHEMISTRY   **Semester: II**

Course Code	CHE-201C	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: 2022-23	Year of Revision: 2022-23	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.

4

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	**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.	12h
II	**Carbon-CarbonpiBonds(AlkenesandAlkynes)** **2.1** Generalmethodsofpreparation,physicaland chemicalproperties. **2.2** Mechanism ofE1,E2,E1CB reactions,SaytzeffandHoffmannelimininations, Electrophilic Additions,mechanism(Markownikoff/Antimarkownikoffaddition) with suitable examples, *syn* and *anti*-addition;additionofH_2,X_2, HX. oxymercuration-9, demercuration, hydroboration-oxidation, ozonolysis, Hydroxylation , Diels alder reaction , 1,2 and 1,4 addition reaction in Conjugated Dienes. **2.3** Reactionsofalkynes;acidity,electrophilic andnucleophilicadditions,hydrationtoformcarbonyl compounds,Alkylationof terminalalkynes.	12h
III	**Benzene and its reactivity** **3.1** Concept of aromaticity, Huckel's rule - application to	12h

	Benzenoid (Benzene, Naphthalene) and Non - Benzenoid compounds (cyclopropenylcation, cyclopentadienyl anion and tropyliumcation)	
	3.2 Reactions - General mechanism of electrophilic aromatic substitution, mechanism of nitration, Friedel- Craft's alkylation and acylation.	
	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 NO_2 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)	
GENERAL CHEMISTRY		
IV	**Surface chemistry and chemical bonding**	14h
	1. Surface chemistry	
	4.1 Colloids- Coagulation of colloids- Hardy-Schulze rule. Stability of colloids, Protection of Colloids, Gold number.	
	4.2 Adsorption-Physical and chemical adsorption, Langmuir adsorption isotherm, applications of adsorption.	
	2. Chemical Bonding	
	4.3 Valence bond theory, hybridization, VB theory as applied to ClF_3, $Ni(CO)_4$	
	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).	
	3. HSAB	
	4.5 Pearson's concept, HSAB principle & its importance, bonding in Hard-Hard and Soft-Soft combinations.	
V	**Stereochemistry of carbon compounds**	10h
	5.1 Molecular representations- Wedge, Fischer, Newman and Saw-Horse formulae.	

	5.2 Optical isomerism: Optical activity- wave nature of light, plane polarised light, optical rotation and specific rotation. **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. **5.4** D, L, R,S and E,Z- configuration with examples. Definition of Racemic mixture – Resolution of racemic mixtures (any 3 techniques)	

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 skillsand 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 RakeshK.Parashar&V.K.Ahluwalia
3. Telugu Academy Book
4. Unified Chemistry by O.P.Agarwal-Vol-I

List of Reference Books

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

Practical: 11 Ahluwalia, V.K. &Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
Ahluwalia, V.K. &Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).

Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)

Additional Resources:

Solomons, T. W. G.; Fryhle, C. B. &Snyder, S. A. Organic Chemistry, 12th Edition, Wiley.

Bruice, P. Y. Organic Chemistry, Eighth Edition, Pearson.

Clayden, J.; Greeves, N.&Warren, S. Organic Chemistry, Oxford.

Nasipuri, D. Stereochemistry of Organic Compounds: Principles and Applications, Third Edition, NewAge International.

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 : CHET-22
PAPER TITLE: ORGANIC & GENERAL CHEMISTRY -I	
ACADEMIC YEAR-2022-23	

Time: 3 Hours   Max. Marks: 70M

Answer all questions

1. (a) -10M
        (or)
        10M
    (b) – 4M
        (or)
        4M
2. (a) -10M
        (or)
        10M
    (b) – 4M
        (or)
        4M
3. (a) -10M
        (or)
        10M
    (b) – 4M
        (or)
        4M
4. (a) -10M
    (or)
        10M
    (b) – 4M
    (or)
        4M

5. (a) -10M
        (or)
        10M
    (b) – 4M
        (or)
        4M

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 : CHEP-21A ACADEMIC YEAR-2022-23

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 a 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 $Na_2S_2O_3$ with $K_2Cr_2O_7$ as primary standard

4. Estimation of water of crystallization in Mohr's salt by titrating with $KMnO_4$

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	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: 2022-23	Year of Revision: 2022-23	Percentage of Revision: 0

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 photochemicalreactions.
2. To understand the concept of quantum efficiency and mechanisms of photochemical reactions

Course Details

Unit	Learning Units	Lecture Hours
	INORGANIC CHEMISTRY	
I	**Organometallic Compounds** Definition and classification of organometallic Compounds on the basis of bond type, Concept of hapticityof organic ligands. Metal carbonyls: 18electronrule,electron count of mononuclear, poly nuclear and substituted metal carbonylsof 3d series. General methods of preparation of mono and binuclear carbonyls of 3d series. P-acceptor behavior of carbon monoxide. Synergic effects (VB approach) - (MO diagram of CO can be referred to for synergic effect to IR frequencies).	8h
	ORGANIC CHEMISTRY	
II	**Carbohydrates** Occurrence,classificationandtheirbiologicalimportance,Monosaccharides: Constitutionand absolute configurationofglucoseandfructose,epimersandanomers,mutarotation,determin ationofring sizeof glucose andfructose,Haworthprojectionsandconformationalstructures;Interconversions ofaldosesand ketoses; Killiani-Fischer synthesis and Ruff degradation; Disaccharides– Elementarytreatmentofmaltose, lactoseand sucrose.Polysaccharides–Elementarytreatmentof starch.	8h
III	**1. Amino acidsandproteins** **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	6h

	carboxylic acid b) Gabriel Phthalimide synthesis c) strecker's synthesis. Physical properties: Zwitter ion structure - salt like character - solubility, melting points, amphoteric character, definition of isoelectric point. Chemical properties: 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. **2. Heterocyclic Compounds** 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 - electrophillic substitution at 2 or 5 position, Halogenation, Nitration and Sulphonation under mild conditions - Diels Alder reaction in furan. Pyridine – Structure - Basicity - Aromaticity- Comparison with pyrrole- one method of preparation and properties - Reactivity towards Nucleophilic substitution reaction	7h
IV	**Nitrogen Containing Functional Groups** Preparation, properties and important reactions of nitro compounds, amines and diazonium salts. **1. Nitrohydrocarbons** **3h** 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),Nef reaction and Mannich reaction leading to Micheal addition and reduction. **2. Amines** Introduction, classification, chirality in amines (pyramidal inversion), importance and general methods of preparation. **Properties :** Physical properties, Basicity of amines: Effect of substituent, solvent and steric effects. Distinction between Primary,Secondary and tertiary amines using Hinsberg's method and nitrous acid. Discussion of the following reactions with emphasis on the mechanistic pathway: Gabriel Phthalimide synthesis, Hoffmann-Bromamide reaction, Carbylamine reaction, Mannich reaction, Hoffmann'sexhaustive methylation, Hofmann-elimination reaction and Cope-elimination.	3h
			11h

	Diazonium Salts: Preparation and Synthetic applications of diazonium salts including preparation of arenes, haloarenes, phenols, cyano and nitro compounds. Coupling reactions of diazonium salts (preparation of azo dyes).	
V	**1.Photochemistry** 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). **Thermodynamics** 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, Carnot cycle and its efficiency, Carnot theorem, Concept of entropy, entropy as a state function, entropy changes in reversible and irreversible processes. Entropy changes in spontaneous and equilibrium processes. Third law of thermodynamics, Nernst heat theorem, Spontaneous and non- spontaneous processes, Helmholtz and Gibbs energies-Criteria forspontaneity.	**5h** **12h**

List of Reference Books

1. Concise coordination chemistry by Gopalan andRamalingam
2. Coordination Chemistry by Basalo andJohnson
3. Organic Chemistry by G.Mareloudan, PurdueUniv
4. Text book of physical chemistry by SGlasstone
5. Concise Inorganic Chemistry byJ.D.Lee
6. Advanced Inorganic Chemistry Vol-I by Satyaprakash, Tuli, Basu andMadan
7. A Text Book of Organic Chemistry by Bahl andArunbahl
8. A Text Book of Organic chemistry by I L FinarVolI
9. A Text Book of Organic chemistry by I L FinarVolII

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

SEMESTER – IV PAPER-IV	PAPER CODE : CHE-401C
PAPER TITLE: INORGANIC, ORGANIC & PHYSICAL CHEMISTRY ACADEMIC YEAR-2022-23	

Time: 3 hours   Maximum Marks: 75

PART-A   5 X 5 = 25Marks

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

1. Describe the 18 electron rule of mono nuclear and polynuclear metal carbonyls with suitableexamples.**L1-CO1**
2. What are epimers and anomers. Giveexamples. **L1-CO2**
3. Discuss about isoelectric point and zwitterion. **L2-CO3**
4. Discuss the Paul-Knorr synthesis of five membered heterocycliccompounds. **L2-CO4**
5. Explain Tautomerism shown by nitroalkanes **L2-CO5**
6. Discuss the basic nature ofamines. **L2-CO5**
7. Write the differences between thermal and photochemicalreactions. **L4-CO6**
8. Derive heat capacities and derive $C_p - C_v = R$ **L1-CO7**

PART-B   5 X 10 = 50Marks

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

9 (a). What are organometallic compounds? Discuss their Classification on the basis of type of bonds withexamples.**L1-CO1**

(or)

(b). Discuss the general methods of preparations of mono & bi-nuclear carbonyls of 3dseries.**L2-CO1**

10 (a). Discuss the constitution, configuration and ring size of glucose. Draw the Haworth and Conformational

structure ofglucose.**L2-CO2**

<div align="center">(or)</div>

(b). (i) Explain Ruff's degradation.
(ii) Explain Kiliani- Fischer synthesis.**L2-CO2**

11.(a). What are amino acids? Write any three general methods of preparation of amino acids.**L1-CO3**

<div align="center">(or)</div>

b)Discuss the aromatic character of Furan, Thiophene

andPyrrole. **L2-CO4**

12.(a). Write the mechanism for thefollowing.**L3-O5**

i)Nefreaction(ii) Mannichreaction

<div align="center">(or)</div>

(b).(i) Explain Hinsberg separation of amines.
(i) Discuss any three synthetic applications of diazoniumsalts.**L2-CO5**

13.(a). What is quantum yield? Explain the photochemical combination of Hydrogen- Chlorine and Hydrogen - Bromine.**L2-CO6**

<div align="center">(or)</div>

(b).Define entropy. Describe entropy changes in the reversible and irreversible process.**L1-CO7**

<div align="center">***</div>

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 :
OrganicQualitativeanalysis	ACADEMIC YEAR-2022-23

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 applicationofconceptsofdifferentorganicreactionsstudiedintheory part of organicchemistry.

OrganicQualitativeanalysis   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 MAKS-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 reaccredited at "A" level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: INORGANIC&PHYSICALCHEMISTRY

Semester: IV

Course Code	CHE-402C	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: 2022-23	Year of Revision: 2022-23	Percentage of Revision: 0

Program outcomes:

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.

Course Details

Unit	Learning Units	Lecture Hours
	INORGANICCHEMISTRY **26h**	
I	**Coordination Chemistry** 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, Comparison of CFSE for Octahedral and Tetrahedral complexes, Tetragonal distortion of octahedral geometry, Jahn-Teller distortion, square planar coordination.	12h
II	**1. Inorganic Reaction Mechanism** **4h** Introduction to inorganic reaction mechanisms. Concept of reaction pathways, transition state, intermediate and activated complex. 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 itsapplications	4h
	2. Stability ofmetalcomplexes 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.	2h
	3. Bioinorganic Chemistry Metal ions present in biological systems, classification of elements according to their action in biological system**.** Geochemical effect on the distribution of metals, Sodium K- pump, carbonic anhydrase andcarboxy peptidase. Excess and deficiency of some trace metals.	8h

	Toxicity of metal ions (Hg,Pb,Cd and As), reasons for toxicity, Use of chelating agents in medicine, Cis-platin as an anti-cancer drug. Iron and its application in bio-systems, Hemoglobin, Myoglobin.Storage and transfer of iron.		
	PHYSICALCHEMISTRY		**34h**
III	**1 .Phase rule** Concept of phase, components, degrees of freedom. Thermodynamic derivation of Gibbs phase rule. Phase diagram of one component system - water system, Study of Phase diagrams of Simple eutectic systems i) Pb-Ag system, desilverisation of lead ii) NaCl-Water system, Congruent and incongruent melting point- Definition and examples for systems having congruent and incongruent melting point , freezing mixtures.		**6h**
IV	**Electrochemistry** 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- conductometrictitrations. 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. Fuel cells- Basic concepts, examples and applications		**14h**
V	**Chemical Kinetics:** 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		**14h**

methods for determination of order of a reaction. Concept of activation energy and its calculation from Arrhenius equation. Theories of Reaction Rates: Collision theory and Activated Complex theory of bimolecular reactions. Comparison of the two theories (qualitative treatment only). Enzyme catalysis- Specificity, factors affecting enzyme catalysis, Inhibitors and Lock & key model. Michaels- Menten equation- derivation, significance of Michaelis-Menten constant.

List of Reference Books

1. Text book of physical chemistry by SGlasstone

2. Concise Inorganic Chemistry byJ.D.Lee

3. Advanced Inorganic Chemistry Vol-I by Satyaprakash, Tuli, Basu andMadan

4. Advanced physical chemistry by GurudeepRaj

5. Principles of physical chemistry by Prutton andMarron

6. Advanced physical chemistry by Bahl andTuli

7. Inorganic Chemistry byJ.E.Huheey

8. Basic Inorganic Chemistry by Cotton andWilkinson

9. A textbook of qualitative inorganic analysis by A.I.Vogel

10.
    Atkins,P.W.&Paula,J.deAtkin'sPhysicalChemistryEd.,OxfordUni versityPress 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

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-2022-23	

Time: 3 hours   Maximum Marks: 75

PART- A 5 X 5 = 25 Marks

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

1. Write note on John-Tellerdistortion. **L2-CO1**
2. Explain Labile & inertcomplexes. **L2-CO2**
3. Explain Job's method for determination of composition ofcomplex. **L2-CO2**
4. Explain Thermodynamic derivation of Gibb's phaserule. **L2-CO4**
5. Explain any two conductometrictitrations. **L2-CO5**
6. Write note on Fuel Cells with examples andapplications. **L2-CO5**
7. What is enzyme catalysis? Write any three factors effecting enzymecatalysis. **L1-CO6**
8. Derive Michaels- Mentenequation. **L1-CO6**

PART-B   5 X 10 =50

Marks

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

9 (a). Explain Valence Bond theory with Inner and Outer orbital complexes. Write limitations ofVBT. **L2-CO1**

(or)

(b). Define CFSE. Explain the factors effecting the magnitude of crystalfield splittingenergy. **L1-CO1**

10 (a). Explain Trans effect. Explain the theories of trans effect

24

and write any two applications of trans effect. **L2-CO2**

(or)

(b). (i) Write the biological functions of Haemoglobin and Myoglobin.
(ii) Write note on use of chelating agents in medicines. **L2-CO3**

11.(a). Define Phase rule and terms involved in it. Explain phase diagram of Pb-Ag system.**L1-CO4**

(or)

(b). (i) Explain phase diagram for NaCl-watersystem.
(ii) Explain briefly about Freezing mixtures.**L2-CO4**

12.(a). Define Transport number. Write experimental method for the determination of transport number by Hittorf method.**L1-CO5**

(or)

(b).(i) Define single electrode potential.
(ii) Explain four types of electrodes with examples.**L1-CO5**

13.(a). Explain general methods for determination of order of a reaction. **L2-CO6**

(or)

(b).Explain Collision theory and Activated complex theory of bimolecular reactions.**L2-CO6**

***

PRACTICAL SYLLABUS

Practical Paper – V	**PAPER CODE : CHE-402P**
Conductometric andPotentiometric Titrimetry	**ACADEMIC YEAR-2022-23**

30 hrs (2 h/W)   **Credits: 2**

Practical-Course –V

Conductometric andPotentiometric 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 inexperiments

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 theanalyte

Conductometric andPotentiometricTitrimetry50 M

2. Conductometric titration- Determination of concentration of HCl solution using standard NaOHsolution.

3. Conductometric titration- Determination of concentration of CH_3COOH Solution using standard NaOHsolution.

4. Conductometric titration- Determination of concentration of CH_3COOH and HCl in a mixture using standard NaOHsolution.

5. Potentiometric titration- Determination of Fe (II) using standard $K_2Cr_2O_7$solution.

Determination of rate constant for acid catalyzed esterhydrolysis

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION REVISED
UG SYLLABUS UNDER CBCS
(Implemented from Academic Year, 2020-21)
PROGRAMME: FOUR YEAR B.Sc.(Hons)
Domain Subject: CHEMISTRY
Skill Enhancement Courses (SECs) for Semester V/VI, from 2022-23
(Syllabus with Learning Outcomes, References, Co-curricular Activities & Model Q.P. Pattern)
Structure of SECs for Semester–V (To choose One pair from the Five alternate pairs of SECs)

Univ.Code	Course NO. 6&7	Name of Course	Th. Hrs ./ Week	IE Marks	EE Mar-ks	Credits	Prac. Hrs./W k	Mar-ks	Credits
	6A	Synthetic Organic Chemistry	3	25	75	3	3	50	2
	7A	Analysis of Organic Compounds	3	25	75	3	3	50	2

<div align="center">OR</div>

| | 6B | Analytical Methods in Chemistry-1 | 3 | 25 | 75 | 3 | 3 | 50 | 2 |
| | 7B | Analytical Methods in Chemistry-1 | 3 | 25 | 75 | 3 | 3 | 50 | 2 |

<div align="center">OR</div>

| | 6C | Industrial Chemistry-1 | 3 | 25 | 75 | 3 | 3 | 50 | 2 |
| | 7C | Industrial Chemistry-2 | 3 | 25 | 75 | 3 | 3 | 50 | 2 |

<div align="center">OR</div>

| | 6D | EnvironmentalChemistry | 3 | 25 | 75 | 3 | 3 | 50 | 2 |
| | 7D | Green Chemistry and Nanotechnology | 3 | 25 | 75 | 3 | 3 | 50 | 2 |

<div align="center">OR</div>

| | 6E | Analytical Methods in Chemistry | 3 | 25 | 75 | 3 | 3 | 50 | 2 |
| | 7E | Cosmetics and Pharmaceutical Chemistry | 3 | 25 | 75 | 3 | 3 | 50 | 2 |

Note-1: For Semester–V/VI, for the domain subject Chemistry, any one of the five pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A&7A or 6B&7B or 6C&7C or 6D&7D or 6E&7E.The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations

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: Analytical Methods in Chemistry-I Semester: V/VI

Course Code	CHE-501C-6BSEC	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	45	Total Marks	100
Year of Introduction : 2022-23	Year of Offering: 2022-23	Year of Revision: --------	Percentage of Revision: 0

CourseOutcomes:

Studentsaftersuccessfulcompletion ofthecourse willbeableto:

CO1. Remember the basic concepts of .quantitative analysis data treatment, separation techniques and analysis of water (PO7)

CO2. Acquireknowledgeon theconcepts quantitative analysis data treatment, separation techniques and analysis of water(PO1, PO7)

CO3. Apply the conceptual knowledge gained in the areas of quantitative analysis data treatment, separation techniques and analysis of water in the chosen job role (PO1)

CO4. Analyse that how far the quantitative methods, data treatment methods separation techniques and Analysis of water

(PO1).

Course Details

Unit	Learning Units
I	**Quantitativeanalysis-1** 1. Abriefintroduction to analytical methodsinchemistry 2. Principles of volumetric analysis, concentration terms- Molarity, Normality,v/v, w/v, ppm and ppb, andsecondarystandards. 3. Description and use of common laboratory apparatus- volumetric flask, burette, pipette,beakers,mea
II	**Quantitativeanalysis-2** 1. Principles of volumetric analysis: Theories of acid-base (including study of acid-basetitration choiceofindicators for thesaturations. 2. Principlesofgravimetricanalysis:precipitation,coagulation,peptization,co-precipitation, post precipit
III	**Treatmentofanalyticaldata** Types of errors- Relative and absolute, significant figures and its importance, accuracy –metho minimization oferrors,precision-methodsofexpressingprecision,standarddeviation and confidencelimit
IV	**Separationtechniques** 1. SolventExtraction:Introduction,principle,techniques,factorsaffectingsolventextraction,Batchextraction Determination ofIron(III). 2. IonExchangemethod:Introduction,actionofionexchangeresins,applications
V	**Analysis of water (Marks weightage 10+5)** Determination of dissolved solids, total hardness of water, turbidity, alkalinity, Dissolved oxygen, CO

III References

1.   Analytical   Chemistry   by   Gary   D.Christian,   PurnenduK.Dasgupta andKevinA.Schug,Seventhedition, Wiley.

2. TextbookofVogel'sQuantitativeChemical Analysis,Sixthedition,Pearson.

3. Text book of Environmental Chemistry and Pollution Control by S.S.Dara andD.D.Mishra,Revised edition, SChand &Co Ltd.

Text Books:

1. Instrumental methods of chemical analysis by B K Sharma

2. Separation methods MN Sastry

Reference materials on the web/web links:

1.https://chem.libretexts.org/Bookshelves/Analytical_Chemistry/Supplemental_Modules_(Analytical_Chemistry)/Quantifying_Nature/Volumetric_Chemical_Analysis_(Shiundu)/14.1%3A_Sampling_and_Statistical_Analysis_of_Data

2. https://vlab.amrita.edu/?sub=2&brch=190&sim=338&cnt=1

IV Co-CurricularActivities:

a) Mandatory (Lab/fieldtrainingofstudentsbyteacher (lab: 10 + field: 05) :

1.For Teacher: Training of students by the teacher in laboratory and field for not lessthan 15 hours on the field techniques/skills of calibration of pH meter, Strong acidvs strong base titration using pH meter, determination of chloride ion, estimation of water quality parameters andestimation ofIron(II).

Google classroom created during instruction of course by the teacher concerned for sharing relevant material and conducting exams.

2. ForStudent: Studentshallvisitarelatedindustry/chemistrylaboratoryinuniversities/research organizations/private sector facility and observe. Write their observations and submit a hand writtenfieldwork/projectworkreportnotexceeding10pagesinthegivenformattotheteacher.

3. Max marksforFieldwork/projectworkReport: 05.

4. Suggested Format for Fieldwork/project work: Title page, student details, indexpage,detailsofplacevisited, observations,findings,andacknowledgements.

5. Unittests(IE).

b) SuggestedCo-CurricularActivities

1. Trainingofstudents'byrelatedindustrial experts.

2. Assignments,SeminarsandQuiz(onrelatedtopics).

3. Visitstofacilities, firms,researchorganizations etc.

4. Invitedlecturesandpresentations onrelatedtopicsbyfield/industrial experts.

6.Explain about resins

7.Explain about COD

SECTION-B

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

8.Describe the role of the following apparatus in analytical chemistry I) Volumetric flask II) Burette III) Pipette

9.Elaborate the theory involved in complexometric and acid base titrations

10.Write a note on the following terms in gravimetric analysis I)Precipitation II) Digestion III) Filteration

11.Define error, discuss in detail about various types of errors encountered in quantitative analysis

12.Elaborate the methods used for minimization of errors

13.Discuss the various factors which effect solvent extraction

14.Explain in detail about role of Ion exchange resins in separation of compounds
15.Explain the following (a) turbidity (b) alkalinity

The Guidelines to be followed by the question paper setters in chemistry for the V- Semester - end exams

SEMESTER – V PAPER-V	PAPER CODE : CHE-501-6B SEC
PAPER TITLE : Analytical Methods in Chemistry-I Paper 6B ACADEMIC YEAR-2022-2023	

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 (25Marks)	1	1+1
Unit-4 (30Marks)	1+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 (AUTONOMOUS), VUYYURU.
(Accredited at "A" Grade by NAAC, Bangalore)
PRACTICAL SYLLABUS
Laboratory Course-VI

Practical Paper – V	PAPER CODE : CHE-501 P SEC
Analytical methods in chemistry-I Practical syllabus	ACADEMIC YEAR-2022-2023

AnalyticalmethodsinChemistry-1-PRACTICALSYLLABUS
(SkillEnhancementCourse(Elective),Credits:02)

Practical Hrs ;45 (3hr/W)

I LearningOutcomes: Onsuccessfulcompletion ofthispractical course, studentshall beableto:
CO1. EstimateIron (II)usingstandardPotassium dichromatesolution (PO1)
CO2. Learntheprocedurefortheestimationoftotal hardness ofwater (PO7)
CO3. Demonstratethedeterminationofchlorideusing Mohr'smethod (PO1, PO7)
CO4. Acquireskills intheoperationandcalibrationofpHmeter (PO1)

33

II Practical(Laboratory) Syllabus :(30hrs)

1. Estimationof Iron(II)usingstandardPotassium dichromatesolution (usingDPAindicator)

2. Estimationoftotal hardnessof waterusingEDTA

3. DeterminationofchlorideionbyMohr'smethod

4. Study the effect on pH of addition of HCl/NaOH to solutions of acetic acid, sodium acetate and theirmixtures.

5. Preparation of buffer solutions of different pH (i) Sodium acetate-acetic acid, (ii) Ammonium chloride-ammoniumhydroxide.

6. pHmetrictitrationof(i)strongacid vs.strongbase,(ii)weakacidvs. strongbase.

7. Determinationofdissociationconstantofaweakacid.

II LabReferences:

1. TextbookofVogel'sQuantitativeChemicalAnalysis,Sixth edition,Pearson.

SCHEME OF VALUATION

INTERNAL MARKS- Record-10M

1. **EXTERNAL MAKS-40**

- **Practical -30M**

- **Viva questions = 10 M**

    TOTAL = 50 M

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: Analytical Methods in Chemistry-2Semester: V/VI

Course Code	CHE-502C-7BSEC	Course Delivery Method	Class Room / Blended Mode
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	45	Total Marks	100
Year of Introduction : 2022 - 23	Year of Offering: 2022 - 23	Year of Revision: --------	Percentage of Revision: 0

LearningOutcomes: Studentsaftersuccessfulcompletion ofthecourse willbeableto:

CO1. Remember the basic concepts of Chromatography like paper, TLC, Column, GC & HPLC (PO7)

CO2. Understand the significance of paper, TLC, Column, GC & HPLC in separation and identification of compounds (PO1, PO7) .

CO3. Apply the conceptual knowledge gained in the techniques of chromatography in separating and identifying the chemical compounds as and when required (PO1).

CO4. Analyse that how far one chromatographic technique is much use full in separation and identification of compounds over the other chromatographic technique (PO1,PO7).

Course Details

Unit	Learning Units
I	**Chromatography-Introductionandclassification** **(Marks weightage 10+5)** Principle,Classificationofchromatographicmethods,Natureofadsorbents,eluents,$R_f$values,factors affecting$R_f$values.
II	**TLCand paperchromatography** **(Marks weightage 10+10+5+5)** 1. Thin layer chromatography: Principle, Experimental procedure, preparation of plates,adsorbents and solvents, development of chromatogram, detection of spots, applicationsandadvantages. 2. Paper Chromatography: Principle, Experimental procedure, choice of paper andsolvents, various modes of development- ascending, descending, radial and twodimensional, applications.
III	**Columnchromatography** **(Marks weightage 10+10+5)** 1. Column chromatography: Principle, classification, Experimental procedure, stationaryandmobilephases, developmentoftheChromatogram,applications, factors affecting the column efficiency. 2. Applications:- Separation of .Methylene Blue and Flurocene by column chromatography.
IV	**Gaschromatography:** **(Marks weightage 10+5+5)** Basic principles. Different types of GC techniques. Selection of columns and carrier gases.Instrumentation. Detectors-Thermal conductivity detector, Flame ionization detector,$R_f$values.Applicationsintheseparationof amino acids &estrogens
V	**HighPerformanceliquidchromatography (HPLC)** **(Marks weightage 10+10+5)** Basic principles.NormalandreversedPhases.Selectionofcolumnandmobilephase.Instrumentation.Detectors-RID, UV detector$R_f$values.Applicationsintheseparation,separation of anions, barbiturates, tropane alkaloids.

III References

1.Fundamental so Analytical Chemistry by F.James Holler, Stanley R Crouch, DonaldM.WestandDouglasA.Skoog, Ninth edition, Cengage.

2. Analytical Chemistry by Gary D.Christian, PurnenduK.Dasgupta and KevinA.Schug,Seventhedition, Wiley.

3. Quantitativeanalysis byR.A.DayJr.and A.L.Underwood,Sixthedition,Pearson.

4. TextbookofVogel'sQuantitativeChemical Analysis, Sixthedition/Pearson.

Text Books:

1. Instrumental methods of chemical analysis by B K Sharma

2. Instrumental methods of chemical analysis by Gurudeep&ChatwalAnand

Reference materials on the web/weblinks:

1.https://chem.libretexts.org/Bookshelves/Analytical_Chemistry/Supplemental_Modules_(Analytical_Chemistry)/Instrumental_Analysis/Chromatography/Gas_Chromatography

2.https://lab-training.com/hplc-high-performance-liquid-chromatography/

VICo-CurricularActivities:

a)Mandatory :(Lab/fieldtrainingofstudentsbyteacher(lab: 10+ fields: 05):

1. For Teacher: Training of students by the teacher in laboratory and field for notlessthan15 hours on the field techniques/skills of determination of hardness of water,usingthecalorimeterandorSpectrophotometer,preparationofTLCplate,identificationofspotsinTLCandPaper chromatographic techniques,loading ofcolumn, selection of solvent system, separation of amino acids and dyes mixture usingchromatographictechniques.

Google classroom created during instruction of course by the teacher concerned for sharing relevant material and conducting exams.

2.

ForStudent:Studentshallvisitarelatedindustry/chemistrylaboratoryinuniversities/researchorganizations/privatesectorfacilityandobservethechromatographictechniquesusedfortheseparationofcompounds.Writetheirobservationsandsubmitahandwrittenfieldwork/projectworkreportnotexceeding10pages in thegivenformat to theteacher.

3. Max marksforFieldwork/projectworkReport:05.

4. Suggested Format for Fieldwork/project work**:** Title page, student details, indexpage,detailsofplacevisited, observations,findings,andacknowledgements.

5.Unittests(IE).

b) SuggestedCo-CurricularActivities

1. Trainingof students byrelated industrial experts.

2. Assignments,SeminarsandQuiz(onrelatedtopics).

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

(AUTONOMOUS), VUYYURU.

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

Model Paper

SEMESTER – V PAPER-V	PAPER CODE : CHE-502-7B SEC
PAPER TITLE : Analytical Methods in Chemistry-2 Paper 7B	
ACADEMIC YEAR-2022-2023	

Time: 3Hours   Maximum marks: 70Minimum marks: 28

SECTION-A

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

1. What is the basic principle involved in chromatography, explain nature of adsorbents

2. How to prepare TLC plates

3. Explain Ascending and descending techniques in paper chromatography

4. Explain the classification of column chromatography

5. Explain the schematic diagram of G.C

6. Explain about detectors in G.C

7. Explain schematic diagram of HPLC

SECTION-B

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

8. How dothe chromatographic methods are classified?Explain any one

9. Discuss the applications of TLC

10. Explain the applications of paper chromatography

11 Explain the factors effecting the column efficiency in CC

12. Discuss the separation of methylene blue and fluorescein by C C

13. Explain the separation of Amino acids by G.C

14. Explain the different detectors used in HPLC

15. Explain the separation of Anions and Barbiturates by HPLC

The Guidelines to be followed by the question paper setters in chemistry for the V- Semester - end exams

SEMESTER – V PAPER-V	PAPER CODE : CHE-502C-7B SEC
PAPER TITLE : Analytical Methods in Chemistry-2 Paper 7B **ACADEMIC YEAR-2022-2023**	

Weightage for the question paper

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

Laboratory Course-VII

Practical Paper – V Analytical methods in chemistry-2 Practical syllabus	PAPER CODE : CHE-502 P SEC ACADEMIC YEAR-2022-2023

AnalyticalmethodsinChemistry-2

PRACTICALSYLLABUS

(SkillEnhancementCourse(Elective),Credits:02)

Practical Hrs./Week: 3

LearningOutcomes:

Onsuccessfulcompletion ofthispractical course, studentshall beableto:

CO1. Performtheseparation of agivendyemixtureusingTLC (PO1)

CO2. LearnthepreparationofTLC plates (PO1, PO7)

CO3. Demonstratethe separation ofmixtureofamino acids usingpaper chromatography (PO1)

CO4. Acquireskillsin usingcolumn chromatographyfortheseparation of dyemixture (PO7)

II Practical(Laboratory)Syllabus:(30hrs)

1. Separation of a given dye mixture (methyl orange and methylene blue) using TLC (usingaluminaas adsorbent).

2. **Separationof different amino acids using paperchromatography.**

3. Separation of given mixture of amino acids (glycine and phenyl alanine) using ascendingpaperchromatography.

4. **Estimation of Fe^{+2} by using thiocynate by calorimeter.**

5. **SeparationofsugarsusingTLC**

6. Verification of Beer lambert's law. (Using potassium permanganate solution) usingcolorimeter/spectrophotometer.

III LabReferences:

1.TextbookofVogel'sQuantitativeChemical Analysis,Sixthedition,Pearson.

2. VogelA.I.PracticalOrganicChemistry, LongmanGroup Ltd.

41

3. BansalR.K. LaboratoryManualofOrganicChemistry,Wiley-Eastern.

4. Ahluwalia V. K. and Aggarwal R. Comprehensive Practical Organic Chemistry, Universitypress.

5. MannF.GandSaunders B.C,PracticalOrganicChemistry,PearsonEducation.

SCHEME OF VALUATION

1. **INTERNAL MARKS- Record-10M**

2. **EXTERNAL MAKS-40**
   - **Practical-30M**
   - **Viva questions = 10 M**
        TOTAL = 50 M

SEMESTER – III (SDC)	PAPERCODE:SDCCHET01
PAPER TITLE : FOOD ADULTERATION	

UNIT-I: Total: 30Hrs (2h/week)   02 Credits

CommonFoodsandAdulteration(10+10+5+5)   10Hrs

Common Foods subjected to Adulteration-Adulteration-Definition –Types;Poisonous substances,Foreign matter, cheapsubstitutes, Spoiled parts.Adulteration through Food Additives –Intentional and incidental.General Impact on Human Health.

UNIT-II :

Adulteration of Common Foods and Methods of Detection (10+10+5+5)   10Hrs

Means of Adulteration Methods of Detection Adulterants in the following Foods; Milk,Oil, Grain, Sugar,Spices and Condiments, Processed Food, Fruits and Vegetables.Additives and Sweetening agents (at least three methods of detection for each food item).

UNIT-III:

PresentLawsandProceduresonAdulteration(10+10)   10Hrs

Highlights of Food Safety and Standards Act 2006 (FSSA) –Food Safety and Standards Authority of India- Rules and Procedures of Local Authorities.Role of Voluntary Agencies Suchas,Agmark, I.S.I. Quality control laboratories of Companies, Private testing laboratories, Quality control laboratories of Consumer co-operatives.

Consumer Education, Consumer's problems, rights and responsibilities, COPRA2019-Offenses and Penalities-Procedures to Complain –Compensation to Victims.

Reference books and Websites:

1.A first course in Food Analysis – A.Y. Sathe,New Age International (p) Ltd, 1999

2. Food Safety, case studies –Ramesh.V.Bhat,NIN,1992

3.https://old.fssai.gov.in/Portals/0/Pdf/ Draft Manuals/ Beverages and Confectionary.pdf

4.https://www.fssai.gov.in/

5.https://indianlegalsolution.com/laws-on-food-adulteration/

6.https://fssai.gov.in/dart/

7.https://byjus.com/biology/food-adulteration/

SEMESTER – III (SDC)	COURSE CODE:
PAPER TITLE : FOOD ADULTERATION	

Time: 2 Hours   Maximum marks: 35   Pass marks:16

SECTION-A

Answer any THREE Questions. Each question carries 5 marks   3X5=15Marks

1.
2.
3.
4.
5.
6.

SECTION-B

Answer any TWO Questions. Each question carries 10 marks.   2X10=20M

7.
8.
9.
10.

The Guidelines to be followed by the question paper setters in Chemistry for the II-Semester - end exams. ACADEMIC YEAR-2022-23

Weightage for the question paper-FOOD ADULTERATION

syllabus	Section-A (Short answer questions)	Section-B (Essay questions)
Unit-1 (30Marks)	1+1	1+1
Unit-2 (30 Marks)	1+1	1+1
Unit-3 (20 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, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2022-2023

DEPARTMENT OF COMMERCE

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

13-04-2023

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*

<u>Members Present:</u>

1).......................... Chairman   **Head, Department of Commerce**
(*N.Vasanatha Rao*)   **AG & SG S Degree College of Arts & Science**
         Vuyyuru

2).......................... University Nominee
(Dr.N.A Francis Xavier)

         Head, Department of Commerce
         Andhra Loyola College.
         Vijayawada (9440524321)
         nafrancisxavier@gmail.com

3).......................... Subject Expert   **Lecturer in Commerce**
(Dr.K.Venkateswarlu,)   **V.S.R Govt. Degree & P.G College**
         Movva (9848341412)
         gdcjkc.movva@gmail.com

4).......................... Subject Expert   **Lecturer in Commerce**
(K.Narayanarao)   **P.B.Siddhartha College of arts and Science**
         Vijayawada. (9885038196)
         <u>**hodcommerce@pbsiddhartha.ac.in**</u>

5).......................... Member   **General Manager**
(*Sri* V.Punnarao)   **K.C.P & IC Ltd**
         Vuyyuru.

6).......................... Member   **Chartered Accountant**
(*Sri* V.Balaji)   **Managing Partner**
         Balaji V & Co (9052190007)
         Vuyyuru (<u>cabalajinco@gmail.com</u>)

7) ...... T. Venkateswara ...... Member
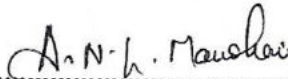(*Dr.*T.Venkateswara Rao)

Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

8) ...... V. U ...... Member
(*Sri* V.GopiChand)

Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

9) ...... K. SekharBabu ...... Member
(*Sri* K.SekharBabu)
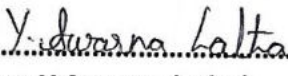
Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

10) ...... A.N.L. Manohari ...... Member
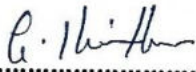(Ms A.N.L Manohari)

Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

11) ...... P-M Krishna Sree ...... Member
(Ms P. Mohan krishna)

Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

12) ...... Y.swarna latha ...... Member
(Smt.Y.Swarna latha)

Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

13) ...... G. Kirithkumar ...... Member
(K.Kiran kumar)

Lecturer in Commerce
AG & SG S Degree College of Arts & Science
Vuyyuru

Agenda of B.O.S Meeting:

1. To discuss and recommend the Syllabi, Model Question Papers to be followed by question paper setters in Commerce for the 2nd Semester as per the guidelines and instruction under CBCS prescribed by APSCHE and Krishna University from the Academic Year2022-2023.

2. To discuss and recommend the Syllabi, Model Question Papers to be followed by question paper setters in Commerce for the 4th Semester as per the guidelines and instructions under CBCS prescribed by APSCHE and Krishna University from the Academic Year 2022-2023.

3. To discuss and recommend the Syllabi, Model Question Papers and Guidelines to be followed by question paper setters in Commerce for the 6th Semester as per the guidelines and instructions under CBCS prescribed by APSCHE and Krishna University from the Academic Year 2022-2023.

4. To recommend the Teaching and Evaluation methods to be followed under CBCS

5. Any other suggestions regarding Certificate Course, Seminars, Workshops, Guest Lectures to be organized.

6. Any other matter.

RESOLUTIONS

1. Discussed and recommended the changed syllabi, Model Question Papers for question paper setters in Commerce for the 2nd Semester of **I B.Com., (general, computer & e-commerce)** for the Academic year 2022-2023..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 the changed syllabi, Model Question Papers for question paper setters in Commerce for the 4th Semester of **II B.Com., (general, computer & e-commerce)** for the Academic year 2022-2023 prescribed by APSCHE. There is a change in syllabi of Taxation in Unit V a New Topic **"Introduction and Administration to GST and Customs".** Was Incorporated Instead of "**Capital gains and computation of total Income".** There is a minor change in the syllabi of **"Cost and Management accounting"** in Unit V A New Topic **"Cash Flow statement"** was incorporated instead of **"Job costing and Batch costing".**

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 2022-2023. prescribed by APSCHE as already by the Board Studies held on 3-11-2022 Internship in V/VI Semesters

4. 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 30 marks shall be allocated for internal assessment for I.B.Com (General ,Computers & e-Commerce). 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, and remaining 5 marks are allocated for the assignment/activate and the reaming 5 Marks are allocates for the attendance. There is no minimum passing for IA.

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

- Out of maximum 100 marks in each paper 25 marks shall be allocated for internal assessment for II.B.Com (General ,Computers & e-Commerce). 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, and 5 marks are allocated for the assignment and Remaining 5 Marks are allocated to Activity. There is no minimum passing for IA.

Internal Assessment (IA) III B.Com (Computers)
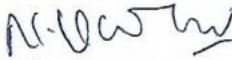
- Out of maximum 100 marks in each paper 30 marks shall be allocated for internal assessment B.Com (General& Computers). Out of these 30 marks, 20 Marks are allocated for announced tests (i.e. IA-1 & IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks 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 End Examinations (SEE)

- The Semester End 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, for **I & III B.com** Students irrespective of the number of credits allotted to it.

- The Semester End 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, for **II B.com** Students 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' III Degree students

- The pass mark shall be 30 out of 75 in the Semester end examination for II B. Com (General ,Computers & e-Commerce) Students

- Even though the candidate is absent for two IA exams/obtained zero marks, the external marks are considered (if he/she gets 30/70) and the result shall be declared as 'PASS' I Degree students

- The pass mark shall be 28 out of 70 in the Semester end examination for I.B.Com Students

- The maximum marks for each Paper shall be 100.(Internal 30 + External 70) for I.B.Com Students

- The maximum marks for each Paper shall be 100. (Internal 25 + External 75) II B.Com (General, Computers & e-Commerce) Students

- The maximum marks for each Paper shall be 100.(Internal 30 + External 70) for III.B.Com (Computers) Students

5. 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.

6. 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.

Programme 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 fulfilment

SEMESTER – II

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
COMT 21A	Financial Accounting (Gen , CA & E-C)	5	4	30	70	3 Hrs.
COMT 23B	BUSINESS ECONOMICS (Gen , CA & E-C)	5	4	30	70	3 Hrs.
COMT 22B	Banking Theory &Practice (Gen)	5	4	30	70	3 Hrs.
CAD-201G/C	Advertising (Gen , CA & EC)	2	2	15	35	2 Hrs.
CR202 G/C	Retailing (Gen , CA & EC)	2	2	15	35	2 Hrs.

SEMESTER- IV

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE MARKS	SEE DURATION
COMT41A	Corporate Accounting (Gen, CA & E- C)	5	4	25	75	3 Hrs.
COMT45	Cost and Management Accounting (Gen, CA & E-C)	5	4	25	75	3 Hrs.
COMT43A	Income Tax (Gen)	5	4	25	75	3 Hrs.
COMT48	Taxation (CA & E-C)	5	4	25	75	3 Hrs.
COMT42A	Business Laws (Gen, CA & E-C)	5	4	25	75	3 Hrs.
COMT46	Auditing (Gen)	5	4	25	75	3 Hrs.
COMT44	Goods and Service Tax (Gen)	5	4	25	75	3 Hrs.

SEMESTER- V / VI

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA	SEE	
				MARKS	MARKS	DURATION
CACA-601 G/C	**Advanced Corporate Accounting** (GEN&CA)	**5**	**4**	**30**	**70**	**3 Hrs.**
CSSA-602 G/C	**Software Solutions to Accounting** (GEN&CA)	**5**	**4**	**30**	**70**	**3 Hrs.**
CAMP-603 G/C	**Advertising and Media Planning** (GEN&CA)	**5**	**4**	**30**	**70**	**3 Hrs.**
CSPP -604 G/C	**Sales Promotion and Practice** (GEN&CA)	**5**	**4**	**30**	**70**	**3 Hrs.**

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: Financial Accounting
Semester: II

Course Code	COMT21A	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: 2020 - 21	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 – Pragthi prakesh 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 reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Financial Accounting COMT21A
Semester: II

Time: 3Hrs   Max.Marks:70

SECTION- A

Answer any FIVE of the following.   5 x 4= 20.

1.   (A) Explain the need for providing depreciation.   (CO1) 4M
                            or
      (B) Causes of Depreciation.   (CO1) 4M
2. (A) Distinguish between provisions and Reserves   CO2)   4M
              Or
    (B) Explain provision for discount on debtors   (CO2) 4M
3. (A) What is the Renewal of bill?   (CO3) 4M
                            Or
    (B) Explain the features of bill.   (CO3) 4M
4.(A)What is Proforma invoice?   (CO4)   4M
              Or
(B) What are the different types of commissions in consignment   (CO4) 4M
5.(A) Differences between joint venture and consignment   (CO5)   4M
                  Or
(B) What is joint venture? Explain its features   (CO5) 4M

Answer ALL the following questions.   **5 x 10 = 50**

Unit - I

6) (a) on 1-1-20 a machinery was purchased for Rs 20,000 installation charges being Rs 4,000. On 1-7-2021another machinery was purchased for Rs 40,000 on 01-04-2022 one more machinery was brought for Rs 50,000/- wages paid for installation amounted to Rs 2,000 carriage paid on the machinery Rs 8,000.

Show machinery account up to 31-12-2022 assuming 10% depreciation per annum on straight line basis

(CO1) 10M

Or

(b) on 01-01-2002 a limited company purchased machinery for Rs 12,000 and on 30-06-2003 acquired additional machinery at a cost of Rs 2000. On 01-03-2004 one of the original machines which had cost Rs 500 was found to have become obsolete and was sold as scrap for Rs 50. It was replaced on that date by a new machinery costing Rs 800.

Depreciation is to be provided at the rate 15% per annum on written down value. (CO1) 10M

Unit - II

7) (a) The following information is extracted from the Trial Balance of M/S Neha Traders on 31-03-2002

Particulars	Amount
Sundry Debtors	80,500
Bad debts	1000
Provision for Bad debts	5000

Additional Information
1. Bad debts Rs500
2. Provision is to be maintained at 2% of Debtors
3. Prepare Bad debts account, provision for Bad debts account   (CO2) 10M

Or

(b) From the following figures prepare the following accounts
1. Bad debts account
2. Provision for bad debts account

Date	Particulars	Amount
2013 Jan 1	Provision for Bad debts	3600
Dec 31	Bad debts(Dr)	1960
Dec 31	Bad debts (Cr)	240
Dec 31	Debtors	40,000

Other Information
i) Further Bad debts Rs400/-
ii) Make a provision for bad debts at 5% on debtors.   (CO2) 10M

Unit - III

8) (a) Ramesh drew a bill on 1-09-2001 for Rs 2000 on Ramana for 3 months. Ramana accepted the same and returned it to Ramesh. Before maturity Ramesh sent the bill to the bank for collection. Ramesh received the intimation from the bank that the bill was duly honored on its due date and the bank charged Rs 20 for collection.

Pass the necessary entries in the books of Ramesh and Ramana.   (CO3) 10M

Or

(b) Rama purchased goods worth Rs 10,000 from Krishna on credit on 01-01-1999 and gave two acceptances of Rs 5000 each. The first bill was for 2 months and the second for 3 months. Krishna discounted the first bill with his banker immediately @10% per annum and retained the second bill till its maturity. On the due dates Rama honored the first bill but failed to honor the second bill.

Pass the necessary journal entries in the books of both the parties   (CO3) 10M

Unit - IV

9) (a) Srinivas of Tirupathi consigned 100 T.V each costing Rs 15,000 to Nagarjuna of Guntur to be sold on consignment basis. He incurred the following expenses. Freight Rs 1,000 loading and unloading charges Rs 200 and insurance Rs 500.

Nagarjuna sold 85 T.V for Rs 14,45,000 and paid Rs 1,000 as shop rent which is to be borne by Srinivas as per terms and conitions of consignment. Consignee is entitled for a commission of Rs 100 per TV sold. Assuming that Nagarjuna settled the account by sending bank draft to srinivas.

Prepare the books of Srinivas and Nagarjuna.   (CO4)   10M

Or

(b) Swastik consigned 5000 Kg of oil to Ram traders at Rs 32 per kg. They paid Rs 3,340 toward freight and Rs 1,000 as insurance.

Ram traders reported that 4000 kg of oil was sold at Rs 42 per kg. They spent Rs 5000 as selling expenses and Rs 200 as godown rent. They were entitled to a commission of 5% on sales. They also reported a shortage of 20 kg due to leakage which was considered normal.

Prepare the books of consignor and consignee   (CO4) 10M

Unit - V

10) (a) X and Y entered into joint venture to sell a timber sharing profits and losses equally. X provides timber form stock at mutually agreed value of Rs 50,000. He pays expenses amounting to Rs 2500. Y incurs further expenses on cartage, storage of Rs 6500 and receives cash for sales Rs 30,000. He also takes over goods to the value of Rs 10,000 for his own use. At the close X takes over the balance stock in hand which valued at Rs 11000

Pass journal entries to record the above transactions in the book of X and Y (CO5)   10M

Or

(b) Kumar and Kartik entered into a joint venture sharing profits and losses in the ration of 3:2 kumar supplied goods costing Rs 10,000 and incurred expenses amounting to Rs 1000. Kartik also supplied goods of the value of Rs 8000 and the expenses amounted to Rs 400.

Kumar and kartik sold the goods for Rs 16,000 and Rs 12,000 respectively on which they get a commission of 10%. Unsold goods valued at Rs 1200 were taken over by kumar and kartik in their profit sharing ratio. They settled their accounts by cash.

Pass journal entries to record the above transactions in the books of Kumar and Kartik.   (CO5) 10M

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	COMT23B	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: 2012-13	Year of Revision: 2021-22	Percentage of Revision: 20%
CLASS:	I.B.COM., (gen/computer & E-com)		

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, NNPFC, 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
PublishersBusiness 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
PublishersDEEPASHREE – General Economics – Tata Mc. GrawHills

<p align="center">**Revision of the syllabus 2022-23 (SEM -2, 4, 6)**</p>

Name of the Subject: **Business Economics**

Subject Code: COM T23B

Semester -II

Academic Year	2022-23
Title of the paper	Business Economics
Semester	II
Course code	COM T23B
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	**DEMANDANDSUPPLYANALYSIS** 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:** RevenueConcepts&RevenuecurvesMeaningo fBreakevenpoint&Breakevenchart	**Nil**	**Nil**
IV	**MARKETSTRUCTURES:**Classificationofmar ketsFeaturesofPerfectcompetitionPricedetermin ation 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	**NATIONALINCOMEAND TRADECYCLES :**National Income Meaning and Definition of National Income (Marshall, Pigou, Fisher)Concepts of National Income – GDP, GNP, NDP, NMP, NNPFC, 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**

TITLE OF THE PAPER: BUSINESS ECONOMICS COMT23B
Semester: II

<div align="center">

Section -A   **MAX-70**
</div>

Answer FIVE of the following   **5x4=20M**

1. A) Robbins Scarcity definition to economics. L_1
           OR
    B) Smiths Wealth Definition L2

2. A) Explain the law of supplyL1
           OR
    B) Demand Function L1

3. A) Breakeven point L3
           OR
    B) Law Returns to Scale L2

4. A) Features of monopoly market L1
           OR
.   B) Different Types of markets   L2

    5   A) How do you Calculate National income
           OR
        B) What are the phases of Trade Cycles

<div align="center">

Section -B
</div>

Answer the following   **5x10=50M**

6. a). Explain the Nature and Scope of Business economics L_1
           (or)
    b) Distinguish between micro and macroeconomics L_2

7. a) Explain the various types of price elasticity of demand L_3
           (or)
    b) Discuss the various methods to measure price elasticity of demand. L_3

8. a) Explain the law of variable proportions L_2
           (or)
    b) Explain the relationship between different short run cost curves. L_3

9. a) Explain the price determination under perfect competition. L_2

           (or)
    b) Explain the Kinky demand curve analysis L_3

10. 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**	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:	**I.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 reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Banking Theory &Practice COMT22B
        Semester: II

Time: 3Hrs   **Max.Marks:70**

SECTION- A

Answer Any FIVE Of The Following.   **5X4=20**
1. A) Types of deposits (CO1) (L4)
                OR
    B) Kinds of banks. (CO2), (L2)
   2. A) ATM(CO3) (L2)
                OR
    B) RTGS (CO3) (L2)
   3 A)Indigenous banking (CO2) (L2)
                OR
    B) EXIM bank(CO5) (L2)
    4A) KYC Norms (CO2) (L2)
                OR
    B) What precaution a banker take in opening the accounts of a minor? (CO4) (L1)
    5 A) Holders for value
                OR
     B) Payement Gateways

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)

TITLE OF THE PAPER: ADVERTISING

Semester: II

Course Code	CAD201G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	2	**CIA Marks**	15
No. of Lecture Hours / Week	2	**Semester End Exam Marks**	35
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:	**I B.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 & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

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

Commerce	**CAD201G/C**	*2022-2023*	*I.B.Com(Gen,comp&e- com)*

SEMESTER –II   **ADVERTISING**

Skill Development Course

Total 30 hrs (2hrs/wk) 02 credits &   **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 –Reachingtarget groups - Local advertising – Feedback on impact of advertisement - Business promotion.

Recommended Co-curricular Activities (04 hrs):

 1. Collection and segmentation of advertisements

2. Invited Lectures/skills 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 book sand Websites:

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

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
(AUTONOMOUS)
(MANAGED BY SIDDHARTHA ACADEMY OF GENERAL & TECHNICAL EDUCATION VIJAYAWADA)

Commerce	CAD201G/C	2022-2023	I.B.Com(Gen,comp&e- com)

SEMESTER –II   ADVERTISING

Model Paper

Skill Development Course

DURATION: 2 HOURS   <u>SECTION – A</u>   <u>Max:35</u>

ANSWER ANY <u>THREE</u> OF THE FOLLOWING QUESTIONS   (3x5=15M)

1. Define Adverting
2. Describe the Functions of Advertising
3. Explain the role of advertising agencies
4. Advertising and Ethical issues
5. Local advertising
6. Write about Business promotion

<u>SECTION – B</u>

ANSWER ANY <u>TWO</u> OF THE FOLLOWING QUESTIONS   (2x10=20M)

7. What are the factors determining opportunities of a product or an ideas
8. What are the advertising statutory bodies in India
9. Write types of advertising
10. What are the basic Characteristics of advertising

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(AUTONOMOUS)

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

Commerce	2022-20223	CR202 G/C	*I.B.Com(Gen,comp&e- com)*

SEMESTER –II

RETAILING

Course Code	CR202G/C	Course Delivery Method	Class Room / Blended Mode - Both
Credits	2	CIA Marks	15
No. of Lecture Hours / Week	2	Semester End Exam Marks	35
Total Number of Lecture Hours	30	Total Marks	50
Year of Introduction:	**Year of Offering:2022-23**	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	I B.COM., (gen, computer & e-com)		

Learning Outcomes:

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

1. Know the retailing business, its growth in India and social impact
2. Understand the and organization and supply in retailing
3. Comprehend the opportunities and challenges in retailing
4. Learn the functions that support outlet operations, sales and services
5. Create a shopping experience model that builds customer loyalty and business promotion

SYLLABUS:

RETAILING

Unit I: 06hrs

Introduction -Retailing - Definition– Role of Retailing- Types of Retailing – Factors influencingthe Growth of Retailing in India.

Unit II: 10 hrs

Store location – factors influencing selection of location - Types of retail outlets - stores design & operations- Merchandise planning - Administrative mechanism

Unit III: 10hrs

Human resources in retailing - Job profile- Services to customers – Customer care - Communications with customers - Visual merchandising – enhancing customer loyalty and Salespromotion.

Recommended Co-curricularActivities (04 hrs):

1. Collection of information on local retailing

2. Invited lecture/skills training by a local expert

3. Visit near-by stores /Godowns/warehouses and prepare study projects

4. Field training during leisure hours

5. Assignments, Group discussion, Sharing of experience etc.

Reference books:

1. 1.Swapna pradhan.R.M - Retail Management - Tata Mg Graw Hill

2. Berman, Barry & Evans - Retailing Management- A strategic Approach - Pearson

Commerce	CR202 G/C	*2023-2024*	*I.B.Com(Gen,comp&e- com)*

SEMESTER –II RETAILING
Model Paper

Skill Development Course

DURATION: 2 HOURS

SECTION – A   Max:35

Answer any <u>THREE</u> of the following questions.   (3x5=15M)

1. Defining the role of Retailing

2. Describe the importance of Retailing

3. What do you mean by merchandise Planning?

4. Explain the Administrative mechanism

5. Write about Job Profile.

6. Write about essentials of customer care in Retailing.

SECTION – B

Answer any <u>TWO</u> of the following questions.   (2x10=20M)

7. Define Retailing and explain the types of retailing.

8. What are the factors influencing selection of store location

9. Explain different types of retailing outlets.

10. Describe about Communication with customers in Retailing?

TITLE OF THE PAPER: Corporate Accounting
Semester: IV

Course Code	COMT41A	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/computer/e-commerce)		

Course Outcomes:

1. CO 1: The students will have a good command on issue of shares and also forfeiture and reissue of shares. (PO.1)

2. CO 2: The students will be able to apply various modes for redemption of Debentures and also they can be able to utilize the free reserves for issue of bonus shares. (PO.4)

3. CO 3: The student will be able to determine the value of goodwill by using different methods. (PO.4)

4. CO 4: The students will have a good command on ascertainment of value of share by using Asset backing method and Yield method. (PO.4)

5. CO 5: The students will acquire the knowledge of preparing final accounts of companies as per the provisions of Companies Act 2013. (PO.7)

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 –Issue of right 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 & Radha Swami,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

Corporate Accounting COMT41A

Duration: 3 Hrs.   **Model Paper**   **Max Marks: 75M**
Section – A
Answer any five of the following.   **5X5=25M**
1. What are Right shares?   (CO2) L1
2. Explain about Forfeiture and re- issue.   (CO1) L2
3. What is a company? Explain the features of a company.   (CO1) L1
4. Explain net assets method with suitable examples   (CO4) L2
5. Write various provisions of company Act 2013   (CO5) L2
6. What is Good will?   (CO3) L1
7. Explain Buy Back of shares.   (CO2) L2
8. What is Annuity Method   (CO3) L1

Section-B
 Answer the following   **5X10=50Marks**
9. a) What is a share? Explain different types of shares.   (CO1) L2
            (Or)
   b) A company offers 12,000 shares of Rs 10 each. Applications were received for full. Money payable is as follows: on Application Rs 3/- on allotment Rs2/- on First call Rs 2/- and Rs 2/- on Final call. The shares are fully allotted and call money is realized in time. You are equired to pas journal entries in the books of the company. (CO1) L3

10. a) Explain the SEBI guidelines for issue of bonus shares   (CO2) L2
            (Or)
   b) Show by means of Journal Entries how you will record the following issues
i) P Ltd issues 5,000 10% Debentures of Rs1,000/- each at a discount of 5% redeemable at the end of 6 years at par
ii) Q Ltd issued 5,000 12% Debentures of Rs 100 each at par redeemable at the end of 5 years at a premium of 5%
iii) R Ltd issues, 5000 12% Debentures of Rs 100 each at a discount of 5% redeemable at the end of 5 years at a premium of 5%
iv) S Ltd issues 5,000 Debentures of Rs 100 each at a premium of 5% redeemable at the end of 5 years at a premium of 5%   (CO2) L3
11. a) What is goodwill? Explain the need and importance of valuation of goodwill? (CO3) L2
            (Or)
   b) The summarized balance sheet of BK Ltd as at 31 st March 2020 is as follows

Liabilities	Amount	Assets	Amount
40,000 Equity share of Rs 10 each fully paid up	4,00,000	Goodwill	1,00,000
10,000 Equity share of Rs 10 eacjRs 8 paid up	80,000	Other fixed assets	5,50,000
Reserves	2,00,000	Current Assets	2,70,000
11% Debentures	2,00,000	Preliminary Expenses	10,000
Current Liabilities	50,000		
	9,30,000		**9,30,000**

The goodwill is independently valued at Rs 90,000/- and other fixed assets at Rs 5,20,000. There was a contingent liability of Rs 20,000. Which has become payable. Determine the value of both the shares under net asset method. (CO3) L3

12. a) What is share? Explain the need and importance of valuation of shares?   (CO4) L2
          (or)
    b) The Balance sheet of Aditya Limited as on 31-03-2020 was as follows:

Liabilities	Amount	Assets	Amount
Share capital 2,000 shares of Rs100 each	2,00,000	Land and Buildings	1,10,000
General Reserve	40,000	Plant and Machinery	1,30,000
Profit and Loss account	32,000	Patents	20,000
Sundry Creditors	1,28,000	Stock	48,000
Income tax provision	60,000	Debtors	88,000
		Bank Balance	52,000
		Preliminary Expenses	12,000
	4,60,000		**4,60,000**

The expert valuers valued land and buildings at 2,40,000, Goodwill at 1,60,000 and plant and machinery at 1,20,000. Of the total debtros. It is found that debtors of 8,000 are bad.
Ascertain th value of shares under net assets value method. (CO4) L3

13.a) Write the Proforma of Profit & Loss a/c   (CO5) L2
          (or)
    b) The following is the Trial Balance of Rama Company Limited as on 31st March 2020

	In 000	In 000
Sales		1,87,500
Purchases	1,22,500	
Wages	25,000	
Discount		2,500
Furniture and Fittings	8,500	
Stock 31st March 2019		7,650
Dividend Paid	5,000	
Share Capital		50,000
Debtors and Creditors	18,750	8,750
Plant and Machinery	15,000	
Cash at Bank	8,000	
Reserve		8,000
Patents and Trade Mark	2,400	
	2,64,400	**2,64,400**

Prepare Trading account, Profit and loss account, Profit and Loss Appropriation account for the year ended 31-03-2020. And Balance Sheet as on that date. Take into consideration the following adjustments
i) stock on 31-03-2020 was valued at 40,000,000
ii) Depreciation on fixed assets at 10%
iii) Make a provision for Income Tax at 50%
iv) ignore corporate dividend tax.   (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: Cost and Management Accounting
Semester: IV

Course Code	COMT45	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: 2022-23	Percentage of Revision:25%
CLASS:	II.B.COM., (gen/computer/e-commerce)		

Course Outcomes:

CO1: Impart knowledge on the fundamental concept of cost accounting and management accounting. **(PO1)**

CO2: Comprehend the knowledge in effective control of raw materials, work in progress, and labour cost . **(PO2)**

CO3- Students will understand the profit making decisions in complex situations of any business Organisation **(PO 4, 6)**

CO4 – Students will critically understanding the financial and management accounting importance in understanding the business operations using different tools   **(PO 1)**

CO5 – Students will critically understanding the cash and fund flow concept and impact of cash flow on business operations   **(PO 1, 7)**

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 Wage Incentive Schemes -Time Rate Method, Piece Rate Method, Halsey, Rowa Methods and Taylor Methods only (including problems)	15
III	**Marginal Costing:** Meaning and Features of Marginal Costing – Contribution –Profit Volum Ratio- Break Even Point – Margin of Safety – Estimation of Profit ar Estimation of Sales(including problems)	15
IV	**Financial Statement Analysis and Interpretation**: Financial Statements - Features, Limitations. Need, Meaning, Objectives, ar Process of Financial Statement Analysis- Comparative Analysis – Common Siz Analysis and Trend Analysis (including problems)	15
V	**Cash Flow Statement** Introduction and meaning - Accounting standard 3-Comparison between fund and cash flow statements - Uses and significance of cash flow statement Limitations of cash flow statement-Procedure for preparing a cash flo statement -Sources of cash inflows - Application of cash or cas outflows.(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

Revision of the syllabus 2022-23 (SEM -2, 4, 6)

Name of the Subject: **Cost and Management Accounting**

Subject Code: COMT45

Semester -IV

Academic Year	2022-23
Title of the paper	**Cost and Management Accounting**
Semester	IV
Course code	COMT45
CIA marks	25
Semester End marks	75
Total marks	100
Year of Introduction	2021-22
Year of Revision	2021-22
% of revision	20%

UNIT	Syllabus	Addition	Deletion
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)		
II	**Material and Labor Cost:** Techniques of Inventory Control – Valuation of Material Issues: FIFO – LIFO Simple and Weighted Average Methods Labor: Direct and Indirect Labor Cost – Methods of Payment of Wage Incentive Schemes -Time Rate Method, Piece Rate Method, Halsey, Rowan Methods and Taylor Methods only (including problems)		
III	**Marginal Costing:** MeaningandFeaturesofMarginalCosting –Contribution–ProfitVolumeRatio-BreakEvenPoint–MarginofSafety–EstimationofProfitanEstimationof Sales(including problems)		
IV	**Financial Statement Analysis and Interpretation**: Financial Statements - Features, Limitations. Need, Meaning, Objectives, an Process of Financial Statement Analysis- Comparative Analysis – Common Size Analysis and Trend Analysis (including problems)		

| V | **Cash Flow Statement** Introduction and meaning-Accounting standard 3-Comparison between fund and cash flow statements-Uses and significance of cash flow statement Limitations of cash flow statement-Procedure for preparing a cash flow statement   -Sources of cash inflows-Application of cash flows.(Problems). | **Cash Flow Statement Introduction and meaning-Accounting standard 3-Comparison between fund and cash flow statements-Uses and significance of cash flow statement Limitations of cash flow statement-Procedure for preparing a cash flow statement-Sources of cash inflows-Application** | **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)** |

TITLE OF THE PAPER: Cost and Management Accounting COMT45
    Semester: IV
Duration: 3 Hrs.   **Model Paper**   **Max Marks: 75M**

SECTION A

Answer any **FIVE** of the following   5x5=25
  1. Define Cost Accounting and state its objectives.   (CO1) L2
  2. What are the functions of Management Accounting?   (CO1) L2
  3. Explain the need for material control.   (CO2) L2
  4. What is Labour Turnover?   (CO2) L1
  5 . What is meant by PV Ratio?   (CO3) L1
  6. What is meant by Margin of Safety?   (CO3) L1
  7. What is meant by Common size income statement?   (CO4) L1
  8. What are the Sources and applications of cash flow statement.   (CO5) L2

SECTION B

Answer the Following   5x10=50
9. a) Explain the limitations of Financial Accounting and also differentiate the Cost Accounting and Financial Accounting.   (CO1) L2

         Or

  b) From the following particulars prepare cost sheet for the year ending 2020

Particulars	1-1-2017	31-12-2017
Raw Material	25000	26200
Finished goods	17300	15700
Work in progress	8200	9100

Raw material purchased   21,900
Carriage inwards   1,100
Direct Expenses   120
Factory overheads   910
Direct wages   17,200
Sale of finished goods   72,300
Selling overheads   4,200
Administration overheads   3,200   (CO1) L3

10. a)Explain the functions of stores department.   (CO2) L2

         Or

  b) From the following particulars calculate earnings of a worker under Halsey and Rowan's plan
   Standard time 10 hrs
   Time taken   6hrs
   Hourly Rate   2/-Rs   (CO2) L3

11. a). What is Break Even Point? Explain its assumptions and Limitations.   (CO3) L2

Or

   b) Assuming that the cost structure and selling prices remain the same in periods I & II find out
     i) Profit Volume Ratio
     ii) Fixed Cost
     iii) BEP for sales
     iv) Margin of safety at a profit of Rs 15,000/_
     v) Profit when sales are Rs 1,00,000/-
     vi) sales required to earn a profit of Rs 20,000/-   (CO3) L3

12. a) Explain the Need and Limitations of Financial Statement Analysis   (CO4) L2

Or

   b) The following are the Balance Sheet of Krishna & Co for the year ending 31-03-2020&2021
prepare a comparative Balance Sheet   (CO4) L3

Liabilities	2020	2021	Assets	2020	2021
Equity Share Capital	3,00,000	4,00,000	Land & Buildings	1,85,000	1,35,000
Reserves & Surplus	1,65,000	1,11,000	Plant & Machinery	2,00,000	3,00,000
Debentures	1,00,000	1,50,000	Furniture & Fixtures	10,000	12,500
Long term loans	75,000	1,00,000	Other Fixed Assets	12,500	15,000
Bills payable	25,000	22,500	Cash in hand	10,000	40,000
Sundry creditors	50,000	60,000	Bills Receivables	75,000	45,000
Current Liabitlites	2,500	5,000	Sundry Debtors	1,00,000	1,25,000
			Stock	1,25,000	1,75,000
			Prepaid Expenses	---------	1,000
Totals	7,17,500	8,48,500	Totals	7,17,500	8,48,500

13. a) What are the Differences between Cash flow statement and Funds flow statement.   (CO5) L2

Or

   b) The Balance sheets of Godrej Company is as follows. Prepare Cash Flow Statement. (CO5) L3

Liabilities	2020	2021	Assets	2020	2021
Equity Share capital	2,00,000	2,00,000	Cash	20,000	14,400
General Reserve	2,00,000	2,00,000	Debtors	1,40,000	1,53,600
Profit & Loss a/c	1,92,000	1,96,000	Stock	1,00,000	88,000
Current Liabilities	1,44,000	1,64,000	Land	80,000	1,20,000
Loan from associate Company	----------	80,000	Buildings	2,00,000	2,20,000
Loan from a bank	1,24,000	1,00,000	Machinery	3,20,000	3,44,000
Total	8,60,000	9,40,000	Total	8,60,000	9,40,000

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: Income Tax

Semester: IV

Course Code	COMT43A	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 Outcomes:

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

CO1: Acquire knowledge about tax rate schedule and residential status of an individual **PO4 PSO2**

CO2: Enlist the ability of provisions of income from salary and its taxability **PO4 PSO2**

CO3: The student can build on idea about taxability of income from house property and business income **PO4 PSO2**

CO4 : Comprehend the knowledge about Income from capital gain **PO1 &PO6 PSO2**

CO5: Import knowledge in the provisions of Income from other sources and to compute the Total income **PO7 PSO2**

Syllabus
Income Tax

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction**: Income Tax Act-1961 - Basic Concepts: Income, Person, Assessee - 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, Sahitya Bhavan

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

TITLE OF THE PAPER: Income Tax   COMT 43A
Semester: IV
Duration: 3 Hrs.   **Model Paper**   **Max Marks: 75M**
Income Tax
Section-A

Answer **any Five** of the following: 5x5=25
1. Define a) income b) assesse c) Person   (CO1) L1
2. Deductions under section 16   (CO2) L2
3. Define Annual Value how is it determined.   (CO3) L2
4. What do you understand by the term Business and Profession.   (CO3) L1
5. Write about cost of improvement and cost of acquisition.   (CO4) L2
6. What are the allowed and dis allowed expenses?   (CO1) L1
7. What is total income?   (CO5) L1
8. Explain about Residential status.   (CO1) L1

SECTION B

Answer the Following: 5x10=50
9. a) All assesses are persons but all persons are not assesses Explain.   (CO1) L2

Or

b) Following are the incomes of raj for the previous year 2019-2020

	Rs
i) Profit from business in Bangalore	10,000
ii) Income accrued in India but received in Japan	4,000
iii) Profit from business in Canada but received in India	5,000
iv) Income from house property in Karachi received in Bombay	4,000

v) Profit from business established in England and deposited there, the business beingcontrolled from India   20,000
vi) Income from house property in America and deposited there 2,000
vii) Past untaxed income brought into India during the previous year   10,000
Compute the total income of Raj for the assessment year 2020-2021
If he is (a) Resident
        (b) N.O.R
 (c) Non-Resident   (CO1) L3

10. a) Define the term allowances. Explain various types of allowances.   (CO2) L2

Or

  b) From the following particulars find out the income from salaries of Mr.Krishna
    i) Salaries Rs 4000/- per month
   ii) DA   Rs1000/- per month
   iii) Commission Rs10,000/-Per Annum
   iv) CCA   Rs 200/- Per month
    v) Entertainment Allowance Rs 350/- per month (on 1-04-55 Rs 250/- per month)
    vi)Professional tax paid Rs300/-
  He is provided with a car of 16HP for office and personal use and all the expenses are paid by the employee. (CO2) L3

11. a) What is income from house property and explain the procedure for computing income from house property (CO3) L2

Or

   b) From the particulars given below compute the income from profession of DrKarim for the assessment year 2021-22.

Receipts:
i) Visiting fees Rs 26,000/-
ii) Consultation fess RS 15,000/-
iii) Sale of Medicines Rs 16,000/-
iv) DividendsRs 5,000/-

Expenses
i) Dispensary Rent Rs 5,000/-
ii) Electricity Charges Rs3,000/-
iii) Telephone Expenses Rs 3000/-
iv) Salary to compounder Rs 5,000/-
v) Purchase of Medicines Rs 8,000/-
vi) Depreciation of X-Ray Machine Rs 2,000/-
vii) Income Tax Rs 5,000/-
viii) Donations Rs 2,000/-
ix) Motor car expenses and depreciation 6,000/-

Other Particulars
i) Electricity charges include domestic bill Rs 1,000/-
ii) 50% of motor car expenses are for professional use   (CO3) L3

12. a) Define capital gain. Explain the different types of capital gain.   (CO4) L2

Or

   b) Mr X sold his residential house on 01-08-2019 for a total consideration of Rs 10,000. This house was acquired by him in August 2004 for RS 2,00,000/- he has carried out repairs to the house in October 2010 spending Rs 50,000/- compute taxable capital gains for 2020-21 (CO4) L3

 (CII : 2004-05: 113, 2010-11 : 167 and 2019-20: 289)

13 a) what do you understand by the qualifying amount u/s 80G? Who is entitled to it and what are the provisions of the act in this connection   (CO5) L2

or

b) Sk.Basu is in service in Bangalore drawing a monthly salary of Rs 15,000/- per month and DA 100% of salary. He contribute 10% of his salary to RPF. His taxable income from house property is 12,300/- he has also interest on government securities amounting to Rs 14,000/- (gross) he has paid life insurance premium for a policy on his own life Rs 700/- he paid medical insurance premium Rs 8000/- through a bank draft he paid Rs 2,000/- to PM National Relief Fund.
 Compute the total income of sk.Basu   (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 Laws**

Semester: IV

Course Code	COMT42A	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/com/e-com)		
Course Prerequisites (if any):	Intermediate level		

.

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.

<div align="center">

Syllabus
Business Laws

</div>

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 Redressal Mechanism	15
V	**Cyber Law**: Overview and Need for Cyber Law - Contract Procedures - Digital Signature – Safety Mechanisms	15

References:

1. J. Jaysankar, Business Laws, Margham Publication. 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. Pillai Bhagavathi, 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

TITLE OF THE PAPER: Business Laws COMT42A
  Semester: IV

<u>MODEL PAPER</u>

Time:3Hrs   **Max.Marks:75**

Section A

Answer any five of the following.   **5 X 5 = 25M**
1.Distinguish void and voidable contracts. (PO 4) (L 5)
2. What is novation? (PO 2,3) (L4)
3.Features of valid acceptance. (PO 2,3,4) (L 2)
4.Can minor be a party to a contract? Discuss. (PO 2,3) (L 4)
5.Contingent contracts. (PO 2,3)   (L 2)
6.Differences between sale and agreement to sell. (PO 1,2,4,7) (L 2)
7. Who is unpaid seller? What are his rights? (PO 1,2,4,7) (L 4)
8.Designated partner. (PO 3,6) (L 2)

Section B

Answer all the questions.   **5 x 10 = 50M**
Unit-I
9.(a) "All agreements are not contracts ,but all contracts are agreements". Discuss. (PO 4) (L 2)
(OR)
  (b) Discuss in detail the kinds of contracts. (PO 4) (L 2)

Unit-II
10. (a) Discuss in details the essentials of a valid acceptance. (PO 2,3,4) (L 4)
(OR)
 (b) "No consideration,no contracts".Discuss the statement with exceptions.
                                                                       (PO 2,3,4) (L3)
Unit-III
11. (a) What are quasi contracts? Explain the quasi contracts under Indian contract Act. (PO 2,3)
(L 3)

(OR)
  (b) What are the remedies for breach of contract?   (PO 2,3) (L 5)
Unit-IV
12. (a) Define a 'condition' and a 'warranty'. Explain the implied conditions and warranties. (PO 1,2,4,7) (L 1)

(OR)
  (b) State the rules relating to the passing right of property from seller to buyer in a contract for sale of goods. (PO 1,2,4, 7) (L 2)
Unit-V
13. (a) What is the procedure to incorporate a limited liability partnership? (PO 3,6) (L 3)
(OR)
  (b) Distinguish between partnership and limited liability partnership. (PO 3,6)
(L 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: Auditing

Semester: IV

Course Code	COMT46	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 Prerequisites (if any):	Intermediate level		

Course Objectives:

CO1: Students will develop the knowledge & importance of auditing and accounting in modern era.

(PO1)

CO2: Students will have the ability of understanding the applicability of auditing types for different organizations.

(PO1, PO2)

CO3: Students will have knowledge in planning the effectiveness of auditing of any Organisation.

(PO5, PO6, PO7)

CO4: Students will have proper understanding of the requirements of documentary evidence for the completion of audit. **(PO1, PO2, PO3)**

CO5: Students will have the knowledge of the competency of person, his rights and duties regarding auditing and audit report. **(PO 6, PO7)**

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

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 COMT46
Semester: IV

SECTION -A   Max.Marks:75
Answer any FIVE of the following   5x5=25M

1. Define Auditing. What are its advantages?   (CO1) L1
2. What are the differences between Book keeping and Auditing? (CO1) L2
3. Explain about audit in Partnership firms.   (CO2) L2
4. Explain the differences between Continuous Audit and Periodic Audit.   (CO2) L2
5. What is meant by Audit Note book?   (CO3) L1
6. What are the objectives of Internal Check.?   (CO3) L2
7. Explain the importance of vouching.   (CO4) L2
8. What are the contents of Audit Report?   (CO5) L2

SECTION B

Answer the Following   5x10=50

9. a)What is Auditing? Explain the objectives of Auditing.   (CO1) L2
                            Or
    b) Write the differences between continuous and periodical audit (CO1) L2

10. a) Explain the Audit on the basis of Ownership.   (CO2) L2
                            Or
    b) Explain the Audit on the basis of Objective. (CO2) L2

11. a) What are the Preliminary steps to be taken before the commencement of a new Audit.
                                                              (CO3) L2
                            Or
    b) Explain the differences among the Internal Check, Internal Audit and
Internal Control. (CO3) L2

12. a) Differentiate the Auditing and Investigations   (CO4) L2

                            Or
    b) Explain the Objectives of Vouching. Process of vouching cash transactions (CO4) L2

13. a) Explain the appointment and removal of an Auditor in a Company? (CO5) L2
                            Or
 b) Explain the Liabilities of an Auditor. (CO5) L2

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: Goods and Service Taxes
Semester: IV

Course Code	COMT44	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 Prerequisites (if any):	**Intermediate level**		

.

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 Kelkar Sha 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

TITLE OF THE PAPER: Goods and Service Taxes COMT44
        Semester: IV

TIME -3hrs   *Model paper*   *Max. Marks: 75*

SECTION-A

I. Answer any FIVE of the following   5x5=25M

   1. What is GST?

    2. Explain about GST Registration Number

   3. Dual GST

   4.GST Rates

   5.Write about Reverse Charge Mechanism

    6. Input tax Credit

   7. Write about GSTR 9C

   8. What is Annual Return

SECTION-B

Answer the Following   5x10=50

9.A) What are the advantages of Goods and Services Tax

                OR
  B) What are the Taxes Subsumed under GST

10.A) Write about Vijay Kelkar Sha Committee Recommendations
                OR
    B) What is the Comprehensive Structure of GST in India?

11.A)Explain the Bill of Supply Transactions in GST
                OR

   B)Write about GST Composition Scheme?
  12 A)What is Input Tax Credit and explain it with suitable Examples

                OR
    B)Write about Time of Supply of Goods and Services

13.A) What are the Records to be maintained under GST?

                OR
B) 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 reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

TITLE OF THE PAPER: Taxation

Course Code	COMT48	Course Delivery Method	Class Room / Blended Mode - Both
Credits	4	CIA Marks	25
No. of Lecture Hours / Week	5	Semester End Exam	75
Total Number of Lecture	75	Total Marks	100
Year of Introduction:	Year of Offering:2021-22	Year of Revision:2022-23	Percentage of Revision:25%
CLASS:	II.B.COM., (Com& E-C)		

Learning Outcomes:

CO1: Impact knowledge on the provisions of income tax law and practice **PO4**

CO2: Enlist the ability of provisions of income from salary and House property its taxability **PO4**

CO3: The student can acquire knowledge in calculation of business income and professional income **PO06**

CO4: Acquaint the students with basic principles of goods and service tax. **(PO1,PO2)**

CO5: To impart knowledge and best practices in corresponding to trade appliance at customs. **(PO6)**

Syllabus

Taxation

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction:** Objectives- Principles of Taxation- Brief History- Basic Concepts- Capital and Revenue- Basis of Charge- Exempted Incomes - Residential Status - Incidence of Taxation	15
II	**Computation of income from Salary:** Income from Salary; Salary-Allowance -Perquisites – Deductions U/S 16- Deductions u/s80	15
III	**Computation of Income from House Property :** Income from House Property- Rental values – gross annual value – Net Annual Value – Deductions U/S24 (Simples problems)	15
IV	**Computation of income from Business and Profession:** Definition of Business and Profession -Admissible and inadmissible expenses-Computation of Business income: **Income from Profession:** Admissible Receipts and Payments - Computation of Professional income(Simple Problems)	15
V	**Introduction and Administration to GST AND Customs :** Meaning of GST- Nature and scope of GST - Merits and demerits of GST - Models of GST -CGST-SGST-IGST - Definitions: adjudicating- authority, agent, business, goods, places of business, In put tax credit ,**CUSTOMS**: Meaning and Introduction of Customs ,Salient features of Customs Act 1962	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, Sahitya Bhavan

Suggested Co-Curricular Activities:
1. Seminars on direct tax and Indirect tax
2. Quiz
3. Problem solving exercises
4. Practice and provisions of taxation
5. Visit a tax firm.
6. Guest lecture by Chartered Accountant
7. Examinations (Scheduled and surprise tests)

Revision of the syllabus 2022-23 (SEM -2, 4, 6)

Name of the Subject: **Taxation**
Subject Code: COMT48
Semester -IV

Academic Year	2022-23
Title of the paper	**Taxation**
Semester	IV
Course code	COMT48
CIA marks	25
Semester End marks	75
Total marks	100
Year of Introduction	2021-22
Year of Revision	2022-23
% of revision	25%

UNIT	Syllabus	Addition	Deletion
I	**Introduction:** Objectives- Principles of Taxation- Brief History- Basic Concepts- Capital and Revenue- Basis of Charge- Exempted Incomes - Residential Status-Incidence of Taxation		
II	**Computation of income from Salary:** IncomefromSalary;Salary- Allowance-Perquisites– DeductionsU/S16- Deductionsu/s80		
III	**Computation of Income from House Property:** Income from House Property- Rental values – gross annual value – Net Annual Value– Deductions U/S24(Simples problems)		**Profits and Gains from Business: 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).**

IV	**Computation of income from Business and Profession:** Definition of Business and Profession – Admissible and inadmissible expenses – Computation of Business income: **Income from Profession:** Admissible Receipts and Payments-Computation of Professional income (Simple Problems)	**Computation of income from Business and Profession:** **Definition of Business and Profession – Admissible and inadmissible expenses – Computation of Business income: Income from Profession: Admissible Receipts and Payments-Computation of Professional income (Simple Problems)**	**Unit-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).**
V	**Introduction and Administration to GST AND Customs :** Meaning of GST- Nature and scope of GST- Merits and demerits of GST – Models of GST -CGST-SGST-IGST - Definitions: adjudicating-authority, agent, business ,goods, places of business, In put tax credit ,**CUSTOMS**: Meaning and Introduction of Customs ,Salient features of Customs Act 1962	**Introduction and Administration to GST AND Customs :Meaning of GST- Nature and scope of GST- Merits and demerits of GST – Models of GST -CGST-SGST-IGST - Definitions: adjudicating- authority, agent, business ,goods, places of business, In put tax credit ,CUSTOMS: Meaning and Introduction of Customs ,Salient features of Customs Act 1962**	**Unit-V: Computation of Total Income of an Individual: Deductions under Section 80 - Computation of Total Income (Simple problems).**

TITLE OF THE PAPER: Taxation COMT48

Duration: 3 Hrs.	**Model Paper** **Taxation**	**Max Marks: 75M**

Section-A

Answer **any Five** of the following: **5x5=25**
1. Define a) assesse b) Person (CO1) L1
2. What is meant by Assessment year and Previous year? (CO2) L1
3. What are the Deductions u/s24 (CO3) L1
4. What do you understand by the term Business and Profession? (CO3) L2
5. What is Scope of GST? (CO4) L2
6. What are the allowed and dis allowed expenses? (CO1) L2
7. Define Adjudicating authority. (CO5) L1
8. What is meant by customs? (CO1) L1

SECTION B

Answer the Following: **5x10=50**
9.   a) How do you determine the residential status of an individual (CO1) L2

Or

     b) Mr. Joseph a foreigner came to India from Poland for the 1st April 2014 he stayed here continuously for 3 years and went to France on 1st April 2017. He however returned to India on 1st July 2017 and went to Poland on 1st December 2018. He again came back to India on 25th January 2021 on a service in India what is his residential status for the assessment year 2021-22 (CO1) L3

10. a) Define Annual value. How is it determine? (CO2) L2

Or

     b) Mr. Rama is a manager in a company at Delhi the particulars of the salary income are as under
        Basic salary Rs 30,000/- per month
        DA Rs 5,000/- per month
        Entertainment Allowance Rs 1,000/- per month
        Medical Allowance Rs 250/- per month
        House Rent Allowance Rs 4000/- per month
        Rent paid for the house Rs 5000/- per month
        He and his employer contributes 15% of salary to RPF
     Compute his salary income for assessment year 2021-22 (CO2) L3
11. a) Define Annual value. Explain different rental values under house property? (CO3) L2

Or

     b) calculate income from house property from the particulars given below
MRV60,000/- FRV40,000/- Annual Rent 6000/- per month. The house is let out. Interest on loan 96,000/- (CO3) L3

12. a) What do you understand by the term Business and Profession? List out any 10 allowable deductions u/s37(1) (CO4)L2

or

b) From the particulars given below compute the income from profession of DrKarim for the assessment year 2021-22.

Receipts:
i) Visiting fees Rs 26,000/-
ii) Consultation fess RS 15,000/-
iii) Sale of Medicines Rs 16,000/-
iv) DividendsRs 5,000/-

Expenses
i) Dispensary Rent Rs 5,000/-
ii) Electricity Charges Rs3,000/-
iii) Telephone Expenses Rs 3000/-
iv) Salary to compounder Rs 5,000/-
v) Purchase of Medicines Rs 8,000/-
vi) Depreciation of X-Ray Machine Rs 2,000/-
vii) Income Tax Rs 5,000/-
viii) Donations Rs 2,000/-
ix) Motor car expenses and depreciation 6,000/-   (CO4) L3

13 a) what are the merits and demerits of GST   (CO5) L2

or

b) Explain the salient features of customs   (CO5) L2

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: Advanced Corporate Accounting

Semester: V / VI

Course Code	CACA-601 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:	**III.B.COM., (gen/computer)**		

CO1: The students are able to calculate purchase consideration and different methods of determining purchase consideration and its accounting treatment. (PO1) (PSO1)

CO2: students will acquire the knowledge on provisions for amalgamation of company as per accounting standard 14 and its treatment.(PO4) (PSO1)

CO3: The students will get the knowledge on forms of internal reconstruction and alteration and reduction of share capital and its accounting treatment.(PO4) (PSO1)

CO4: The students will be able to prepare consolidated financial statements and calculate minority interest and its accounting treatment.(PO4) (PSO1)

CO5: students will be able to prepare liquidators final statement of accounts at the time of winding up of a company. and are able to calculate liquidators remuneration and acquire the capacity for preparation of statement of affairs and deficiency account and its accounting treatment.(PO8) (PSO1)

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.

A. G & S.G. SIDDHARTHA DEGREE COLLEGE

OF ARTS & SCIENCE

Vuyyuru-521165.
NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

Syllabus
ADVANCED CORPORATE ACCOUNTING

Paper code: CACA-601 G/C

Unit	Learning Units	Lecture Hours
I	**Purchase of Business** Meaning - Purchase Consideration - Methods for determining Purchase Consideration-Discharge of Purchase Consideration-Accounting Treatment.	15
II	**Amalgamation of Companies** Meaning and Objectives - Provisions for Amalgamation of Companies as per Accounting Standard 14 - Accounting Treatment.	15
III	**Internal Reconstruction of Companies** Meaning - Forms of Internal Reconstruction - Alteration of Share Capital and Reduction of Share Capital- Accounting Treatment.	15
IV	**Accounts of Holding Companies** Meaning of Holding Companies and Subsidiary companies- Consolidated Financial Statements- Legal requirements on Consolidation-Calculation of Minority Interest- Accounting Treatment.	15
V	**Liquidation** Meaning - Modes of Winding up of a Company- - Liquidator's Final Statement of Account - Calculation of Liquidator's Remuneration - Preparation of Statement of Affairs and Deficiency Account- Accounting Treatment	15

References:
1. Goyal, Bhushan Kumar. Corporate Accounting. Taxmann, New Delhi
2. Kumar, Alok. Corporate Accounting. Kitab Mahal
3. Monga, J. R. Fundamentals of Corporate Accounting. Mayur Paper Backs, New Delhi
4. Sah, Raj Kumar, Concept Building Approach to Corporate Accounting, Cengage
5. Sehgal Ashok & Sehgal Deepak. Corporate Accounting
6. Tulsian P. C. Corporate Accounting. S Chand & Co. New Delhi
7. *https://thebookee.net/ad/advanced-corporate-accounting-and-accounting-standards*
8. Web resources suggested by the Teacher concerned and the College Librarian including reading material

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

Vuyyuru-521165.

TITLE OF THE PAPER: Advanced Corporate Accounting

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CACA -601 G/C

MODEL PAPER

Time: 3Hrs   Max Marls:70

Section –A

Answer any TWO of the following   2x5=10M

1. Define Purchase consideration   (CO1)

2. What is Amalgamation?   (CO2)

3. What is internal reconstruction   (CO3)

4. How do calculate Minority interest   (CO4)

Section –B

Answer any FOUR of the following   4x15=60M

5. Explain the methods for determining the purchase consideration (CO1)

6. Explain the provisions for amalgamation of companies(CO2)

7. The following is the Balance Sheet of Moon Company Ltd on 31-3-2018. (CO2)

Liabilities	Rs.	Assets	Rs.
Capital		Land and buildings	1,20,000
20,000 shares of Rs.10 each	2,00,000	Plant & machinery	
5% debentures	1,00,000	Work in progress	1,50,000
Creditors	30,000	Stock	30,000
Reserve fund	25,000	Furniture and fittings	60,000
Dividend equalization fund	20,000	Debtors	2,500
Profit & loss appropriation account	5,100	Cash at bank	25,000
	20,000	Cash in hand	12,500
Provision for depreciation on land and buildings			100
	4,00,100		4 ,00,100

The company is amalgamated in the nature of purchase of sun company Ltd. On the above data the consideration for amalgamation the company is taking over the debentures trade liability and a payment of Rs.7 in cash and one share of the face value of Rs.5 in sun company Ltd. (market value Rs.8 per share in exchange for one share in moon company Ltd the cast of liquidation Rs.500 is to be met by the purchasing company you are required to pass journal entries is the books of both the companies and show purchase consideration is arrived at.

8. Following is the Balance sheet of X ltd as on 31-03-2019   (CO3)

Liabilities	Amount(RS)	Assets	Amount(RS)
5000 Equity shares of Rs 100 each	5,00,000	Goodwill	60,000
3000 8% preferences shares of Rs 100 each	3,00,000	Land & Buildings	2,50,000
6% Debentures	1,50,000	Plant & Machinery	1,00,000
Sundry creditors	1,95,000	Patents	60,000
		Stock	90,000
		Debtors	2,40,000
		Cash in hand	5,000
		Preliminary expenses	25,000
		Discount on issue of debenture	15,000
		Profit & Loss a/c	3,00,000
Totals	11,45,000		11,45,000

The following scheme of Reconstruction was duly approved

i) Equity share are to be reduced to an equal number of fully paid shares of Rs 50 each

ii) 8% Preference share are to be reduced by 40% and the rate of dividend increased to 9%

iii) Value of Land & Buildings to be increased by 20%

iv) Debentures are to be reduced by 20%

v) All nominal and fictitious assets are to be eliminated and the balance used to write off patents

vi) Further equity shares are to be issued for Rs 1,00,000 for each

9. Explain the legal requirements for consolidation(CO4)

 10. H Ltd acquired all the share of S ltd on 1-1-2020 and liabilities and assets of the two companies on

31-03-2020 were as follows   (CO4)

	H Ltd	S Ltd
I Equity and Liabilities		
1) Shareholders funds		
a) Share chapital:	8,00,000	3,00,000
shares of Rs 10 each		
b) Reserves and Surplus:		
i) Reserve on 1-4-2014	2,10,000	40,000
ii) Surplus a/c	50,000	30,000
2) Current Liabilities		
i) Creditors	3,50,000	1,60,000
ii) Bills Payable	40,000	20,000
	14,50,000	5,50,000
II Assets		
1) Non – Current Assets		
a) Fixed Assets		
i) Land & Buildings	4,00,000	2,70,000
ii) Plant & Machinery	2,00,000	1,00,000
iii) Furniture & Fixtures	50,000	20,000
b) Investment in share of S Ltd	5,00,000	
2) Current Assets		
a) Stock	1,50,000	80,000
b) Sundry Debtors	1,00,000	60.000
c) Bank Balance	50,000	20,000
	14,50,000	14,50,000

The surplus account of s Ltd had a credit balance of Rs 6000 on 1-04-2014. Prepare a consolidated Balance sheet as on 31-03-2015.

11. Explain the modes of winding of a company   (CO5)

12. A company went into liquidation on 31-03-2019 the following is the balance sheet: (CO5)

Liabilities	Rs.	Assets	Rs.
Paid up capital		Good will	60,000
20,000 shares of Rs.10	2,00,000	Building	50,000
Sundry creditors:		Machinery	60,000
Preferential	25,000	Stock	55,000
Partly secured	55,000	Debtors	62,000
Unsecured	1,00,400	Cash	1,500
Bank over draft	10,000	Cash at bank	400
(unsecured)		P&L account	1,01,500
	3,90,400		3,90,400

The liquidator realized the assets as follows:

Building which was used in the first instance to pay partly secured creditors Rs.41,250. Machinery Rs.30, 000: sundry debtors Rs.35, 750: stock Rs.40, 000

The expenses of liquidation amounted to Rs.1,000 and the liquidators remuneration was agreed at 2% on the amount realized and 2% on amount paid to unsecured creditors.

Prepare the liquidators final statement of accounts

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE(AUTONOMOUS),

VUYYURU – 521 165.

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

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CACA -601 G/C

Advanced Corporate Accounting

Guidelines to the paper setter

	UNIT -I	UNIT -II	UNIT -III	UNIT -IV	UNIT -V
	Purchase of Business	**Amalgamation of Companies**	**Internal Reconstruction of Companies**	**Accounts of Holding Companies**	**Liquidation**
5 Marks questions	1	1	1	1	-
15 Marks questions	1(T)	1(T) +1(P)	1(P)	1(T) +1(P)	1(T) +1(P)
Weighteage	20	35	20	35	30

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: SOFTWARE SOLUTIONS TO ACCOUNTING
Semester: V / VI

Course Code	CSSA-602 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:	**III.B.COM., (gen/computer)**		

Course Learning Outcomes

After completing the course, the student shall be able to: At the end of the course, the student will able to;

1. Understand the technical environment of accounting softwares.

2. Highlight the major accounting software in India.

3. Apply basics of accounting software into business firms for accounting transactions.

4. Understand the various versions of Tally and other softwares.

5. Integrate the concept of different Accounting softwares for accounting purpose

6. Design new approaches for use of accounting software environment.

Syllabus

SOFTWARE SOLUTIONS TO ACCOUNTING

Paper code: - CSSA-602 G/C

Unit	Learning Units	Lecture Hours
I	**Computerized Accounting** Microsoft Excel Spread Sheet- Functions in Excel- Preparation of Accounts, Statements and Budgets using MS Excel- Analysis and Interpretation.	15
II	**Introduction to Leading Accounting Soft wares** – Busy - Marg – Quick Books - Zoho Books -Tally- Features and Accounting.	15
III	**Tally ERP-9 - Company Creation** – Tally Startup Screen- Gateway of Tally- Create a Company - Alter & Delete company- Backup and Restore- Security Features in Tally.	15
IV	**Tally- Accounting Masters**- Groups- Create Ledgers- Alter& Delete - Inventory Masters- Creating Stock Groups - Stock Items- Unit of Measurement- Alter & Delete.	15
V	**Tally-Voucher Entry** – Vouchers Types - Vouchers Entry - Alter and deleting Settings Purchase Vouchers and Sales Vouchers including Tax component –Reports Generation.	15

References

1. Nadhani, Ashok K, Tally ERP 9 Training Guide, BPB Publications

2. Tally 9 in Simple Steps, Kogent Solutions Inc., John Wiley & Sons.

3. Tally 9.0 (English Edition), (Google eBook) Computer World

4. Tally.ERP 9 Made Simple Basic Financial Accounting by BPB Publisher.

5. Tally ERP 9 For Real Time Accounting by Avichi Krishnan

6. Fundamentals of Computers, by V. Rajaraman, PHI.

7. Tally ERP 9 book advanced user, Swayam Publication (www.tallyerp9book.com)

8. Web resources suggested by the Teacher concerned and the College Librarian including reading material

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

Vuyyuru-521165.

NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

MODEL PAPEER

TITLE OF THE PAPER: SOFTWARE SOLUTIONS TO ACCOUNTING

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CSSA-602 G/C

Max Time : 3 Hrs.   **Max Marls: 70**

Section -A

Answer TWO of the following   **2X5=10M**

1. Write about Spread Sheet (CO1)

2. Advantages of Tally   (CO3)

3. Explain Delete of ledgers   (CO4)

4. Voucher types   (CO5)

Section -B

Answer any FOUR the following   **4X15=60M**

5. Name any 10 Functions in Microsoft Excel   (CO1)

6. Explain Different types of Accounting Softwares   (CO2)

7. Explain Features and Advantages of Gate way of Tally (CO3)

8. How to Company Creation in tally?   (CO3)

9. Explain different types of Ledgers Tally   (CO4)

10. Explain how to Creation Voucher?   (CO5)

11. Explain Stock group creation in Tally   (CO4)

12. Explain Reports of Profit and loss and Balance sheet. (CO5)

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE(AUTONOMOUS),

VUYYURU – 521 165.

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

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CSSA-602 G/C

SOFTWARE SOLUTIONS TO ACCOUNTING

Guidelines to the paper setter

	UNIT -I	UNIT -II	UNIT -III	UNIT -IV	UNIT -V
	Computerized Accounting	Introduction to Leading Accounting Soft wares	Tally ERP-9 - Company Creation	Tally- Accounting Masters	Tally- Voucher Entry
5 Marks questions	1	-	1	1	1
15 Marks questions	1	1	2	2	2
Weighteage	20	15	35	35	35

TITLE OF THE PAPER: ADVERTISING AND MEDIA PLANNING

Semester: V / VI

Course Code	CAMP-603 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:	**III.B.COM., (gen/computer)**		

Learning Outcomes:

At the successful completion of the course students are able to:

 Understand the role of advertising in business environment

☐ Understand the legal and ethical issues in advertising

☐ Acquire skills in creating and developing advertisements

☐ Understand up-to-date advances in the current media industry.

☐ Acquire the necessary skills for planning an advertising media campaign.

Syllabus

ADVERTISING AND MEDIA PLANNING

Paper code : CAMP-603 G/C

Unit	Learning Units	Lecture Hours
I	**Introduction, Nature and Scope** Advertising- Nature and Scope- Functions - Impact on Social, Ethical and Economical Aspects - Its Significance – Advertising as a Marketing Tool and Process for Promotion of Business Development - Criticism on advertising	15
II	**Strategies of Advertisements** Types of Advertising Agencies and their Strategies in Creating Advertisements - Objectives - Approach - Campaigning Process - Role of Advertising Standard Council of India (ASCI) - DAGMAR approach	15
III	**Process of Advertisement** Creativeness and Communication of Advertising –Creative Thinking – Process – Appeals – Copy Writing - Issues in Creation of Copy Testing –Slogan Elements of Design and Principles of Design	15
IV	**Media Planning** Advertising Media - Role of Media - Types of Media - Print Media - Electronic Media and other Media - Advantages and Disadvantages – Media Planning - Selection of Media	15
V	**Analysis of Market Media** Media Strategy – Market Analysis -Media Choices **-** Influencing Factors - Target, Nature, Timing, Frequency, Languages and Geographical Issues - Case Studies	15

References:

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

2. Ghosal Subhash - Making of Advertising - Mc Millan India

3. Jeth Waney Jaishri& Jain Shruti - Advertising Management - Oxford university Press

4. Advertising Media Planning, Seventh Edition Paperback – by Roger Baron (Author), Jack Sissors (Author)

5. Media Planning and Buying in 21st Century – Ronald DGeskey

6. Media Planning and Buying: Principles and Practice in the Indian Context – Arpita Menon

7. Publications of Indian Institute of Mass Communications

8. Advertising and Salesmanship. P. Saravanavel, Margham Publications

9. Publications of ASCI

10. Web resources suggested by the Teacher concerned and the College Librarian including reading material

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: ADVERTISING AND MEDIA PLANNING

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CAMP-603 G/C

Max Time: 3Hrs.   **Max Marls: 70**

MODEL PAPER

SECTION –A

Answer any TWO of the following   **2X5=10M**

1. What is advertising?   (CO1)

2. DAGMAR approach   (CO2)

3. Types of advertising copy   (CO3)

4. Media planning   (CO4)

Section –B

Answer Any FOUR of the following   **4x15=60M**

5. Explain the significance of advertising.(CO1)

6. What are various types of advertising agencies?(CO2)

7. Explain the role of advertising standards council of India (CO2)

8. How to decide testing of an advertising copy (CO3)

9. What is an advertising copy? Describe its elements (CO3)

10. What do you mean by print media of advertising? (CO4)

11. Explain the following concepts (CO5)

　　　i) Target　　　ii) Frequency　　　iii) Timing

12. Explain media choices and its influencing factors (CO5)

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE(AUTONOMOUS),

VUYYURU – 521 165.

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CAMP-603 G/C

ADVERTISING AND MEDIA PLANNING

Guidelines to the paper setter

	UNIT -I	UNIT -II	UNIT -III	UNIT -IV	UNIT -V
	Introduction, Nature and Scope	Strategies of Advertisements	Process of Advertisement	Media Planning	Analysis of Market Media
5 Marks questions	1	1	1	1	-
15 Marks questions	1	2	2	1	2
Weighteage	20	35	35	20	30

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: SALES PROMOTION AND PRACTICE
Semester: V / VI

Course Code	CSPP -604 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 – 22s	Year of Revision: ----	Percentage of Revision: 0%
CLASS:	III.B.COM., (gen/computer)		

.

Learning Outcomes:

By the end of the course students are able to:

1. Analysis of various sales promotion activities

2. Get exposed to new trends in sales Promotion

3. Understand the concepts of creativity in sales promotion

4. Enhance skills to motivate the salesperson to reach their targets

5. Develop the skills of designing of sales promotion events

Syllabus

SALES PROMOTION AND PRACTICE

Paper code: CSPP -604 G/C

Unit	Learning Units	Lecture Hours
I	**Introduction to Sales Promotion:** Nature and Scope of Sales Promotion- Influencing Factors - Sales Promotion and Control - Strengths and Limitations of Sales Promotion – Sales Organization - Setting-up of Sales Organization - Types of Sales Organization.	15
II	**Sales Promotion and Product Life Cycle:** Types of Sales Promotion - Consumer Oriented - Trade Oriented - Sales Oriented - Various Aspects -Sales Promotion methods in different Product Life Cycle – Cross Promotion - Sales Executive Functions- Theories of Personal Selling - Surrogate Selling.	15
III	**Strategies and Promotion Campaign:** Tools of Sales Promotion - Displays, Demonstration, Fashion Shows, Conventions - Conferences, Competitions – Steps in designing of Sales Promotion Campaign – Involvement of Salesmen and Dealers – Promotional Strategies - Ethical and Legal issues in Sales Promotion.	15
IV	**Salesmanship and Sales Operations**: Types of Salesman - Prospecting - Pre-approach and Approach - Selling Sequence - Sales budget, Sales territories, Sales Quota's - Point of Sale – Sales Contests - Coupons and Discounts - Free Offers - Showrooms and Exhibitions - Sales Manager Qualities and functions.	15
V	**Sales force Management and Designing:** Recruitment and Selection - Training - Induction - Motivation of sales personnel - Compensation and Evaluation of Sales Personnel - Designing of Events for Enhancing Sales Promotion	15

References:
1. Don.E. Schultz - Sales Promotion Essentials- Mc Graw hill India
2. S.H.H Kazmi & Satish K Batra, Advertising and Sales Promotion- Excel Books
3. Jeth Waney Jaishri& Jain Shruti - Advertising Management - Oxford university Press
4. Dr.ShailaBootwala Dr.M.D. Lawrence and Sanjay R.Mali -Advertising and Sales Promotion- NiraliPrakashan
5. Successful Sales Promotion – Pran Choudhury
6. Advertising and Sales Promotion Paperback – S. H. H. Kazmi & Satish Batra
7. Publications of ASCI
8. Kazmi & Batra, ADVERTISING & SALES PROMOTION, Excel Books, 2008
9. Web resources suggested by the Teacher concerned and the College Librarian including reading material

TITLE OF THE PAPER: SALES PROMOTION AND PRACTICE

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CSPP -604 G/C

MODEL PAPER

Time: 3Hrs   Max Marls: 70

Section –A

Answer any TWO of the following   2X5=10M

1. What are the factors influencing sales promotion? (CO1)

2. What is Product life cycle?   (CO2)

3. What are the various tools of sales promotion?   (CO3)

4. Write briefly about training induction.   (CO5)

Section –B

Answer Any FOUR of the following   4X15=60M

5. Discuss the Nature and scope of sales promotion (CO1)

6. Explain various types of sales organization (CO1)

7. Describe the types of sales promotion (CO2)

8. Explain the theories of personal selling (CO2)

9. Explain various promotional strategies (CO3)

10. What are the functions and qualities of sales manager? (CO4)

11. Discuss the various types of salesmen (CO4)

12. Explain the process of recruitment and selection of sales personnel   (CO5)

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE(AUTONOMOUS),

VUYYURU – 521 165.

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

Commerce	B.Com (Gen/Comp)	Semester-V / VI	2022-2023	CSPP -604 G/C

SALES PROMOTION AND PRACTICE

Guidelines to the paper setter

	UNIT -I	UNIT -II	UNIT -III	UNIT -IV	UNIT -V
	Introduction to Sales Promotion	**Sales Promotion and Product Life Cycle**	**Strategies and Promotion Campaign**	**Salesmanship and Sales Operations**	**Sales force Management and Designing**
5 Marks questions	1	1	1	-	1
15 Marks questions	2	2	1	2	1
Weighteage	35	35	20	30	20

THE END

Commerce	**ENP -403C**	*2022-2023*	*B.Com(gen)*

Foundation Course – 9

ENTREPRENEURSHIP

Syllabus, For all Degree Programmes.

w.e.f. 2015-16 (Revised in April, 2016)

Semester – IV   (Total 30 Hrs)

Unit-I: Entrepreneurship: Entrepreneur Characteristics – Classification of Entrepreneurships – Incorporation of Business – Forms of Business organizations –Role of Entrepreneurship in economic development   Start-ups.

Unit-II: Idea Generation and Opportunity Assessment: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for generating ideas – Opportunity Recognition – Steps in tapping opportunities.

Unit-III: Project Formulation and Appraisal : Preparation of Project Report –Content; Guidelines for Report preparation – Project Appraisal techniques –economic – Steps Analysis; Financial Analysis; Market Analysis; Technical Feasibility.

Unit-iv: Institutions Supporting Small Business Enterprises: Central level Institutions: NABARD; SIDBI, NIC, KVIC; SIDIO; NSIC Ltd; etc. – state level Institutions –DICs- SFC- SSIDC- Other financial assistance.

Unit-V: Government Policy and Taxation Benefits: Government Policy for SSIs- tax Incentives and Concessions –Non-tax Concessions – Rehabilitation and Investment Allowances.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.
    2. Poornima M.CH., Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi,2009
    3. Michael H. Morris, ET. al., Entrepreneurship and Innovation, Cen gage Learning, New Delhi, 2011
    4. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Delhi, 2009
    5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age

Commerce	**ENP -403C**	*2022-2023*	*B.Com(gen)*

SEMESTER – IV   **MODEL QUESTION PAPER**   **COURSE CODE: ENP -403C**
PAPER TITLE : ENTREPRENEURSHIP

Duration : 2Hours   Maximum marks : 50   Pass marks : 20

SECTION - A

Answer any <u>FOUR</u> of the following questions   (4x5=20 Marks)

1. Features of Entrepreneur.
2. Rural Entrepreneurship .

3. Idea Generation Teccniques .

4. Sources of New Ideas .

5. What is project Report.

6. Industrial Estates.

7. S.F.C.

8. Rehabilitation Allowance.

SECTION – B

Answer any <u> THREE</u> of the following questions.   **(3X10=30 Marks)**

9. Explain the role of Entrepreneur in the Economic Development.

10. How can Entrepreneur Generate Ideas.   .

11. Explain the contents of project report.   .

12.. Write about NABARD and state its functions.

13. Write about SIDBI and its functions.

14. Write about New small Entreprise policy 1991.

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(AUTONOMOUS)

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

Commerce	**ENP -403C**	*2022-2023*	*B.Com(gen)*

SEMESTER – IV   **MODEL QUESTION PAPER**   **COURSE CODE: ENP -403C**

PAPER TITLE : ENTREPRENEURSHIP

Maximum marks : 50   Duration : 2Hours

Weight age for the question paper

syllabus	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1 (20Marks)	2	1
Unit-2 (20Marks)	2	1
Unit-3 (15Marks)	1	1
Unit-4 (30Marks)	2	2
Unit-5 (15Marks)	1	1
TOTAL 100	40	60

1. Each Short answer question carries 5 marks in Section-A

2. Each Essay question carries 10 marks in Section –B

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

LEADERSHIP EDUCATION

SYLLAUBUS (SEMESTER-IV)

1.Organisation-Management-Leadership-Meaning and significance-different theories-trait theory,black&mountan theory-other functions of management.

2.Behavioral concepts-individual behavior-perception-learning-attitude formation and change-motivation-theories of motivation-personality development.

3.Interpersonal behavior-communication-leadership-influencing-relations-transactional analysis.

4.Group dynamics-roles-morale-conflict-group-inter-group behavior-inter-group collaboration and conflict management.

5.Team building and management-developing team resources-designing team-participation and repercussion-team building

SEMESTER   - IV   **COURSE CODE: LEP-404**

PAPER TITLE**:   LEADER SHIP EDUCATION**   **II B.A**., **B.COM**.,**B.SC**.,

Duration   : 2 Hours   **Maximum Marks: 50**   **Pass Marks: 20**

SECTION-A

I. Answer any Four of the following questions.   **4 x 5=20 Marks**

1. Define organization?

** 2. Define management**

3. What is learning?

4. What is motivation

5. Explain about verbal communication ?

6. Write about non verbal communication?

7. What is conflict?

8.what is team building activities ?

SECTION- B

II. Answer any Three of the following questions.   **3x10=30Marks**

9. What is leader ship? Discuss its importance.

10. What are the Principles of management ? Discuss in detail

11. Discuss Motivation concept and its characteristics ?

12. What is communication ? Explain process of communication?

13. Discuss the importance of group dynamic concepts.

14. What is team building? What are the approaches of team building.

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

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

The guidelines to be followed by the question paper setters in leadership for the IV semester-end exams (2017 - 2018)

Paper title : leadership Education   **II B.A., B.COM., B.SC.,**

Semester-IV   **Maximum Marks : 50**   **Duration:2 Hours**

Weight age for the question paper

SYLLABUS	SECTION-A (short questions) 5 Marks	SECTION-B (essay questions) 10 Marks
Unit-1 (30 Marks)	2	2
Unit-2 (20 Marks)	2	1
Unit-3 (20 Marks)	2	1
Unit-4 (15 Marks)	1	1
Unt-5 (15 Marks)	1	1
TOTAL Questions	8	6

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

V/VI INTERNSHIP

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

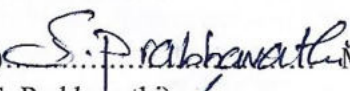## DEPARTMENT OF COMPUTER SCIENCE
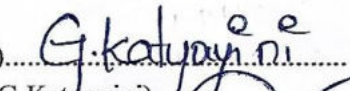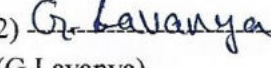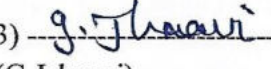
MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

03-04-2023

Minutes of the meeting of Board of Studies in Computer Science for Semester II, IV & VI of I, II & III years B.Sc. (MPCs, MCCs, MSCs), B.Com. (C.A.) and B.Com (e-Commerce-Computers) Life Skill Course and Skill Development Course of AG & SG Siddhartha Degree College of Arts &Science, Vuyyuru, held at 10.00 A.M on 03-04-2023 in the Department of Computer Science.

Sri T.NagaPrasadaRao ... Presiding

Members Present:

1).................................... Chairman Head, Department of Computer Science,
(T.Naga Prasada Rao) AG&SG Siddhartha Degree College of Arts & Science.

2) -------------------------------- University Principal, Krishna University College of Engineering
(Dr. M. Babu Reddy) Nomine and Technology, Machilipatnam.

3). ---------------------------- Subject Principal, HOD of Department of Computer Science
(Dr. P. J. S Kumar) Expert A.N.R College Gudivada.

4) ------------------------------ Subject TPO, Department of Computer Science
(Mr. K. Sridhar) Expert PB Siddhartha College of Arts & Science, VJA

5) ------------------------------ Industrial .Net Developer, Maven Soft System Pvt. Ltd
(R. Sowjanya) Expert Madaapur, Hyderabad.

6)....................................Member Lecturer in Computer Science, AG&SG Siddhartha
(S. Prabhavathi) Degree College of Arts &Science, Vuyyuru-521165

7)... Member Lecturer in Computer Science, AG&SG Siddhartha
(A. Sravani) Degree College of Arts &Science, Vuyyuru-521165

8)..................................... Member Lecturer in Computer Science, AG&SG Siddhartha
(A. Naga Srinivasa Rao) Degree College of Arts &Science, Vuyyuru-521165

9)..................................... Member Lecturer in Computer Science, AG&SG Siddhartha
(G.Katyayini) Degree College of Arts &Science, Vuyyuru-521165

10)..................................... Member Lecturer in Computer Science, AG&SG Siddhartha
(O.Teja Sri) Degree College of Arts &Science, Vuyyuru-521165

11).. .... Member Lecturer in Computer Science, AG&SG Siddhartha
(P.Sri Ram Teja) Degree College of Arts &Science, Vuyyuru-521165

12)..................... Member Student in M.Sc. CS, AG& SG Siddhartha
(G.Lavanya) Degree College of Arts & Science, Vuyyuru-521165

13)..................... Member Student in B.Sc. MPCs, AG& SG Siddhartha
(G.Jahnavi) Degree College of Arts & Science, Vuyyuru-521165

Agenda for B.O.S Meeting.

1. To discuss introducing Syllabi and Model papers for Elective Skill Enhancement Courses (SEC) for B.Sc. (MPCs) & B.Com (C.A) programmes in Fifth/Sixth Semester adopting COs in line with guidelines of OBE following Blooms Taxonomy for the students admitted in the Academic year 2020-2021 and onwards.

2. To Discuss and approve the Structure and Syllabi and model papers of B. Sc. (MPCs, MCCs, MSCs), B.Com (C.A) & B.Com(e-commerce-Computers) programme in Second, Fourth & Six semesters for the student admitted in the academic year 2022-23 and onwards.

3. To recommend any changes in the syllabi for I, III, V & VI Semesters of I, II, III year Degree B.Sc.(MPCs, MCCs, MSCs), B.Com.(C.A.) and B.Com(e-commerce-Computers).

4. To Introduce a Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2022-23.

5. To recommend the teaching and evaluation methods to be followed under Autonomous status.

6. 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.

7. Any other matter

Resolutions

1. It is Resolved and Recommended to adopt the structure, syllabi & Model papers for Elective Skill Enhancement Courses (SEC) for B.Sc. (MPCs, MCCs, MSCs) & B.Com (C.A) programmes in Fifth/Sixth Semester adopting COs in line with guidelines of OBE following Blooms Taxonomy for the students admitted in the Academic year 2020-2021 and onwards.

2. It is Resolved and recommend the same syllabi without changes, but only changes on Model Paper for II Semester of I Year B.Sc. (MPCs, MCCs, MSCs), B.Com.(CA) & B.Com(e-commerce-Computers).

3. It is Resolved and Recommend to introduce new Syllabi and Model Question paper as per new regulations in IV Semester of II Year Degree B.Sc. (MPCs, MCCs) and B.Com(CA).

4. It is Resolved to implements Life Skill Course and Skill Development Course for all B.Sc and B.Com from the Academic Year 2022-23.

5. It is resolved to continue the teaching and evaluation methods to be followed under Autonomous status.

6. 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.

7. **Discussed and recommended to introduce Value Added Course on "Deep Learning" with Course Code "DLVAC01" for II B.SC (MSC's)**

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 2022-23.**

Internal Assessment (IA)

- 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.
- Attendance will be for 5 Marks. The other 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 70 marks.

Internal Assessment (IA) **For the Batch of Students Admitted from 2021-22.**

- 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 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. 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/ MiniProject/ 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.

Internal Assessment (IA) **For the Batch of Students Admitted from 2020-21.**
- 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.
- Attendance will be for 5 Marks. The other 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 70 marks.

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 – II, IV, VI B.Sc.& B.Com.(C.A), B.Com.(e-commerce-Computers).

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 & Internships such as NPTL, APSSDC - PYTHON, R-Programming, Amazon Web services and JAVA------ etc. To fill the curriculum gaps from II year Degree on words

9). Suggestions

Chairman

SEM NO	Course Code	Course No.	Title of Course	Hrs. / Week		Credits		Marks		
				Th.	Lab	Th.	Lab	Int. Max. Marks	SEE	Total Marks
V/VI	SECCSCT01	6A	Web Interface Designing Technologies	3		3		30	70	100
	SECCSCP01		Web Interface Designing Technologies Lab		3		2	10	40	50
	SECCSCT02	7A	Web Applications Development using PHP& MYSQL	3		3		30	70	100
	SECCSCP02		Web Applications Development using PHP& MYSQL Lab		3		2	10	40	50
OR										
V/VI	SECCSCT03	6B	Internet of Things	3		3		30	70	100
	SECCSCP03		Internet of Things Lab		3		2	10	40	50
	SECCSCT04	7B	Application Development using Python	3		3		30	70	100
	SECCSCP04		Application Development using Python Lab		3		2	10	40	50
OR										
V/VI	SECCSCT05	6C	Data science	3		3		30	70	100
	SECCSCP05		Data science Lab		3		2	10	40	50
	SECCSCT06	7C	Python for Data Science	3		3		30	70	100
	SECCSCP06		Python for Data Science Lab		3		2	10	40	50

SEM NO	Course Code	Course No.	Title of Course	Hrs. / Week		Credits		Marks		
				Th.	Lab	Th.	Lab	Int. Max. Marks	SEE	Total Marks
V/VI	SECCAT01	6A	Big data Analytics using R	3		3		30	70	100
	SECCAP01		Big data Analytics using R Lab		3		2	10	40	50
	SECCAT07	7A	Data Science using Python	3		3		30	70	100
	SECCAP07		Data Science using Python Lab		3		2	10	40	50
	OR									
	SECCAT03	6B	Mobile application development	3		3		30	70	100
	SECCAP03		Mobile application development Lab		3		2	10	40	50
	SECCAT04	7B	Cyber Security and Malware Analysis	3		3		30	70	100
	SECCAP04		Cyber Security and Malware Analysis Lab		3		2	10	40	50
	OR									
	SECCAT05	6C	E Commerce Application Development	3		3		30	70	100
	SECCAP05		E Commerce Application Development Lab		3		2	10	40	50
	SECCAT06	7C	Real time governance system (RTGS)	3		3		30	70	100
V/VI	SECCAP06		Real time governance system (RTGS) Lab		3		2	10	40	50
	OR									
	SECCAT07	6D	Multimedia Tools and Applications	3		3		30	70	100
	SECCAP07		Multimedia Tools and Applications Lab		3		2	10	40	50
	SECCAT08	7D	Digital Imaging	3		3		30	70	100
	SECCAP08		Digital Imaging Lab		3		2	10	40	50

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 SEMESTERS - 2022-23

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	Object Oriented Programming using Java	CSCT01	IV	Core	100	25	75	4	4	B.Sc (MPCs, MCCs)
2	Object Oriented Programming using Java Lab	CSCP01	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
3	Operating System	CSCT41C	IV	Core	100	25	75	4	4	B.Sc (MPCs, MCCs)
4	Operating system Lab	CSCT41C	IV	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs)
5	DBMS	CABT41A	IV	Core	100	25	75	4	3	B.Com(CA)
6	DBMS Lab	CABP41A	IV	Core Lab	50	10	40	2	1	B.Com(CA)
7	Object Oriented Programming using Java	CCSCT42	IV	Core	100	25	75	4	3	B.Com(CA)
8	Object Oriented Programming using Java Lab	CCSCP42	IV	Core Lab	50	10	40	2	1	B.Com(CA)
9	OOP'S using Java	ECCSCT 41	IV	Core	100	25	75	4	3	B.Com(ecommerce-Computers)
10	OOP'S using Java Lab	ECCSCP41	IV	Core Lab	50	10	40	2	1	B.Com(ecommerce-Computers)
11	DBMS	ECCSCT 42	IV	Core	100	25	75	4	3	B.Com(ecommerce-Computers)
12	DBMS Lab	ECCSCP42	IV	Core Lab	50	10	40	2	1	B.Com(ecommerce-Computers)
13	Data Communications& Networks	ECCSCT43	IV	core	100	25	75	5	4	B.Com(ecommerce-Computers)
14	Data Structures	CSCT21B	II	Core	100	30	70	4	3	B.Sc (MPCs, MCCs, MSCs)
15	Data Structures Lab	CSCT21B	II	Core Lab	50	10	40	2	1	B.Sc (MPCs, MCCs, MSCs)

16	E–COMMERCE & WEB DESIGNING	CABT21A	II	Core	100	30	70	4	3	B.Com(CA)
17	Web Design Lab	CABT21A	II	Core Lab	50	10	40	2	1	B.Com(CA)
18	Information Technology	CABT21A	II	Core	100	30	70	4	4	B.Com(ecommerce-Computers)
19	Programming in C	ECCSC21	II	Core	100	30	70	4	4	B.Com(ecommerce-Computers)
20	Programming in C Lab	ECCSC21P	II	Core Lab	50	10	40	2	1	B.Com(ecommerce-Computers

Note-1: For Semester–V, for the domain subject Computer Science any one of the three pairs of SECs shall be chosen as courses 16,17,18,19,20 and 21, i.e., 16A & 17A or 16B &; 17B or 16C &; 17C and so on. The pair shall not be broken (ABCD allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field related skills of the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

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: WEB INTERFACE DESIGNING TECHNOLOGIES

Semester: V/VI

Course Code	SECCSCT01	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: To create web elements like buttons, banners & Bars and of course complete UI designs. Forms and validations for your website. Setting up page layout, color schemes, contract, and typography in the designs. Writing valid and concise code for web pages.

Course Outcomes: Students at the successful completion of the course will be able to:

CO$_1$	Understand web application and static web page using Html. (PO5)
CO2	Gain knowledge about various designing of style sheets. (PO5)
CO3	Demonstrate skills regarding creation of an interface to dynamic website.(PO7)
CO4	Gain knowledge about various advantages of XML and validating schema(PO5)
CO5	Learn how to install word press and gain the knowledge of installing various plugins to use in their websites. (PO5,PO7)

Course Details

Unit	Learning Units	Lecture Hours
I	**Web Designing, HTML** **Web Designing:** Introduction To Web Designing, Difference Between Web Applications And Desktop Applications. **HTML:** Introduction To HTML, Introduction To HTML, Headings, Paragraphs Styles &Colors, HTML Formatting, Quotations, Comments, Hyperlinks, Lists, Using colors and images, Tables, Multimedia Objects - Video, Audio, Plugins, You Tube, Frames, Forms	12
II	**CSS, HTML API'S** **CSS**: Introduction, Using Styles, Simple Examples, Defining Your Own Styles, Properties and Values in Styles, Style Sheets, Formatting blocks of information, Layers, CSS Combinators, Pseudo Class, Pseudo Elements, Opacity, ToolTips, Image Gallery, CSS Forms, CSS Counters, CSS Responsive.**HTML API'S:** Geolocation, Drag/drop, local storage, HTML SSE	12
III	**Client side Validation:**Introduction to JavaScript: What Is DHTML?, JavaScript Basics,Variables,StringManipulations,MathematicalFunctions,Statements,Operators,Arrays,Functions.Objects in JavaScript –Data and Objects In JavaScript, Regular Expressions, Exception Handling. DHTML with JavaScript :Data Validation, Opening a New Window, Messages and Confirmations, The Status Bar, Different Frames, Rollover Buttons, Moving Images	14
IV	**XML:** Introduction to xml, How to write a xml document, Elements and attributes, Comments in xml, Namespace in xml, Xml css, Advantages of xml, Uses of xml, xml schema, data types, simple types, complex types ,Validating DTD,XSD.	12
V	**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.	10

Text Book/ references / e-books/websites

1. Chris Bates, Web Programming Building Internet Applications, Second Edition, Wiley
2. Web technologies by A.A.Puntambekar
3. Web Technologies by N.P.Gopalan,Eastern Economy Edition,2nd edition
4. Paul S.WangSanda S. Katila, an Introduction to Web Design plus Programming, Thomson
5. Head First HTML and CSS, Elisabeth Robson, Eric Freeman, O'Reilly Media Inc.
6. An Introduction to HTML and JavaScript: for Scientists and Engineers, David R. Brooks.
7. Schaum's Easy Outline HTML, David Mercer, Mcgraw Hill Professional.
8. Word press for Beginners, Dr.Andy Williams.
9. Professional word press, Brad Williams, David damstra, Hanstern.
10. Web resources:
    a. http://www.codecademy.com/tracks/web
    b. http://www.w3schools.com
    c. https://www.w3schools.in/wordpress-tutorial/ d.http://www.homeandlearn.co.uk

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 2022-23)

COMPUTER SCIENCE	SECCSCT01	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI   **PAPER – VI**   **Max. Marks 70**

Model Paper: WEB INTERFACE DESIGNING TECHNOLOGIES

NO of Hours: 3   **No Of Credits: 3**   **Pass Marks 28**

SECTION – A
Short Answer Questions
Answer any Four questions. (At least 1 question should be given from each Unit)
                                                                 (4x5=20Marks)
1.What is HTML? Explain features and structure of HTML program with example(CO1,L1)
2. What is layer? How are they described with HTML code?(CO1,L1)
3.Explain hyperlinks in HTML.(CO2,L5)
4.What is java script? Explain the features ,advantages and disadvantages of java script(CO3,L1)
5. What are the elements and attributes used in XML(CO4,L1)
6. Explain text formatting in word Press.(CO5,L5)

SECTION-B

Answer all questions.
                                                                 (5 x 10 = 50 Marks)

9(a) What is list? Explain various types of lists in HTML.(CO1,L1)
                                     OR
9(b)Explain Frames and forms in HTML(CO1,L2)

10(a)Define CSS, Explain various styles sheets in HTML(CO2,L1)
                                     OR
10(b). Explain HTML APIs.(CO1,L2)

11(a).What is DHTML? Explain about various string and mathematical functions(CO3,L2)
                                     OR
11(b) Explain Exception handling and rollover buttons in java script(CO3,L2)

12(a).What are the advantages of using XML and CSS? How to validate XML schema.(CO4,L1)
                                     OR
12(b) Explain about DTD in XML(CO4,L2)

13(a) What is admin panel, what are the steps involved in working with post and pages (CO5,L1)
                                     OR
13(b) Explain how we can add, edit and deleting media elements in word press(CO5,L2)

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 2022-23)

COMPUTER SCIENCE	SECCSCP01	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI   **PAPER – VI**   **Max. Marks 50**

Lab List: WEB INTERFACE DESIGNING TECHNOLOGIES LAB

No. of Hours per week: 3   External: 40   Internal: 10   Credits: 2

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Create a basic website with the help of HTML and CSS.(PO5)

CO2: Acquire the skill of installing word press and various plugins of Word press.(PO5)

CO3: Create a static website with the help of Word press..(PO5,PO7)

CO4: Create an interface for a dynamic website.(PO5,PO7)

CO5: Apply various themes for their websites using Word press.(PO7)

II.Practical (Laboratory) Syllabus: (30 periods)

HTML and CSS:

1. Create an HTML document with the following formatting options:
(a)Bold, (b) Italics, (c) Underline, (d) Headings (Using H1 to H6 heading styles), (e) Font (Type, Size and Color), (f) Background (Colored background/Image in background), (g) Paragraph, (h) Line Break, (i) Horizontal Rule, (j) Pre tag

2. Create an HTML document which consists of:
(a) Ordered List (b) Unordered List (c) Nested List (d) Image

3. Create a form using HTML which has the following types of controls:
(a) Text Box (b) Option/radio buttons (c) Check boxes (d) Reset and Submit buttons

4.Embed a calendar object in your web page.

5. Create an applet that accepts two numbers and perform all the arithmetic operations on them.

6. Create nested table to store your curriculum with image.

7. Create a form that accepts the information from the subscriber of a mailing system.

8. Create a help file as follows:
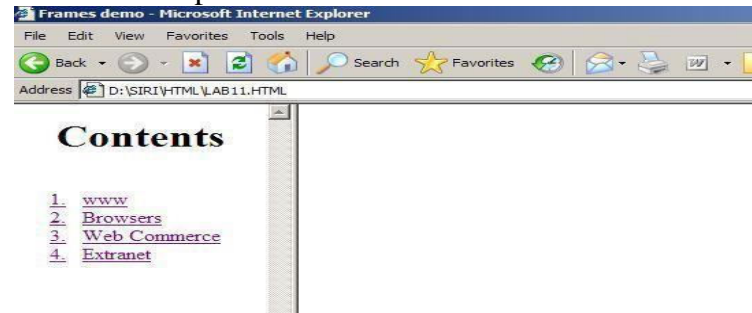
9. Write a html program including style sheets.

10. Write a html program to layers of information in web page.

11. Develop a Java script to determine whether the given number is a "PERFECT NUMBER "or not.

12. Develop a Java script to generate "ARMSTRONG NUMBERS" between the ranges 1 to 100.

13. Write a java script that reads an integer and displays whether it is a prime number or not.

14. Write a java script which accepts the text in lower case and displays the text in upper case

15. Write a java script program for user name and password validation using on click event.

Word press:

16. Installation and configuration of word press.
17. Create five pages on COVID – 19 and link them to the home page.
18. Add an external video link with size 640 X 360.
19. Create a user and assign a role to him.
20. Create a login page to word press using custom links

III. Lab References:

1. Web technologies by A.A.Puntambekar
2. Web Technologies by N.P.Gopalan,Eastern Economy Edition,2nd edition
3. Word press for Beginners, Dr.Andy Williams.
4. Professional word press, Brad Williams, David damstra, Hanstern.

Reference Materials on the Web/web-links:

1. https://onlinecourses.nptel.ac.in/noc17_cs22/course
2. http://www.codecademy.com/tracks/web
3. http://www.w3schools.com
4. https://www.w3schools.in/wordpress-tutorial/

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: WEB APPLICATIONS DEVELOPMENT USING PHP AND MYSQL

Semester: V/VI

Course Code	**SECCSCT02**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2015-16	Year of Offering: 2022 -23	Year of Revision: ----	Percentage of Revision: 30%

Course Objective: Upon successful completion of the course, participants should be able to: **List the major elements of the PHP & MySQL work and explain why PHP is good for web development**. Learn how to take a static website and turn it into a dynamic website run from a database using PHP and MySQL.

Course Outcomes: Students at the successful completion of the course will be able to:

CO$_1$	Learn basic structure and key concepts in PHP, Control statements and functions concept and related programs (PO5)
CO2	Know What is an Array concept related programs, What is an Object, various objects, Formatting strings, Date and time and related programs (PO5)
CO3	Learn importance of Forms, Combining HTML with PHP code. Importance of Cookies and Sessions related programs of forms cookies and sessions. (PO5)
CO4	Know importance of File concept in PHP how to Create, Open, Read and write data in file related programs, Knowing about Image creation, drawing, and modification image (PO7)
CO5	Know about Database concept of MySQL, Connection, Creation of Database, Table adding Record into it related programs (PO7)

PHP Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**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. **Working with Functions:** What is function? ,Calling functions, Functions, Returning the values from User-Defined Functions, Variable Scope.	12
II	**Working with Arrays:** What are Arrays?, Creating Arrays, **Working with Objects** Creating Objects, Object Inheritance, **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.	12
III	**Working with Forms-**Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, **Working with Cookies and User Sessions-**Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables	14
IV	**Working with Files and Directories:** Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from File, Writing or Appending to a File. **Working with Images -**Understanding the Image-Creation Process, Drawing a New Image ,Modifying Existing Images ,Image Creation from User Input.	12
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.	10

Textbooks and References

1. JulieC.Meloni, SAMS Teach yourself PHP MySQL and Apache, Pearson education
2. Steven Holzner, PHP: The Complete Reference, McGraw-Hill
3. RobinNixon,LearningPHP,MySQL,JavaScript,CSS&HTML5,ThirdEditionO'reilly,2014
4. XueBaiMichaelEkedahl, The web warrior guide to Web Programming, Thomson (2006).
5. Web resources:
    e. http://www.codecademy.com/tracks/php
    f. http://www.w3schools.com/PHP
    g. http://www.tutorialpoint.com

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 2015-16)

COMPUTER SCIENCE	SECCSCT02	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI   **PAPER – VII**   Max. Marks 70

<u>Model Paper:</u> **Web Applications Development using PHP & MYSQL**

NO of Hours: 3   **No Of Credits: 3**   **Pass Marks 28**

SECTION – A
Short Answer Questions (4 x 5=20 Marks)
Answer any Four questions. (At least 1 question should be given from each Unit)
1) Define Structure of PHP.(CO1,L1)
2) Differentiate Conditional statement and Looping statement with syntax.(CO1,L4)
3) Define Array concept explain about it.(CO2,L1)
4) Explain about Cookies concept.(CO3,L2)
5) Explain about Image creation.(CO4,L2)
6) Write short note on Mysqli.(CO5,L1)

SECTION B

(5 x 10=50 Marks)

Answer all questions. (Two questions should be given from each unit with internal choice)

9(a) Explain about Control Statements.(CO1,L2)
OR
9(b) Discuss about Function define, Call and return value with example.(CO1,L6)

10(a) List various types of Formatting strings explain them.(CO2,L2)
OR
10(b) Define Array function with example.(CO2,L1)

11(a) Write names of Form objects explain them with example.(CO3,L2)
OR
11(b) Compare and Contrast Session and Cookies.(CO3,L4)

12(a) Explain File concept about file creation, Open file, Write file and Delete file with example(CO4,L2)
OR
12(b) Construct steps for Interfacing complete image concept explain them with one example.(CO4,L3)

13(a) Discuss about DDL commands and DML commands in Mysqli with syntaxes (CO5,L6)
OR
13(b) Write code to Create table of Employee by adding any four columns with example.(CO5,L6)

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 2015-16)

COMPUTER SCIENCE	SECCSCP02	2022-23	B.SC(MPCS,MCCS)

SEMESTER – V/VI **PAPER – VII** **Max. Marks 50**

Lab List: **Web Applications Development using PHP & MYSQL lab**

No. of Hours per week: 3 **External: 40** **Internal: 10** **Credits: 2**

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Learn and implement basic programs in PHP, Control statements and functions concept (PO5)

CO2: Implement Basic programs in Object, various objects, Formatting strings, Date and time (PO5)

CO3: Learn and implement important programs of Forms, Combining HTML with PHP code. Importance of Cookies and Sessions..(PO5)

CO4: Implement programs on Files concept in PHP and on Image creation, drawing, and modification image (P05 & PO7)

CO5: Implement Database programs on MySQLi, Connection, Creation of Database, Table adding Record into it related programs (PO7)

II: Practical (Laboratory) Syllabus: (30 Periods): At least 8 Practical's.

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display today's date.
3. Write a PHP program to display Fibonacci series.
4. Write a PHP Program to read the employee details.
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Create student registration form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
8. Create Website Registration Form using text box, check box, radio button, select, submit button. And display user inserted value in the new PHP page.
9. Write a PHP script to demonstrate passing variables with cookies.
10. Write a program to keep track of how many times a visitor has loaded the page.
11. Write a PHP application to add, Modify, delete and fetch the rows in a Table.
12. Develop a PHP application to implement the following Operations
    a. Registration of Users.b.Insert the details of the Users.c.Modify the Details.
    d.Transaction Maintenance.

i.No of times Logged in (ii).Time Spent on each login. Ii. Restrict the user for three trials only.

iii. Delete the user if he spent more than 100 Hrs of transaction.

13. Write a PHP script to connect to the MySQL server from your website.
14. Write a program to read customer information like cust-no, cust-name, item purchased, and mob-no, from customer table and display all this information in table format on the output screen.
15. Write a program to edit the name of a customer to "Kiran" with cust-no =1, and to delete record with cust-no=3.
16. Write a program to read employee information like emp-no, emp-name, designation and salary from the EMP table and display all this information using table format in your website.
17. Create a dynamic web site using PHP and MySQL.

Textbooks and References: 1. JulieC.Meloni,SAMS Teach yourself PHP MySQL and Apache, Pearson Education(2007).

1. Steven Holzner, PHP: The Complete Reference, McGraw-Hill
2. RobinNixon,LearningPHP,MySQL,JavaScript,CSS&HTML5,ThirdEditionO'reilly.

Web resources: a.http://www.codecademy.com/tracks/php

b.http://www.w3schools.com/PHP

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OFARTS & SCIENCE

Vuyyuru-521165.NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: BIG DATA ANALYTICS USING R

Semester: V/VI

Course Code	SECCAT01	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022-23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: Big data analytics examines large amounts of data to uncover hidden patterns, correlations and other insights. With today's technology, it's possible to analyze your data and get answers from it almost immediately – an effort that's slower and less efficient with more traditional business intelligence solutions.

Course Outcomes:

CO$_1$	Understand data and classification of digital data. (PO5)
CO2	Gain knowledge of technologies used in bigdata Analytics. (PO5, PO7)
CO3	Understand basics of R and control structures in R. (PO5)
CO4	Load data into R objects and manipulate them as needed. (PO5)
CO5	Create and edit visualizations with R (PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Introduction to Big data:** What is data, Classification of Digital Data-Structured Unstructured, semi-structured data, Characteristics of data, Evaluation of big data, Definition and challenges of big data, what is big data and why to use big data?	12
II	**Big data Analytics:** What is and isn't big data analytics? Classification of analytics, Importance of big data analytics, Technologies needed to meet challenges of big data, data science, Data scientist	12
III	**Introduction to R and getting started with R:** What is R? Why R? Advantages of R over other programming languages, Data types in R - logical, numeric, integer, character, double, Complex, raw, coercion, ls () command, Expressions, Variables and functions, control structures, Array, Matrix, Vectors, Factors, R packages	14
IV	**Exploring data in R**– Data frames-data frame access, Ordering data frames, functions for data frames dim(), nrow(), ncol(), str(), summary(), names(), head(), tail(), edit(), Load data frames—reading from .CSV files, Sub setting data frames, reading from tab separated value files, Reading from tables, merging data frames	12
V	**Data Visualization using R**: Reading and getting data into R (External Data),Using CSV files, XML files, Web Data, JSON files, Databases, Excel files, Working with R Charts and Graphs: Histograms, Boxplots, Bar Charts, Line Graphs, Scatter plots, Pie Chart	10

Prescribed Text Book:

1. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.

2. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj Kamal, PreetiSaxena,

McGraw Hill, 2018

Reference Books:

1. SeemaAcharya, SubhashiniChellappan --- Big Data and Analytics second edition, Wiley
2. Big Data, Big Analytics: Emerging Business intelligence and Analytic trends for Today's Business, Michael Minnelli, Michelle Chambers, and AmbigaDhiraj, John Wiley & Sons, 2013
3. An Introduction to R, Notes on R: A Programming Environment for Data Analysis and Graphics. W. N. Venables, D.M. Smith and the R Development Core Team

Course Focus: R for data science focuses on the language's statistical and graphical uses. When you learn R for data science, you'll learn how to use the language to perform statistical analyses and develop data visualizations. R's statistical functions also make it easy to clean, import and analyze data.

COMPUTER SCIENCE	SECCAT01	2022-23	B.COM (CA)

SEMESTER – V/VI   **PAPER – VI**   **Max. Marks 70**

Model Paper: **BIGDATA ANALYTICS USING R**

NO of Hours: 3   **No Of Credits: 3**   **Pass Marks 28**

Section-A

Answer any Four questions.
(At least 1 question should be given from each Unit)   **(4 x 5=20Marks)**

1. What is big data and why to use a big data? (CO1, L1)
2. What is big data analytics? (CO2, L1)
3. Explain ls () command in R. (CO3, L2)
4. Write a short note on charts. (CO5, L1)
5. Develop R script to load data into data frames from files. (CO4, L6)
6. Write about the control structures in R with examples. (CO3, L1)

Section-B

Answer all questions.   **(5X10=50Marks)**
(Two questions should be given from each unit with internal choice)

9.(a) Give Classification of Digital Data and explain it. (CO1, L2)
OR
  (b) Explain Characteristics of Data with an example. (CO1, L2)

10.(a) Write about Importance of big Data Analytics. (CO2, L1)
OR
  (b) Explain Classification of Analytics. (CO2, L2)

11.(a) Write about the Data types in Explain with examples. (CO3, L1)
OR
  (b) Construct Vector in R and explain various operations on it. (CO3, L3)

12. (a) What are the data frames? Write its significance in R-Language. (CO4, L1)
OR
  (b) Demonstrate various functions used in data frames. (CO4, L2)

13.(a) Build a code in R for reading and getting data into R from databases. (CO5, L6)

OR

  (b) Develop below plots in R (CO5, L6)
    a) Box Whisker plots   b)Scatter plots   c)Pairs plots

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	SECCAP01	2022-23	B.COM (CA)

SEMESTER – V/VI   **PAPER – VI**   **Max. Marks 50**

Title**: BIG Data Analysis using Python lab**

No. of Hours per week: 2   External: 40   Internal: 10   Credits: 2   Pass Marks 20

I. Course Outcomes: Students at the successful completion of the course will be able to:

CO1: Implement simple scripts or programs in R. (PO5)

CO2: Access online resources for R and import new function packages into the R workspace. (PO5, PO7)

CO3: Import, review, manipulate and summarize data-sets in R (PO5, PO7)

CO4: Explore data-sets to create testable hypotheses and identify appropriate statistical tests. (PO5, PO7)

CO5: Create and edit visualizations with R. (PO5, PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Create a vector in R and perform operations on it (arithmetic operations, combining Vectors, retrieving elements of vector, assign names to vector elements).
2. Create integer, complex, logical, character data type objects in R and print their values And their class using print and class functions.
3. Create a matrix of values in R and extract data from matrix. (Ex. Second row thirdetc.) find transpose of matrix and combine two matrices using Rbind and Cbind   functions.
4. Create a list in R and perform operations on it like list slicing, sum and mean functions, head and tail functions and finally delete list using rm() function.
5. Create data frame in R and perform operations on it
6. Write code in R to find out whether a number is prime or not.
7. Print numbers from 1 to 100 using while loop and for loop in R.
8. Find the factorial of a number using recursion in R.
9. Perform arithmetic operations in R using switch case
10. Write a code in R to find out whether the number is Armstrong or not.
11. Program to find Multiplication table from 1 to 10 number input by user.
12. Import data into R from text and excel files using read.table() and read.csv() function.
13. Create a dataset and draw different types of graphics using plot, box plot, histogram, pair plot functions.
14. Create a dataset and draw different types of graphs using bar charts, pie chart functions.
15. Create custom contingency in R and perform operations on it.

III. Lab References:

1. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.
2. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj kamal, PreetiSaxena, McGraw Hill, 2018

Reference Materials on the Web/web-links:

1. **https://www.wiley.com/enbd/Big+Data,+Big+Analytics:+Emerging+Business+Intelligence+and+ Analytic+Trends+for+Today's+Businesses-p-9781118147603**

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OFARTS & SCIENCE

Vuyyuru-521165.NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: Data Science using Python

Semester: V/VI

Course Code	SECCAT07	Course Delivery Method	Class Room / Blended Mode – Both
Credits	3	CIA Marks	30
No. of Lecture Hours / Week	3	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :2022-23	Year of Offering: 2022 - 23	Year of Revision: ---	Percentage of Revision: 0%

Course Objective: The main objective of the course is to provide students with the basic concepts of Python, its syntax, functions and packages to enable them to write scripts for data manipulation and analysis. The course develops skills of writing and running a code using Python.

Course Outcomes: Students at the successful completion of the course will be able to:

CO1	Understand the need and importance of data science.(PO5,PO7)
CO2	Understand basic concepts of python and implementing control structures in python.(PO5)
CO3	Implement strings and other data structures in python(PO5,PO7)
CO4	Learn and Implement functions and modules in python.(PO5)
CO5	Learn and Implement data cleaning and plotting using pandas.(PO5,PO7)

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**INTRODUCTION TODATA SCIENCE** Data science and its importance, Advantages of data science, The process of data science, Responsibilities of a data scientist, Qualifications of data scientists, Would you be a good data scientist?, Why to use python for data science?	12
II	**INTRODUCTION TO PYTHON** What is python?, Features of python, History of python, Writing and executing the python program, Basic syntax, Variables, Keywords, Data types , Operators, Indentation, Control Structures-Conditional statements—If, If-else, Nested if-else, Looping statements—For, While, Nested Loops, Break, Continue, Pass	12
III	**STRINGS AND DATA STRUCTURES** Strings - definition, accessing, slicing and basic operations, Lists - introduction, accessing list, operations, working with lists, functions and methods, Tuples - introduction, accessing tuple, operations, Dictionaries- introduction, accessing values in dictionaries, working with dictionaries.	14
IV	**FUNCTIONSANDMODULES** Functions- Defining a function, Calling a function, Types of functions, Function arguments, Local and global variables, Lambda and recursive functions, Modules---Math, Random, OS, Date and Time	10
V	**PANDAS** What is Pandas?, Series, Data Frame, Read CSV Files, Analyzing Data Frames, Data Correlations, Data Cleaning---Empty cells, Data in wrong format, Wrong data, Duplicates, Pandas Plotting-- plot () method, bar plot, hist plot, box plot, area plot, scatter plot, pie plot	12

Prescribed Books:

1. Steven cooper--- Data Science from Scratch, Kindle edition
2. Reemathareja—Python Programming using problem solving approach, Oxford Publication

Reference Books:

1.Wes McKinney--- Python for Data Analysis ,O'REILLY

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 2022-23)

COMPUTER SCIENCE	SECCAT07	2022-23	B.COM (CA)

SEMESTER – V/VI   **PAPER – VII**   **Max. Marks 70**

Model Paper: Data Analysis using Python

NO of Hours: 3   **No Of Credits: 3**   **Pass Marks 28**

Section – A

Answer any Four questions.

(At least 1 question should be given from each Unit)   **(4 x 5=20Marks)**

1. Write advantages of data science. (CO1, L1)

2. What are the qualifications of data scientist? (CO1, L2)

3. Explain about the history of python.(CO2, L1)

4. Explain about string operations in python.(CO3, L1)

5. Explain about the date and time module in python.(CO4, L1)

6. What is data cleaning? Explain about duplicates in pandas.(CO5, L1)

Section – B

Answer all questions.

(Two questions should be given from each unit with internal choice)   **(5x10=50Marks)**

9. (a) What is Data Science? Explain the Responsibilities of a data scientist.(CO1, L2)

OR

9. (b) Explain the use of python for data science?(CO1, L1)

10. (a) Explain different types of conditional statements with examples.(CO2, L1)

OR

10. (b) Explain different types of Looping statements with examples.(CO2, L1)

11. (a) What is a list? Explain different operations of lists with examples in python. (CO3, L2)

OR

11. (b)What is a Dictionary? Explain accessing values in it with examples in python (CO3, L2)

12. (a) Explain Function definition, calling & different types in python with example.(CO4, L1)

OR

12. (b) Explain about random and math module in python with an example.(CO4, L1)

13. (a) What is a data frame? Illustrate the concept of analysing the data frames.(CO5, L2)

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 2022-23)

COMPUTER SCIENCE	SECCAP07	2022-23	B.COM (CA)

SEMESTER – V/VI   **PAPER – VII**   **Max. Marks 50**

Lab List: DATASCIENCE USING PYTHON LAB
No. of Hours per week: 2   External: 40   Internal: 10   Credits: 2

I. Course Outcomes: Students at the successful completion of the course will be able to:
CO1: Implement simple programs in basics of python.(PO5)
CO2: Implement control structures in python.(PO5)
CO3: Implement data structures like strings, list, tuples, dictionaries in python.(PO5,PO7)
CO4:Implementation of data frames, data cleaning and plotting in pandas.(PO5,PO7)

II: Practical (Laboratory) Syllabus: (30 Periods)

1. Python Program to Find the Square Root
2. Python Program to Swap Two Variables
3. Python Program to Generate a Random Number
4. Python Program to check if a Number is odd or Even
5. Python Program to Find the Largest Among Four Numbers
6. Python Program to Check Prime Number
7. Python Program to Display the multiplication Table
8. Python Program to Print the Fibonacci sequence
9. Python Program to Check Armstrong Number
10. Python Program to Find the Sum of Natural Numbers
11. Python Program to Make a Simple Calculator
12. Python Program to Find Factorial of Number Using Recursion
13. Python Program to Add Two Matrices
14. Python Program to Multiply Two Matrices
15. Python Program to Check Whether a String is Palindrome or Not
16. Python Program to perform operations on strings.
17. Python Program to create a list and perform operations on its contents.
18. Python Program to perform operations on tuples.
19. Python Program to create a dictionary and print its content.
20. Python program to import data from CSV file using pandas.
21. Python program to demonstrate plots

III. Lab References:
1. Reemathareja—Python Programming using problem solving approach,Oxford Publication

Reference Materials on the Web/web-links:
 1. https://www.w3schools.com/python/
 2. https://www.geeksforgeeks.org/python-basics/

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: **Object Oriented Programming Using JAVA**

Semester: IV   **PAPER-IV**

Offered To:	B. Sc. (MPCS.MCCS,MSCS)	**Course Code:**	CSCT01
Course Type:	Core (Theory)	**Course:**	Object Oriented Programming using Java
Year of Introduction:	2016 - 2017	**Year of offering:**	2021 – 2022
Year of Revision:	2021	**Percentage of Revision:**	15 %
Semester:	IV	**Credits:**	4
Hours Taught:	60 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Programming Concepts.

Course Description: As the business environment becomes more sophisticated, the software development (software engineering is about managing complexity) is becoming increasingly complex. As of the best programming paradigm which helps to eliminate complexity of large projects, Object Oriented Programming (OOP) has become the predominant technique for writing software in the past decade. Many other important software development techniques are based upon the fundamental ideas captured by object-oriented programming.

Course Objectives:
1. Understand the features of Object Oriented Programming.
2. Understand features of Java programming language.
3. Know how to write and execute java programs in text editors.
4. Apply polymorphism, inheritance, multithreading, exception handling mechanism and packages in real life applications.
5. Write and read data from the files using streams, file handling methods and understand JDBC to perform database operations.

Course Outcomes: At the end of this course, students should be able to:
CO1: Understand the concept and underlying principles of Object-Oriented Programming, Understand how object-oriented concepts are incorporated into the Java programming language. (PO5, PO7).
CO2: Implement Object Oriented Programming Concepts (class, constructor, overloading, inheritance, overriding) in java. (PO5, PO7).
CO3: Analyse inheritance and interfaces in a Java program (PO5, PO7).
CO4: Evaluate Multithreading, exception handling in Java. (PO5, PO7).
CO5: Create applets and packages in a Java program, Use of Input/output Streams in java and use of JDBC with Oracle database. (PO5, PO7).

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
I	**Fundamentals Of Object – Oriented Programming:** Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features **Overview Of Java Language:** Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments **Constants, Variables & Datatypes:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values **Operators & Expressions**	10
II	**Decision Making & Branching:** Introduction,Decision making with if statement, Simple if statement, If - Else statement, Nesting of if- else statements, The else if ladder, The switch statement, The conditional operator. **Looping:** Introduction, The While statement, The do-while statement, The for statement, Jumps in loops. **Classes, Objects & Methods:** Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods.	12
III	**Inheritance:** Extending a class, Overloading methods, Final variables and methods, Final classes, Abstract methods and classes. **Arrays, Strings:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Wrapper classes. **Interfaces:** MULTIPLE INHERITANCE: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables.	12
IV	**Multithreaded Programming:** Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface. **Managing Errors And Exceptions:** Types of errors, Compile-time errors, Run-time errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement. **Packages:** Introduction, Java API Packages, Creating Packages, Accessing a Package, Using a Package.	13
V	**Applet Programming:** Local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. **Managing Input/Output Files In Java:** Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Reading and writing files. **Java Database Connectivity:** JDBC introduction, Stages in JDBC Program, Working with Oracle Database: Inserting, Deleting and Updating records.	13

Text Books:
1. Programming with Java, E – Balagurusamy, 3e, TMH.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao & KogentLearning Solutions Inc.

Reference Books:
1. Programming with Java, 2ed, John R. Hubbard, Schaum's outline Series, TMH
2. Deitel & Deitel, Java TM : How to program, PHI(2007)

Course Delivery method: Face-to-face / Blended
Course has focus on: Employability
Websites of Interest:
[1].https://www.javatpoint.com/java-tutorial
[2].https://www.w3schools.com/java/
[3].https://www.tutorialspoint.com/jdbc/index.htm

Co-curricular Activities : Programming Contests, Assignments & Quiz.

@ @ @ @

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

OBJECT ORIENTED PROGRAMMING USING JAVA
MODEL PAPER

CLASS: B.Sc. (MPCS, MCCS, MSCS)   **Max. Marks: 75M**
Course Code: CSCT01   **Min. Pass: 30M**
Semester: IV   **Time: 3 Hours**

Section-A

ANSWER <u>**ANY FIVE**</u> **QUESTIONS**   **5x5M=25M**

1. Explain structure of java program.(CO1, L2)
2. Define a class and add methods, variables to it and create objects for it. (CO2,L1)
3. Explain constructors in java with example. (CO2,L2)
4. Explain any five string handling methods in java.(CO3, L2)
5. Illustrate implementing interfaces in java with example. (CO3,L2)
6. Illustrate creating threads in java with example .(CO4,L2)
7. Illustrate Arithmetic Exception in java with example.(CO4, L2)
8. Explain byte stream classes in java. (CO5, L2)

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9. (A) Explain Object Oriented Programming Principles. (CO1,L2)

      (OR)

      (B) Explain Java Buzz words. (CO1, L2)

10. (A) Explain the following with programs (CO2, L2)
          i. Method Overloading   5M
          ii. Abstract classes   5M

      (OR)

      (B) Explain the concept of static members in java with an example. (CO2,L2)

11. (A) Explain the concept of final keyword with an example. (CO3,L2)

      (OR)

      (B) List of different types of inheritance in java with examples. (CO3,L4)

12. (A) Explain life cycle of a thread with neat diagram. (CO4,L2)

      (OR)

      (B) Define Exception. Explain Exception handling mechanism in java with examples
                                            (CO4, L1,L2)

13. (A) Explain creating and accessing package in java with example. (CO5,L2)

      (OR)

      (B) Explain different stages in JDBC program with an example..(CO5,L6)

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
OBJECT ORIENTED PROGRAMMING USING JAVA
BLUE PRINT

CLASS: B.Sc. (MPCS, MCCS, MSCS)   **Max. Marks: 75M**
Course Code: CSCT01   **Min. Pass: 30M**
Semester: IV   **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS   **5x5M=25M**

1. UNIT -1 -- 5M
2. UNIT -2 -- 5M
3. UNIT -2 -- 5M
4. UNIT -3 -- 5M
5. UNIT -3 -- 5M
6. UNIT -4 -- 5M
7. UNIT -4 -- 5M
8. UNIT -5 -- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9. UNIT -1 -- 10M
                          OR
   UNIT -1 -- 10M
10. UNIT -2 -- 10M
                          OR
   UNIT -2 -- 10M
11. UNIT -3 -- 10M
                          OR
   UNIT -3 -- 10M
12. UNIT -4 -- 10M
                          OR
   UNIT -4 -- 10M
13. UNIT -5 -- 10M
                          OR
   UNIT -5 -- 10M

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
Object Oriented Programming Using JAVA Lab

SEMESTER-IV   **PAPER-IV**

Offered To:	B. Sc. (MPCS,MCCS,MSCS)	**Course Code:**	**CSCP01**
Course Type:	Core (Practical)	**Course:**	Object Oriented Programming using Java Lab
Year of Introduction:	2016 – 2017	**Year of offering:**	2021 – 2022
Year of Revision:	2021	**Percentage of Revision:**	15%
Semester:	IV	**Credits:**	1
Hours Taught:	30 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Knowledge in OOP & Java concepts, Programming Fundamentals

Course Objective:
To enable students to implement various OOP concepts using Java programming language and also educating students in accessing databases using JDBC connectivity.

Course Outcomes: At the end of this course, students should be able to:
CO1: Implementing class, constructor, method overloading, method overriding in java.
      (PO5, PO7)
CO2: Implement different types of inheritance and interfaces in a Java program .(PO5, PO7)
CO3: Implement Multithreading, exception handling mechanisms in Java. (PO5, PO7)
CO4: Implement Applets and JDBC connectivity. (PO5, PO7)

Java Lab list

1. Write a program to use command line arguments.
2. Write a program to demonstrate that include a method inside the Rectangular Class.
3. Write a program to demonstrate Parameterized Constructors.
4. Write a program to demonstrate Method Overloading.
5. Write a Program to demonstrate Constructor Overloading.
6. Write a program to demonstrate Method Inheritance.
7. Write a program to demonstrate Method Overriding.
8. Write a program to demonstrate Abstract Classes.
9. Write a program to arrange given Strings in Alphabetical Order.
10. Write a program for implementing interfaces.
11. Write a program on Multiple Inheritance.
12. Write a program to demonstrate the Creating threads using thread class.
13. Write a program to demonstrate using thread methods.
14. Write a program to Implement Thread Priority.
15. Write a program to demonstrate Catch Blocks.
16. Write a program to Import Packages.
17. Write a program to demonstrate Applet Program.
18. Write a program to create table and insert values into table in a database.
19. Write a program to delete values in a table in database.
20. Write a program to update values in a table in database.

@@@@

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
OPERATING SYSTEMS

Semester: IV   **PAPER-V**

Offered To:	B. Sc. (MPCS, MCCS, MSCS)	**Course Code:**	CSCT41C
Course Type:	Core (Theory)	**Course:**	Operating systems
Year of Introduction:	2021 – 2022	**Year of offering:**	2021 – 2022
Year of Revision:	-	**Percentage of Revision:**	-
Semester:	IV	**Credits:**	4
Hours Taught:	60 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Basic Knowledge in computers, data structures and C programming language.

Course Description:
This course provides basic knowledge about operating system functions, its architectural design along with implementation of various scheduling algorithms. This course also provides knowledge in handling deadlock situation.

Course Objectives:
The Purpose of this course is to give students an idea of the services provided by the operating system, structure,organization of the file system, process synchronizations, scheduling and memory management.

Course Outcomes: At the end of this course, students should be able to
1**. Understand** Operating System Architectural design and its services. (PO5, PO6, PO7)
2. **Implementation** of Scheduling Algorithms. (PO5, PO6, PO7)
3. **Analyze** memory management techniques, concepts of virtual memory and disk scheduling. (PO5, PO6, PO7)
4. **Understand** the implementation of file systems and directories with the interfacing of IO devices with the operating system. (PO5, PO6, PO7)
5. **Identify** the deadlock situation and provide appropriate solutions so that protection and security of the operating system is also maintained. (PO5, PO6, PO7)

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
I	**Operating System**: Introduction, Operating Systems Objectives and functions, Computer System Architecture, OS Structure, OS Operations. Evolution of Operating Systems , Types of operating system - Simple, Batch, Multi programmed , Time shared , Parallel, Distributed Systems, Real-Time Systems, Operating System services.	11
II	**Process and CPU Scheduling** – Process concepts , The Process, Process State, Process Control Block, Process communication, Threads. Process Scheduling - Scheduling Queues, Schedulers, Context Switch, Preemptive Scheduling,Dispatcher, , Scheduling Criteria, Scheduling algorithms,Case studies: Linux, Windows. Process Synchronization - The Critical section Problem, Synchronization Hardware,Semaphores, Classic Problems of Synchronization,Monitors.	13
III	**Memory Management and Virtual Memory** – Logical & physical Address Space, Swapping, Contiguous Allocation , Paging-Structure of Page Table, Segmentation, Segmentation with Paging, Virtual Memory, Demand Paging, Performance of Demanding Paging, Page Replacement , Page Replacement Algorithms, Allocation of Frames.	13
IV	**File System Interface** – The Concept of a File , Access methods , Directory Structure, ,File System Mounting , File Sharing, Protection, File System Structure, Mass Storage Structure - Overview of Mass Storage Structure , Disk Structure, Disk Attachment, Disk Scheduling.	12
V	**Deadlocks** – System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention,Deadlock Avoidance, Deadlock Detection and Recovery from Deadlock.	11

PrescribedTextBooks			
	Author	**Title**	**Publisher**
1	Silberschatz, Galvin, Gagne	Operating System Concepts, eight Edition	John Willey & Sons INC

ReferenceTextBook			
	Author	**Title**	**Publisher**
1	Abraham Silberchatz, Peter B. Galvin, Greg Gagne	Operating System Principles, 8th Edition	Wiley Student Edition
2	Naresh Chauhan,	Principles of Operating Systems	OXFORD University Press

Course Delivery method : Face-to-face / Blended

Course has focus on : Skill Development

Co-curricular Activities: Programming Contests, Assignments & Quiz

@ @ @ @

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

OPERATING SYSTEMS
MODEL QUESTION PAPER
COURSE CODE: CSCT41C   TITLE OF PAPER: OPERATING SYSTEMS
CLASS / GROUP: B.Sc (MPCS, MCCS, MSCS,) SEMESTER: IV
Time: 3 Hrs.   Max. Marks: 75
****

SECTION – A

Answer any <u>FIVE</u> questions: 5 X 5 = 25 Marks
1. Explain computer system architecture with a neat diagram. (CO1, L2)
2. Write about process states with a neat diagram. (CO1, L2)
3. Explain about context switching. (CO2, L2)
4. Write short notes on swapping. (CO3, L2)
5. Write about logical and physical address spaces. (CO3, L2)
6. Write about different file access methods. (CO4, L2)
7. What are the necessary conditions for deadlocks? (CO5, L2)
8. Explain how dead locks can be recovered. (CO5, L2)

SECTION – B

Answer <u>ALL</u> questions: 5 X 10 = 50 Marks
9. (a). Define operating system and explain its functions. (CO1, L2)

<div align="center">OR</div>

  (b.) Explain about various types of operating systems. (CO1, L2)

10. (a) Explain SJF and priority scheduling algorithms with an example. (CO2, L2)

<div align="center">OR</div>

  (b) Explain about inter process communication. (CO2, L2)

11. (a) Discuss the concept of paging with neat diagram. (CO3, L2)

<div align="center">OR</div>

  (b) Consider the following page reference string and calculate the number of page faults by using FIFO
    and LRU with three frames.
        7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1 (CO3, L2)

12. (a). Explain in detail file operations. (CO4, L2)

<div align="center">OR</div>

  (b). Discuss about FCFS disk scheduling and SSTF scheduling with a suitable example. (CO4,L2)

13. (a) what is deadlock ?explain deadlock preventions methods. (CO5, L2)

<div align="center">OR</div>

  (b) Explain banker's algorithm for deadlock avoidance.(CO5, L2)

<div align="center">@ @ @ @</div>

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
OPERATING SYSTEMS
BLUE PRINT
COURSE CODE: CSCT41C   TITLE OF PAPER: OPERATING SYSTEMS
CLASS / GROUP: B.Sc (MPCS, MCCS, MSCS,) SEMESTER: IV
Time: 3 Hrs.   Max. Marks: 75

Section-A

ANSWER ANY FIVE QUESTIONS   5x5M=25M

1. UNIT -1 --- 5M
2. UNIT -1 --- 5M
3. UNIT -2 --- 5M
4. UNIT -3 --- 5M
5. UNIT -3 --- 5M
6. UNIT -4 --- 5M
7. UNIT -5 --- 5M
8. UNIT -5 --- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS   5x10M=50M

9. UNIT -1 --- 10M
OR
UNIT -1 --- 10M
10. UNIT -2 --- 10M
OR
UNIT -2 --- 10M
11. UNIT -3 --- 10M
OR
UNIT -3 --- 10M
12. UNIT -4 --- 10M
OR
UNIT -4 --- 10M
13. UNIT -5 --- 10M
OR
UNIT -5 --- 10M

@@@@

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

OPERATING SYSTEMS LAB

Semester: IV   **PAPER-V**

Offered To:	B. Sc. (MPCS, MCCS, MSCS)	**Course Code:**	**CSCT41C**
Course Type:	Core (Practical)	**Course:**	Operating systems Lab
Year of Introduction:	2021 – 2022	**Year of offering:**	2021 – 2022
Year of Revision:	-	**Percentage of Revision:**	-
Semester:	IV	**Credits:**	1
Hours Taught:	30 hrs. per semester	**Max. Time:**	3 Hrs

Course Prerequisites (if any): Basic Knowledge in OS concepts, data structures and C programming language.

Course Description:
This course deals with training students in developing and implementing logics for various OS scheduling algorithms. It also enables students to gain practical knowledge in implementing various UNIX commands.

Course Objective:
The Purpose of this course is to have students understand and the principles in the design and implementation of operating system software.

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

CO 1. Implementing DOS & UNIX Commands(PO5, PO6, PO7)
CO 2. Implementing CPU Scheduling Algorithms(PO5, PO6, PO7)
CO 3. Implementing CPU Scheduling Algorithms, Deadlocks Avoidance, Prevention & Memory
        Management Techniques(PO5, PO6, PO7)
CO 4. Implementing Contiguous Memory Allocation Techniques & Page Replacement Algorithms(PO5, PO6, PO7)
CO 5. Implementing File allocation Strategies(PO5, PO6, PO7)

Lab Exercises

1. **DOS** - Internal Commands

2**. UNIX Commands**
   1. In your home directory create a directory named DIR
   2. Copy all files whose filenames satisfy the following conditions to ~/DIR. The files are in /usr/include directory, their names start with m, end with .h and contain a number.
   3. Create a subdirectory called SUBDIR in your DIR directory.
   4. The first five lines of each file you have copied from /usr/include copy to file ~/DIR/ SUBDIR/first five.
   5. The last lines of files in ~/DIR copy to file ~/DIR/SUBDIR/last.
   6. Concatenate the two files in ~/DIR/SUBDIR into one file ~/DIR/SUBDIR/first and last
   7. Delete the files in ~/DIR/SUBDIR except first and last.
   8. Store the number of files and directories in ~/DIR into a file ~/DIR/SUBDIR/count
   9. Output the long information in the ~/DIR/SUBDIR directory. (Not its content, but information on it).
   10. Delete the contents of ~/DIR/SUBDIR/first and last file without removing the file itself.
   11. Add a line containing just a star sign (i.e. *) to file ~/DIR/SUBDIR/first and last.
   12. Delete ~/DIR together with all the files it contains.
   13. Output lines number 11-20 from file /etc/passwd.

3. List of Programmes
1. Write a Program to implement First Come First Serve Scheduling algorithm
2. Write a Program to implement Shortest Job First Scheduling algorithm
3. Write a Program to implement Round Robin Scheduling algorithm
4. Write a Program to implement Priority Scheduling algorithm
5. Write a program to implement Worst Fit Contiguous Memory Allocation
6. Write a program to implement Best Fit Contiguous Memory Allocation
7. Write a program to implement First Fit Contiguous Memory Allocation
8. Write a program to implement First In First Out Page replacement Algorithm
9. Write a program to implement First In Least Recently Used Page replacement Algorithm
10. Write a program to implement First In Optimal Page replacement Algorithm

@ @ @ @

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
DATABASE MANAGEMENT SYSTEMS

SEMESTER-IV   **PAPER-IV**

Offered To:	B. Com (CA)	Course Code:	CABT41A
Course Type:	Core (Theory)	Course:	Database Management Systems
Year of Introduction:	2021 – 2022	Year of offering:	2021 – 2022
Year of Revision:	-	Percentage of Revision:	-
Semester:	IV	Credits:	4
Hours Taught:	60 hrs. per semester	Max. Time:	3 Hrs

Course Prerequisites (if any):

Course Description: This course focuses towards Database System Concepts and Architecture, ER models, relational algebra relational calculus, SQL and PL/SQL.

Course Objectives:

The objective of the course is to introduce the design and development of databases with special emphasis on relational databases. Design & develop database for large volumes & varieties of data with optimized data processing techniques.

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

On completing the subject, students will be able to:

CO1	Understand the Characteristics and basics of Database.(PO5, PO7)
CO2	Understand file system and Architecture of DBMS(PO5, PO7)
CO3	Enlighten ER Diagrams, Relationship, Notation & schema. (PO5, PO7)
CO4	Enlighten EER Diagrams & Applying constraints on data. (PO5, PO7)
CO5	Implementing SQL commands retrieve, insert, modify and update(PO5, PO7)

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
I	**Databases and Database Users :** Introduction - Data and Information, Characteristics of the Database Approach, Self-Describing Nature of the Database System, Insulation between Programs and Data, Data Abstraction, Support of Multiple Views of the data, Sharing of Data and multiuser Transaction Processing, Evolution of Database System	10
II	Traditional File Processing Systems - Disadvantages of Traditional File Processing Systems, Advantages of the Database Approach, Database system Concepts and Architecture - Data Models, Schemas and Instances, Categories of Data Models, Schemas, Instances and Database State, Three-Schema architecture for database development, Data Independence	10
III	Entity Relationship Model – Introduction, Entity types, Entity sets, Attributes and Keys, Entities and Attributes, Entity Types, Entity Sets, Keys and Value Sets, Relationships, Relationship types, Roles, and Structural Constraints – Relational types, Sets and Instances, Relationship degree, Role names, recursive relationships, constraints on relationship types, Attributes of relationship types. Weak entity types, E R diagrams, Naming conventions, design issues - Summary of Notation for ER Diagrams, Proper Naming of Schema Constructs.	12

IV	Enhanced Entity-Relationship - Subclasses, super classes, and inheritance, Specialization and Generalization, Constraints and characteristics of Specialization and Generalization, Data Abstraction and knowledge representation concepts - Classification and Instantiation, Identification, Aggregation and Association. The Relational Data Model, Relational Constraints - Introduction, Relational Model Concepts, Domains, Attributes, Tuples and Relations , Relational Model Notation, Relational Constraints and Relational Database Schemas, Entity Integrity, Referential , Integrity and Foreign Keys.	13
V	SQL (STRUCTURED QUERY LANGUAGE) Introduction, Data Definition, Constraints and Schema changes in SQL - Schema AND Catalog Concepts in SQL, The CREATE TABLE Command and SQL Data Types and Constraints, The DROP SCHEMA and DROP TABLE Command, The ALTER TABLE Command, Basic Queries in SQL - The SELECT-FROM-WHERE Structure of SQL Queries, Dealing with Ambiguous Attribute Names and Naming (Aliasing), Unspecified WHERE-Clause and Use of Asterisk (*), Tables as sets in SQL, Substring Comparisons, Arithmetic Operators, and Ordering. Aggregate Functions and Grouping 5.5, Insert, Delete, and Update Statements in SQL - The INSERT Command, The DELETE Command, The Update Command.	15

PrescribedTextBook:

	Author	Title	Publisher
1	R.Elmasri and S.Navathe	Fundamentals of Database Systems	
2	Jeffrey A.Hoffer,V.Ramesh, HeikkiTopi	Modern Database Management	Pearson
3	Abraham Silberschatz, Henry Korth, and S. Sudarshan	Database System Concepts	McGrawhill, 2010

ReferenceTextBooks:

	Author	Title	Publisher
1	Raghu Ramakrishnan	Database Management Systems	McGrawhill,2002
2	J .D.Ullman	Prinicples of Database Systems	
3	Bipin C Desai	An Introduction to Database Systems	
4	.Sumathi, S. Esakkirajan	Fundamentals of Relational Database Management Systems	Springer Publications

Course Delivery method: Face-to-face / Blended

Course has focus on: Skill Development

Websites of Interest:

Co-curricular Activities: Certification Courses, Seminars, Quiz.

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
DATABASE MANAGEMENT SYSTEMS
MODEL PAPER FOR SEM END EXAMINATION

Class: B.Com (Computer Applications)
Course Code:CABT41A   **Max. Marks: 75M**
Semester: IV   **Time: 3 Hours**

Section - A

ANSWER ANY <u>FIVE</u> QUESTIONS   **5x5M=25M**

1. Explain the difference between data and information. (CO1, L2)
2. List the Disadvantages of Traditional file system? (CO2, L1)
3. What is Data Model, Instance and Database State? (CO2, L1)
4. Explain different types of entities and attributes? (CO3, L2)
5. Explain Relationship Types, Degrees and Role names. (CO3, L2)
6. What is constraint. Explain different type of constraints. (CO4, L1)
7. Demonstrate the features of SQL. (CO5, L2)
8. Show how to join tables explain with an example in SQL. (CO5, L2)

Section - B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

1. A) Outline the characteristics of database management

   system. (CO1, L2) (OR)

   B) Illustrate the evaluation of database management system. (CO1, L2)

2. A) List advantages of database management system. (CO2, L1)

   (OR)

   B) Explain the concept of Three schema architecture and data independence. (CO2, L1)

3. A) Show ER diagram for hospital management system and identify weak,

   strong and derived attributes in the above diagram. (CO3, L1)

   (OR)

   B) Define ER diagram, Naming conventions and design issues. (CO3, L1)

4. A) What is Specialization & Generalization in EER. Define Data abstraction

   and knowledge representation concept. (CO4, L1)

   (OR)

   B) Explain aggregation functions and groupings in relational algebra. (CO4, L1)

5. A) Explain aggregation functions and groupings in

   SQL. (CO5, L2) (OR)

   B) Explain different types of constraints with examples. (CO5, L2)

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
DATABASE MANAGEMENT SYSTEMS LAB

Semester: IV   **PAPER-IV**

Offered To:	B. Com (CA)	Course Code:	CABP41A
Course Type:	Core (LAB)	Course:	Database Management Systems Lab
Year of Introduction:	2021 – 2022	Year of offering:	2021 – 2022
Year of Revision:	-	Percentage of Revision:	-
Semester:	IV	Credits:	1
Hours Taught:	30 hrs. per semester	Max. Time:	3 Hrs

Course Prerequisites (if any): A good background in DBMS fundamentals is required. Students should be comfortable with the relational model, SQL, and the basic functions of database systems.

Course Objective:

The major objective of this lab is to provide a strong formal foundation in database concepts, technology and practice to the participants to groom them into well-informed database application developers.

Course Outcomes:

COURSE OUTCOME NO	Upon successful completion of this course, students should have the knowledge and skills to
CO1	Construct queries using SQL in database creation. (PO5, PO7)
CO2	Construct queries using SQL in database based on criterion. (PO5, PO7)
CO3	Implement Enforce integrity Constraints in SQL. (PO5, PO7)
CO4	Implementing Aggregate functions in SQL(PO5, PO7)
CO5	Implementing query in database using sql DDL/DML Commands(PO5, PO7)

Lab List

1. Create a Department table with the following fields: DEPTNO, DNAME and LOCATION.
2. Describe the structure of „DEPT" table.
3. Insert values into "DEPT" table.
4. Select all values from „DEPT" table.
5. Create EMPLOYEE table with the following fields: EMPNO, ENAME, JOB, MGR, HIRE DATE, SALARY, COMMISTION and DEPTNO.
6. Describe the structure of „EMP" table.
7. Insert the values into „EMP" table.
8. Select all the values from „EMP" table.
9. Create table GRADE with the following fields: GRADE, LOSAL and HISAL.
10. Insert values into „GRADE" table.
11. Select all the values from „GRADE" table.
12. List all the employee information for department 10.

13. Find out the names of all employees.
14. Retrieve the list of names and salary of all employees.
15. Find the names of employees who have a salary equal to RS3000.
16. List the employee whose names start with "s".
17. List the employee names ending with „s".
18. List the names of employees whose names have exactly 5 characters.
19. List the employee names having D as the second character.
20. List the employee names having two A"S in their name.
21. Display all employee names which have „TH" or „LL" in them.
22. List out EMPNO, ENAME and SALARY of the employees whose salary is between 1500 and 2000.
23. List the names of employees who belong to department 10, 20.
24. List employee number of the employees who don"t have the name of „FORD", "JAMES" (OR)"JONES".
25. Display all the different job types.
26. Retrieve all rows from EMP table for department 30 and order by name.
27. List the employee names and HIREDATES in descending order of HIREDATE.
28. Retrieve department names and no"s in ascending order of DNAME.
29. List all employees" information that has a manager.
30. List name of the employees, job and commission of those employees who do the job of clerk or salesman and get no commission.
31. List the names and jobs of all clerks in department 20.
32. Display current data & time.
33. Display the concatenated string.
34. Display string „SMITH" of first character as capital letter.
35. Display the length of a string „SALESMAN".
36. Display the string „SALESMAN" in lower case.
37. Display all department names in upper case.
38. Display the value using ABS.
39. Displays the value using CEIL.
40. Display the value using FLOOR.
41. Display the value using POWER.
42. Display the value using SQRT.
43. Display all employees who were hired during 1982.
44. List the no of employees working with company.
45. List the no of jobs available in the emp table.
46. List the total salaries payable to employees.
47. List the maximum salary of employee working as a salesman.
48. List the minimum salary of employee from employee table.
49. List the avg salary from Employee table.
50. List the avg salary and no of employees working in the deptno 20.
51. Display the total salary for each department.
52. List the average salary of each job in the EMP table.
53. List the maximum salary for each department.
54. Find the total salary for each job of each department.
55. Display the no of employee in each department.
56. To find the maximum salary of each department, but show only the department that has a maximum salary of more than RS 2900.
57. List the total salary, maximum, minimum and average salary of employees job wise for department no and display only those rows having average salary greater than 1000.

58. Display the job tittle and total monthly salary for each job title with a total pay role exceeding RS 5000 and excludes sales people and sorts the list by the total monthly salary.
59. Display the different job in department 20 and 30.
60. List the employee no and names working in department no 20 and 30.
61. Display the different jobs in department 20 and 30 with union all.
62. Display all the employee names dept no‟s and dept names.
63. Display all employees in „DALLAS‟.
64. Display the employee names where salary is greater than employee no 7566.
65. Display the employee whose job tittle is same as that of employee 7369.
66. Display the employee name where salary is equal to the minimum salary.
67. Find the employees who earn the same salary as the minimum salary for departments.
68. To display all the departments that has a minimum salary greater than that of department 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: OBJECT ORIENTED PROGRAMMING USING JAVA
Semester: IV   **PAPER-V**

Course Code	**CCSCT42**	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	5	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 Objective: This Course will enable students to understand the basic concepts of object oriented programming and difference between procedure-oriented programming; get a clear understanding of basics of java programming

Course Outcomes:

CO$_1$	Able to Understand the concept and underlying principles of Object-Oriented Programming.
CO$_2$	Able to Understand the Basic concepts of Data types & Operators
CO$_3$	Able to Implement Decision & Looping Statements
CO$_4$	Able to Implement Object Oriented Programming Concepts like class, constructor, overloading in java.
CO$_5$	Able to Understand the concept of Inheritance and Exceptions Object-Oriented Programming.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Fundamentals of Object – Oriented Programming:** Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features:	10
II	**Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Type casting, Getting Value of Variables, **Operators.**	14
III	**Decision Making & Branching:** Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, while statement, do-while statement, for statement, Jumps in loops.	12
IV	**Classes, Objects & Methods**: Introduction, defining a class, adding variables, adding methods, creating objects, Accessing class members, Constructors, Method overloading, Method Overriding, Static members, Nesting of methods;	12
V	**Inheritance**: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;	12

Prescribed Text Book:
1. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.
Reference Books
   1. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
   2. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
   3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
   4. Deitel&Deitel. Java TM: How to Program, PHI (2007)
   5. Java Programming: From Problem Analysis to Program Design- D.S Mallik

Course Focus: OOP focus on the objects that developers want to manipulate rather than the logic required to manipulate them.

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 Year2020-21)

COMPUTER SCIENCE	CCSCT42	2022-23	B. Com (CA)

SEMESTER – IV   PAPER – IV   **Max. Marks 75**   **Pass Marks :30**

Syllabus: **OBJECT ORIENTED PROGRAMMING USING JAVA**

Total Hrs: 60   **NO. Of. Hours: 4**   **Credits: 3**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	2	2
Unit-3	1	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

<mark>OBJECT ORIENTED PROGRAMMING USING JAVA</mark>
MODEL PAPER

CLASS: B.Com (CA)   **Max. Marks: 75M**
Course Code: CCSCT42   **Min. Pass: 30M**
Semester: IV   **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS   **5x5M=25M**

1.

2.

3.

4.

5.

6.

7.

8.

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9.   (A)   (OR)

     (B)
10.   (A)

                                             (OR)

     (B)
11.   (A)

                                             (OR)

     (B)
12.   (A)

                                             (OR)

     (B)
13.   (A)

                                             (OR)

     (B)

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

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

OBJECT ORIENTED PROGRAMMING USING JAVA
BLUE PRINT

CLASS: B.Com (CA)   **Max. Marks: 75M**
Course Code: CCSCT42   **Min. Pass: 30M**
Semester: IV   **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS   **5x5M=25M**

9. UNIT -1 -- 5M
10. UNIT -2 -- 5M
11. UNIT -2 -- 5M
12. UNIT -3 -- 5M
13. UNIT -3 -- 5M
14. UNIT -4 -- 5M
15. UNIT -4 -- 5M
16. UNIT -5 -- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9. UNIT -1 -- 10M
                        OR
     UNIT -1 -- 10M
10. UNIT -2 -- 10M
                        OR
     UNIT -2 -- 10M
11. UNIT -3 -- 10M
                        OR
     UNIT -3 -- 10M
12. UNIT -4 -- 10M
                        OR
     UNIT -4 -- 10M
13. UNIT -5 -- 10M
                        OR
     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 Year2020-21)

COMPUTER SCIENCE	CCSCP42	2022-23	B. Com (CA)

SEMESTER – IV   **PAPER – V**

Lab List: **OBJECT ORIENTED PROGRAMMING USING JAVA** **Pass Marks**

No. of Hours per week: 2   **External: 40**   **Internal: 10**   **Credits: 1**

1. Write a program to perform various String Operations

2. Write a program to print the given number is Armstrong or not?

3. Prompt for the cost and selling price of an article and display the profit (or) loss

4. Write a program to print the numbers given by command line arguments

5. Write a program on class and object in java

6. Illustrate the method overriding in JAVA

7. Write a program to find the Simple Interest using Multilevel Inheritance

8. Write a program to display matrix multiplication.

9. Write a program on interface in java

10. Write a program on inheritance

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: OBJECT ORIENTED PROGRAMMING USING JAVA
Semester: IV   **PAPER-V**

Course Code	ECCSCT41	Course Delivery Method	Class Room / Blended Mode - Both
Credits	3	CIA Marks	25
No. of Lecture Hours / Week	5	Semester End Exam Marks	75
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction :	Year of Offering: 2022 - 23	Year of Revision: ----	Percentage of Revision: 0%

Course Objective: This Course will enable students to understand the basic concepts of object oriented programming and difference between procedure-oriented programming; get a clear understanding of basics of java programming

Course Outcomes:

CO$_1$	Able to Understand the concept and underlying principles of Object-Oriented Programming.
CO$_2$	Able to Understand the Basic concepts of Data types & Operators
CO$_3$	Able to Implement Decision & Looping Statements
CO$_4$	Able to Implement Object Oriented Programming Concepts like class, constructor, overloading in java.
CO$_5$	Able to Understand the concept of Inheritance and Exceptions Object-Oriented Programming.

Course Details

Unit	Learning Units	Lecture Hours
I	**Fundamentals of Object – Oriented Programming:** Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features:	10
II	**Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Type casting, Getting Value of Variables, **Operators.**	14
III	**Decision Making & Branching:** Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, while statement, do-while statement, for statement, Jumps in loops.	12
IV	**Classes, Objects & Methods**: Introduction, defining a class, adding variables, adding methods, creating objects, Accessing class members, Constructors, Method overloading, Method Overriding, Static members, Nesting of methods;	12
V	**Inheritance**: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;	12

Prescribed Text Book:
1. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.
Reference Books
6. Programming In Java By Sachin Malhotra And Saurabh Choudhary From Oxford University Press
7. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press
8. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series,
9. Deitel&Deitel. Java TM: How to Program, PHI (2007)
10. Java Programming: From Problem Analysis to Program Design- D.S Mallik

Course Focus: OOP focus on the objects that developers want to manipulate rather than the logic required to manipulate them.

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

OBJECT ORIENTED PROGRAMMING USING JAVA
MODEL PAPER

CLASS: B.Com (e-Com-Computers)   **Max. Marks: 75M**
Course Code: ECCSCT41   **Min. Pass: 30M**
Semester: IV   **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS   **5x5M=25M**

1. What are the benefits and applications of oops?

2. Explain about Structure of java?

3. Explain types of variables in java?

4. Explain about Typecasting

5. Explain about Switch Statement?

6. Explain about Jump Statements in java?

7. Explain types of constructors?

8. Explain about Final keyword?

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9. (A) Explain about Basic Concepts of oops?

(OR)

(B) Explain about Java features

10. (A) Explain about primitive data types in java?

(OR)

(B) Explain about operators

11. (A) Explain about Decision making statements in java?

(OR)

(B) Explain about looping statements in java

12. (A) Explain about method overloading and overriding?

(OR)

(B) What is inheritance? Explain types of inheritances?

13. (A) what is an Array? Explain its types?

(OR)

(B) What is String? Explain string handling functions in java?

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

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

OBJECT ORIENTED PROGRAMMING USING JAVA

BLUE PRINT

CLASS: B.Com (e-Com-Computers)   **Max. Marks: 75M**
Course Code: ECCSCT41   **Min. Pass: 30M**
Semester: IV   **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS   **5x5M=25M**

1. UNIT -1 --- 5M
2. UNIT -2 --- 5M
3. UNIT -2 --- 5M
4. UNIT -3 --- 5M
5. UNIT -3 --- 5M
6. UNIT -4 --- 5M
7. UNIT -4 --- 5M
8. UNIT -5 --- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9. UNIT -1 --- 10M
<div align="center">OR</div>

   UNIT -1 --- 10M
10. UNIT -2 --- 10M
<div align="center">OR</div>

   UNIT -2 --- 10M
11. UNIT -3 --- 10M
<div align="center">OR</div>

   UNIT -3 --- 10M
12. UNIT -4 --- 10M
<div align="center">OR</div>

   UNIT -4 --- 10M
13. UNIT -5 --- 10M
<div align="center">OR</div>

   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 Year2020-21)

COMPUTER SCIENCE	ECCSCT41	2022-23	B. Com (e-Com-Computers)

SEMESTER – IV PAPER – IV   **Max. Marks 75**   **Pass Marks 30**

Syllabus: **OBJECT ORIENTED PROGRAMMING USING JAVA**

Total Hrs: 60   **NO. Of. Hours: 4**   **Credits: 3**

Unit wise weight age of Marks

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	1	2
Unit-2	2	2
Unit-3	1	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 Year2020-21)

COMPUTER SCIENCE	ECCSCP41	2022-23	B. Com (e-Com-Computers)

SEMESTER – IV   **PAPER – V**

Lab List: OBJECT ORIENTED PROGRAMMING USING JAVA   Pass Marks 20

No. of Hours per week: 2   External: 40   Internal: 10   Credits: 1

1. Write a program to perform various String Operations

2. Write a program to print the given number is Armstrong or not?

3. Prompt for the cost and selling price of an article and display the profit (or) loss

4. Write a program to print the numbers given by command line arguments

5. Write a program on class and object in java

6. Illustrate the method overriding in JAVA

7. Write a program to find the Simple Interest using Multilevel Inheritance

8. Write a program to display matrix multiplication.

9. Write a program on interface in java

10. Write a program on inheritance

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	ECCSCT42	2022-'23	B.Com.(E-Commerce)

SEMESTER – IV   **PAPER – VI**   **Max. Marks: 75**

<u>**Syllabus**</u>   <mark>**DATA BASE MANAGEMENT SYSTEM**</mark>S

NO Of Hours: 5   **No Of Credits: 3**   **Pass Marks: 30**

Course Objective: Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Course Prerequisites (if any):
Course Description: This course focuses towards Database System Concepts and Architecture, ER models, relational algebra relational calculus, SQL and PL/SQL.
Course Objectives:
The objective of the course is to introduce the design and development of databases with special emphasis on relational databases. Design & develop database for large volumes & varieties of data with optimized data processing techniques.
Course Outcomes: At the end of this course, students should be able to:
On completing the subject, students will be able to:

CO1	Understand the Characteristics and basics of Database.(PO5, PO7)
CO2	Understand file system and Architecture of DBMS(PO5, PO7)
CO3	Enlighten ER Diagrams, Relationship, Notation & schema. (PO5, PO7)
CO4	Enlighten EER Diagrams & Applying constraints on data. (PO5, PO7)
CO5	Implementing SQL commands retrieve, insert, modify and update(PO5, PO7)

Unit – 1: Database Systems Introduction **12Hrs**
Database Systems: Introducing the database and DBMS, Why the database is important,
Historical Roots: Files and File Systems, Problems with File System, Data Management, Database Systems.
Data Models: The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.
Unit - II: Relational Database & Data Modelling **12 Hrs**
The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules.*Entity Relationship Model:* The ER Model
Advanced Data Modelling: The Extended Entity Relationship Model, Entity clustering.
Unit-III: Normalization and Database Design **14 Hrs**
Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.
Unit-IV: Structured Query Language **12 Hrs**
Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators,
Unit-V: Procedural SQL **10 Hrs**
Introduction to PL/SQL : Triggers, Stored Procedures, Pl/ SQL Stored Functions
Prescribed Text Book:
   1. **Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, Seventh Edition, Thomson (2007).**
Reference Books:
   1. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley
   2. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, Schaum'sOutlibe series, Tata McGraw Hill (2007).

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified
DATABASE MANAGEMENT SYSTEMS
MODEL PAPER FOR SEM END EXAMINATION

Class: B.Com (E-COMMERCE)
Course Code: ECCSCT42   **Max. Marks: 75M**
Semester: IV   **Time: 3 Hours**

Section - A

ANSWER ANY <u>FIVE</u> QUESTIONS   **5x5M=25M**

1. Explain the difference between data and information. (CO1, L2)
2. List the Disadvantages of Traditional file system? (CO2, L1)
3. Explain Integrity Rules? (CO2, L1)
4. Explain different types of entities and attributes? (CO3, L2)
5. Explain 3NF with example (CO3, L2)
6. What is constraint. Explain different type of constraints. (CO4, L1)
7. Demonstrate the features of SQL. (CO5, L2)
8. Explain PL/SQL Structure. (CO5, L2)

Section - B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9. A) Explain Drawbacks of File System. (CO1, L2)

    (OR)

    B)Explain Different types of Data models. (CO1, L2)

10. A) Explain Codd's Database rules. (CO2, L1)

    (OR)

    B) Explain EER Model with example (CO2, L1)

11. A) What is Normalization? Explain Different types Normal forms (CO3, L1)

    (OR)

    B) What is denormalization? Explain denormalization on different tables.(CO3, L1)

12. A) Explain DDL& DML Commands (CO4, L1)

    (OR)

    B) Explain SQL JOINS (CO4, L1)

13. A) Explain Triggers with example. (CO5, L2)

    (OR)

    B)Explain Stored procedure with examples. (CO5, L2)

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 Year2020-21)

COMPUTER SCIENCE	ECCSCP42	2022-23	B. Com (e-Com-Computers)

SEMESTER – IV   **PAPER – VI**

Lab List: **DATA BASE MANAGEMENT SYSTEM**   **Pass Marks 20**
No. of Hours per week: 2   **External: 40**   **Internal: 10**   **Credits: 1**

1. Creation of college database and establish relationships between tables
2. Show the structure of the Student table.
3. Show the structure of the Emp table.
4. Show the structure of the DEPT table.

Queries
1. Explain the syntax of SELECT statement.
2. Create a query to display the name, job, hiredate and employee number from emp table.
3. Create a query to display unique jobs from the emp table.
4. Create a query to display the empno as EMP#, ename as EMPLOYEE and Hire_date from emp.
5. Create a query to display all the data from the EMP table. Separate each column by a comma and
6. name the column THE_OUTPUT.
7. Create a query to display the name and salary of employees earning more than 2850.
8. Create a query to display the name and salary for all employees whose salary is not in the range of
9. 1500 and 2850.
10. Display the employee name, job and start date of employees hired between February 20 ,1981
11. and May 1, 1981. Order the query in ascending order of start date
12. Display the employee name and department number of all the employees in departments 10 and 30
13. 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
16. commission.
17. Display the name and job title of all employees who do not have a manager.
18. Display the name, job and salary for all employees whose job is Clerk or Analyst and their salary
19. is not equal to 1000, 3000 or 5000.
20. Display the names of all employees where the third letter of their name is an 'A'.
21. Display the names of all employees who have two 'L's in their name and are in department 30 or
22. their manager is 7782.
23. Display the name , salary and commission for all employees whose commission amount is grater
24. than their salary increased by 10%.
21. Explain all the character functions.
22. Explain all the number functions.
23. Explain all the Date functions.

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

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	ECCSCT43	2022-'23	B.Com.(E-Commerce)

SEMESTER – IV   **PAPER – VII**   **Max. Marks: 75**

DATA COMMUNICATION & NETWORKS

NO Of Hours: 5   **No Of Credits: 3**   **Pass Marks :30**

LEARNING OBJECTIVES:

1. Understand the structure of Data Communications System and its components. Be familiarize with different network terminologies.
2. Familiarize with contemporary issues in network technologies.
3. Know the layered model approach explained in OSI and TCP/IP network models
4. Identify different types of network devices and their functions within a network.
5. Learn basic routing mechanisms, IP addressing scheme and internetworking   concepts.
6. Familiarize with IP and TCP Internet protocols.

COURSE OUTCOMES: Upon Completion of the course, the students will be able to:
- Able to understand the fundamentals of computer networks, TCP/IP protocol.
- Able to understand the data communication techniques and multiplexing techniques.
- They will be able to understand the network switching techniques and various access mechanisms.
- Able to understand CSMA/CD protocols, routing algorithms.

UNIT I.:**Introduction to Computer Networks and Networking Elements**:   12Hrs
 Network Definition, Network Topologies, Network Classifications, Network Protocol, Layered Network Architecture, Overview of OSI Reference Model, Overview of TCP/IP Protocol Suite, Hub, Switch (Managed and Unmanaged), Routers

UNIT II.: **Data Communication Fundamentals and Techniques:**   12 Hrs
Analog and Digital Signal, Data- Rate Limits, Digital to Digital Line Encoding Schemes, Pulse Code Modulation, Parallel and Serial Transmission, Digital to Analog Modulation - Multiplexing Techniques-FDM, TDM, Transmission Media.

UNIT III. Networks Switching Techniques and Access Mechanisms: 12 Hrs
Circuit Switching, Packet Switching- Connectionless Datagram Switching, Connection- Oriented Virtual Circuit Switching; Dial-Up Modems, Digital Subscriber Line, Cable TV for Data Transfer.

UNIT IV. **Data Link Layer Functions and Protocol**:   12 Hrs
Error Detection and Error Correction Techniques, Data-Link Control- Framing and Flow Control, Error Recovery Protocols-Stop and Wait ARQ, Go-Back-N ARQ, Point to Point Protocol on Internet.

UNIT V. Multiple Access Protocol and Network Layer: 12 Hrs
CSMA/CD Protocols, Ethernet LANS; Connecting LAN and Back-Bone Networks- Repeaters, Hubs, Switches, Bridges,Router and Gateways, Networks Layer Functions and Protocols Routing, Routing Algorithms, Network Layer Protocol of Internet - IP Protocol, Internet Control Protocols.

TEXTBOOKS :
        ● B. A. Forouzan: Data Communications and Networking, Fourth edition, THM Publishing Company Ltd 2007. ● A. S. Tanenbaum: Computer Networks, Fourth edition, PHI Pvt. Ltd 2002

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

DATA COMMUNICATION & NETWORKS
MODEL PAPER

CLASS: B.Com (e-Com-Computers)   **Max. Marks: 75M**
Course Code: ECCSCT43   **Min. Pass: 30M**
Semester: IV   **Time: 3 Hours**

Section-A

ANSWER ANY FIVE QUESTIONS   **5x5M=25M**

1.

2.

3.

4.

5.

6.

7.

8.

Section-B

ANSWER THE FOLLOWING QUESTIONS   **5x10M=50M**

9. (A)   (OR)
    (B)
10. (A)
    (OR)
    (B)
11. (A)
    (OR)
    (B)
12. (A)
    (OR)
    (B)
13. (A)
    (OR)
    (B)

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

Vuyyuru-521165. NAAC reaccredited at 'A' level

Autonomous -ISO 9001 – 2015 Certified

DATA COMMUNICATION & NETWORKS

BLUE PRINT

CLASS: B.Com (e-Com-Computers)　　　　　　　　　　**Max. Marks: 75M**

Course Code:　ECCSCT43　　　　　　　　　　　　　　**Min. Pass: 30M**

Semester: IV　　　　　　　　　　　　　　　　　　　**Time: 3 Hours**

Section-A

ANSWER　ANY FIVE　QUESTIONS　　　　　　　　　　**5x5M=25M**

　1.　UNIT -1 -- 5M
　2.　UNIT -2 -- 5M
　3.　UNIT -2 -- 5M
　4.　UNIT -3 -- 5M
　5.　UNIT -3 -- 5M
　6.　UNIT -4 -- 5M
　7.　UNIT -4 -- 5M
　8.　UNIT -5 -- 5M

Section-B

ANSWER THE FOLLOWING QUESTIONS　　　　　　　　**5x10M=50M**

　9.　UNIT -1 -- 10M
　　　　　　　　　　　　　OR
　　　UNIT -1 -- 10M
10.　UNIT -2 -- 10M
　　　　　　　　　　　　　OR
　　　UNIT -2 -- 10M
11.　UNIT -3 -- 10M
　　　　　　　　　　　　　OR
　　　UNIT -3 -- 10M
12.　UNIT -4 -- 10M
　　　　　　　　　　　　　OR
　　　UNIT -4 -- 10M
13.　UNIT -5 -- 10M
　　　　　　　　　　　　　OR
　　　UNIT -5 -- 10M

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: Data Structures

Semester: II   **PAPER-II**

Course Code	CSCT21B	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 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", YashavantKanetkar, BPBPublications
- "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 andchallenging)

2. Student seminars (on topics of the syllabus and related aspects (individualactivity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or

groups asteams))

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. GroupDiscussion
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 collaborativework.

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: 2022-2023

TITLE: DATA STRUCTURES   **COURSE CODE:** CSCT21B
SECTIONS: B.Sc. (MPCS / MCCS / MSCS)   SEMESTER: II

TIME: 3 Hrs.   **MAX: 70M**   Pass Marks 30
SECTION A   **(20MARKS)**

1.(a)   Define ADT? Explain with examples. 4M   (CO1,L1)
             OR
(b) What are different approaches in designing an algorithm? 4M   CO1,L1

2.(a)   Write code for deletion in a doubly linked list. 4M   CO2,L1
             OR
(b) Distinguish between linked lists and arrays.   4M   CO2,L1

3.(a) Demonstrate applications of stack.   4M   CO3,L2
             OR
(b) Develop code for push and pop operations in stacks using linked lists. 4M CO3,L2

4. (a) Explain applications of trees. 4M   CO4,L2
             OR
(b) Demonstrate types of trees. 4M   CO4,L2

5. (a) Build code for bubble sort. 4M   CO5,L3
             OR
(b)Identify applications of graphs. 4M   CO5,L3

SECTION B (50MARKS)
Answer all Questions.
(Restrict to a maximum of 2 subdivisions)

6.(a)Define Data structure, structured type and data type.10M   CO1,L1
             OR
  (b) What is Algorithm analysis and Big O notation ? 10M   CO1,L1
7.(a)Show code for insertion and deletion of nodes in a single linked list. 10M   CO2,L1
             OR
  (b)Write code for insertion and display of values in circular linked list . 10M   CO2,L1
8. (a)Demonstrate stack. Classify functions for various stack operations using arrays.10M
      CO3,L2
             OR
(b)Interpret code to implement circular queues using arrays. 10M   CO3,L2
9.(a) Explain deleting a node in a binary search tree with examples. 10M   CO4,L2
             OR
(b)Explain binary tree traversals with examples.10M   CO4,L2
10. (a)Simplify Merge sort with an example and apply code for it. 10M   CO5,L3
             OR
(b)Discover Depth first traversal with an example. 10M   CO5,L3

***

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 2022-23)

COMPUTER SCIENCE	CSCT21B	2022-'23	B.Sc.(MPCs,MCCs,MSCs)

SEMESTER – II   PAPER –II   Max. Marks 75   Pass Marks 30
Guidelines for paper setting '**DATA STRUCTURE**'

<u>Unit wise weight age of Marks</u>

	Section-A (Short answer questions)	Section-B (essay questions)
Unit-1	2	2
Unit-2	2	2
Unit-3	2	2
Unit-4	2	2
Unit-5	2	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 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.
PAPER-II

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

Vuyyuru-521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

Title of the Paper: **E–COMMERCE & WEB DESIGNING**

Semester: II   PAPER-II

Course Code	**CABT21A**	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 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	on successful completion of this course, students should have the knowledge and skills to
CO1	in knowledge in E- commerce and its business models
CO2	fferentiate traditional and e – marketing and also gain knowledge in E-CRM and EPS
CO3	derstand the structure of HTML its basic tags
CO4	plement various HTML tags for web page development
CO5	derstand about web page designing

Syllabus

UNIT I: An Overview on E-Commerce   **(10periods)**
 1.1 Introduction E-Commerce
  1.1.1   Definition of E- Commerce and its advantages & disadvantages
  1.1.2   Electronic Data Interchange (EDI)
  1.1.3   E-Commerce transactional issues and challenges
  1.1.4   Difference between Commerce and E-Commerce
 1.2 Business Models for Ecommerce
  1.2.1   B2C -Business to consumer.
  1.2.2   B2B – Business to business
  1.2.3   C2B – Consumer to business.
  1.2.4   C2C – Consumer to consumer.

UNIT II: E-Marketing &E – CRM& Electronic Payment Systems   **(10periods)**
 2.1 Online Marketing
  2.1.1   Traditional Vs. E-Marketing
  2.1.2   Online Marketing
  2.1.3   E-Advertising
  2.1.4   Internet marketing
 2.2 E – CRM
 2.2.1   Definition of CRM and E-CRM and its Applications
  2.2.2 E- CRM Architectural components
  2.2.3 Definition & characteristics of E- SCM
  2.2.4 Benefits and goals of E – SCM
  2.2.5 E-Logistics of UPS

UNIT III: Electronic Payment Systems   **(10periods)**
   3.1 Types of EPS
3.2 Traditional payment system and modern payment system
3.3 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
4.2 **Lists**
4.2.1   Ordered List
   4.2.2   Unordered List
 4.3**Links**
4.3.1   Link tag
   4.3.2   Image tag
   4.3.3   Marquee tag
 4.4**Tables**
4.4.1   Table Creation
   4.4.2   Attributes of Table
4.5**forms& 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)**
 5.1 Getting Started with Wix
   5.1.1 Adding and Editing Text
   5.1.2 Adding a Site Title
   5.1.3 Changing Your Text Font
   5.1.4 Creating a Clickable URL

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", dreamtech.

2.Daniel Amor, E-Bussiness R(Evolution), Pearson Edude, New Delhi, 2005.

Weblink: **https://support.wix.com/en/the-wix-editor/editor-basics**

AG & SG SIDDHARTHA COLLEGE OF ARTS AND SCIENCES - VUYYURU.
An Autonomous college within the jurisdiction of Krishna University A.P, India.

Computer Science	CABT21A	2022-23	B. Com (Computers Applications)

Semester - II   **PAPER-I**   **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	plementing lists and tables in web pages.
CO3	plementing frames in web pages.
CO4	plementing frames in web pages.
CO5	eation 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 RowSpan and ColSpan.

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

Title: E-Commerce & Web Designing
Model Paper

CLASS: B.Com (Computer Applications)	**Course Code: CABT21A**	**Max. Marks: 75M**
Semester: II		**Time: 3 Hours**

<div align="center">

SECTION A   **(20MARKS)**

</div>

1. (a)   Explain the E-Commerce with advantages and disadvantages 4M
                OR
   (b) What are transactional issues in ecommerce? 4M

2. (a) Compare Traditional marketing and E-Marketing. 4M
                OR
   (b) Define CRM and E-CRM and its applications .   4M

3. (a)distinguish between traditional and modern payment system . 4M
                OR
   (b)what are different payment securities in EPS. 4M

4. (a)Define structure of HTML. 4M
                        OR
   (b) Explain i) link tag ii)image tag iii) marquee tag . 4M

5. (a)write the procedure to add and edit text in WIX editor. 4M
                        OR
   (b)how to add a link to a button. 4M

<div align="center">

SECTION B (50MARKS)
Answer all Questions.
(Restrict to a maximum of 2 subdivisions)

</div>

6.(a) Explain briefly about EDI..10M
                OR
   (b) Explain different Bussiness models in ecommerce ? 10M

7.(a) Illustrate E- CRM Architectural components 10M
                OR
   (b)explain about E-Advertising . 10M

8. (a)explain different Electronic Payment Systems.10M
                OR
   (b)illustrate various steps involved in electronic payment. 10M

9.(a) Demonstrate the concept of Table creation by apply all Attributes. 10M
                OR
   (b) Define forms in html and creation of form with all input types.10M

10. (a) Explain the steps to add elements to your site. 10M
                OR
    (b) How to add images and logo to your site. 10M

<div align="center">

***

</div>

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 2022-23)

COMPUTER SCIENCE	CSCT21B	2022-'23	B.Com.(CA)

SEMESTER – II   PAPER –II   Max. Marks 70   Pass Marks 28

Guidelines for paper setting '**E-Commerce Web Designing**'

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	2	2
Unit-5	2	2

o Each Short answer question carries 5 marks in Section –A

o Each Essay question carries 10 marks in Section –B

o 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: **Information Technology**

Semester: II   PAPER-III

Course Code	**CABT21A**	Course Delivery Method	Class Room / Blended Mode – Both
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: ----	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 2022-23)

Semester II	Course Code	Course Title	Credits	Periods
B.Com.(E-Commerce)	**CABT21A**	**Information Technology**	**4**	**75**

UNIT-I: INTRODUCTION: **13Periods**
1.1 Introduction to computers
1.2 Generations of computers
1.3 An overview of computer system - Types of computers
1.4 Input & Output Devices.
1.5 Hardware: Basic components of a computer system- Control unit– ALU- Input/output functions.

1.6 Memory – RAM – ROM – EPROM - PROM and Other types of memory.
UNIT-II: OPERATING SYSTEM (OS): **12Periods**
2.1 Meaning - Definition & Functions.
2.2 Types of OS - Booting process
   2.2.1 DOS – Commands (internal & external) - Wild card characters
2.3 Windows: Using the Start Menu –Control Panel – Using multiple
   2.3.1 Windows – Customizing the Desktop – Windows accessories (Preferably latest version
   of windows or Linux Ubuntu).
Unit-III: SOFTWARE: **15Periods**
3.1 System software and application software.
   3.1.1 Operating system windows OS,
   3.1.2 Mobile device operating system and notebook operating systems
3.2 Application software Types of personal application software
3.2.1 Spread sheet-data management
3.2.2 Word processing
3.2.3 Desktop publishing
3.2.4 Graphics, CAD, CAM, CIM
3.3 Programming Languages
3.3.1 Assembly language
3.3.2 Procedural language, non-procedural language, natural programming language.
3.3.3 Hypertext mark-up language, modeling language, object-oriented programming language.

Unit-IV: DATA COMMUNICATION: **20 Periods**

4.1 Telecommunication and Networks Communication media& channel cable media

4.1.1 Broad cast media channels twisted pair
4.1.2 Coaxial cable, fibers optical cable, micro wave, satellite, radio, cellular radio,
       Infrared global positioning system.
4.2 Introduction, Analog and Digital signals, modulation need of modulations, modems.
4.3 Telecommunication System communication processors:
4.3.1 Modem
4.3.2 Multiplexers
4.3.3 Front –end-processor.
4.4 Networks LAN, WAN, VAN, virtual private network (VPN).
4.5 Internet, intranet and Extranets
4.5.1 The evolution of the internet, service provided by the internet, World Wide Web.

Unit-V: NEW TECHNOLOGIES: **10 Periods**

5.1New technologies in Information Technology:

5.1.1 Introduction to hyper media, artificial intelligence and business intelligence, knowledge discovery
 in database (KDD)

5.2 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 2022-23)
MODEL Question Paper:
PAPER TITLE: INFORMATION TECHNOLOGY   COURSE CODE: CABT21A
CLASS: B.Com (E-Commerce)
SEMESTER: II
TIME: 3 Hrs.   MAX: 70M

SECTION – A

Answer ALL of the following   5X4 =20M
1.A) Illustrate the characteristics of RAM and ROM. (CO1, L2)
(OR)
.B)Explain Block Diagram of computers
2.A)Define Operating system. What are different types of OS? (CO2, L1)
(OR)
B)Explain Windows accessories
3.A)Demonstrate application software and system software. (CO3, L2)
(OR)
   B)What are the different types of networks? (CO4, L1)
4.A)Explain the steps involved in the process of KDD. (CO5, L2)
(OR)
    B)Explain about input devices. (CO1, L2)
5.A)What are analog and digital signals? (CO4, L1)
(OR)
       B)Explain Data warehouse. (CO5, L2)

SECTION –B

Answer the following   5x10=50M

1. a) Explain the block diagram of computer. (CO1, L2)
                       OR
    b) Explain the generations of computers. (CO1, L2)

2. a) What are the functions of operating system? (CO2, L1)
                       OR
    b) What are DOS Internal and External commands? (CO2, L1)

3. 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)

4. a) Define the various types of Communication media and channels. (CO4, L1)
                       OR
    b) What are the Advantages and Disadvantages of Internet? (CO4, L1)

5. a) Demonstrate On-Line Analytical process (OLAP). (CO5, L2)
                       OR
   b) Explain about Artificial Intelligence and Business Intelligence. (CO5, L2)
                       @@@@

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	ECCSCT21	2022-'23	B.Com (E-Commerce)

SEMESTER – II   **PAPER – II**   Max. Marks 70
Syllabus: Programming in 'C'
NO of Hours: 4   **No Of Credits: 3**   **Pass Marks :28**

UNIT-I: General Fundamentals& Programming Languages   **10Hrs**
General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations. Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, **Programming Languages** – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

UNIT- II: Introduction To C & Decision Making control Statements   **12Hrs**
Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comment , Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C-Operators in C- Programming Examples.
Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement.

UNIT III: Arrays   **10 Hrs**
Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi dimensional arrays, character handling and strings.

UNIT-IV:Functions & Structures   **13Hrs**
   Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.
   Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

UNIT-V:Pointes&Files   **15Hrs**
Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers -– Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers
Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

   BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" -

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

Vuyyuru- 521165. NAAC reaccredited at 'A' level
Autonomous -ISO 9001 – 2015 Certified

Title: Programming in 'C'
Model Paper

CLASS: B.Com (e-Com-Computers)	**Course Code: ECCSCT21**	**Max. Marks: 75M**
Semester: II		**Time: 3 Hours**

SECTION A   (20MARKS)
Answer all Questions.

1. (a)   What is Algorithm ? Explain with Example and Flow Chart? 4M

                              OR

   (b) Explain Programming Methodologies in C. 4M

2. (a) Explain Data Types in C. 4M

                              OR

   (b) Explain the Working of GOTO Statement with Example Program4M

3. (a)What is Array ? Explain in Detail.   4M

                              OR

   (b)Difference Between While and Do-While loop.4M

4. (a)Explain Types of User Defined Functions in C. 4M

                              OR

   (b)Define Union Concept in C with example program. . 4M

5. (a)Define Pointer and write the features of pointers. 4M

                              OR

   (b)Explain Different types of Files used in C Program. 4M

SECTION B (50MARKS)
Answer all Questions.

6.(a) Explain the Structure of C Program? With example program.10M

                              OR

   (b) Explain in detail about Generations of Programming Languages. 10M

7.(a) Explain Looping Statements in C with example Programs. 10M

                              OR

   (b)Expalin Different Types of Operators in C. 10M

8. (a)What Is an Array? Explain One-Dimensional Array with an Example Program in C.10M

                              OR

   (b) What Is an Array? Explain Two-Dimensional Array with an Example Program.10M

9.(a) What Is Function? Explain Function Declaration, Function Definition & Function Calling with an Example Program in C. 10M

                              OR

   (b) What is String? Explain list any five String Handling Functions With Syntaxes& Examples.10M

10. (a) Explain Pointers Concepts in details in C with Example Program. 10M

                              OR

   (b) What is File? Explain any File Handling Functions in C. 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 2022-23)

COMPUTER SCIENCE	ECCSCT21	2022-'23	B.Com.(e-Com-Computers)

SEMESTER – II   PAPER –II   Max. Marks 70   Pass Marks 28
Guidelines for paper setting **Programming in'C'**
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	2	2
Unit-5	2	2

o Each Short answer question carries 5 marks in Section –A
o Each Essay question carries 10 marks in Section –B
o 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	ECCSCP21	2022-'23	B.Com (E-Commerce)

SEMESTER – II   **PAPER – II**   **Max. Marks 70**

Syllabus: **Programming in 'C' Lab**

Cycle-I

Week 1:

Write a C program to check whether the given two numbers are equal, bigger or smaller?

Week 2:

Write a C program to perform arithmetic operations using Switch...case?

Week 3:

 ⌐ Write a program to find the sum of individual digits of a positive integer.

 ⌐ Write a program to check whether the given number is Armstrong or not.

Week 4:

Write a program to generate the first N terms of the Fibonacci sequence.

Week 5:

Write a program to find both the largest and smallest number in a list of integer values

Week 6:

 ⌐ Write a program that uses functions to add two matrices.

 ⌐ Write a program for multiplication of two n X n matrices.

Week 7:

Write a program to demonstrate refection of parameters in swapping of two integer values using Call by

Value& Call by Address.

Week 8:

Write a program to calculate factorial of given integer value using recursive functions.

Cycle-II

Week 9:

Write a program to search an element in a given list of values.

Week 10:

Write a program to illustrate pointer arithmetic.

Week 11:

Write a program to sort a given list of integers in ascending order.

Week 12:

Write a program to calculate the salaries of all employees using Employee (ID, Name, Designation, Basic Pay,

DA, HRA, Gross Salary, Deduction, Net Salary) structure.

a. DA is 30 % of Basic Pay

b. HRA is 15% of Basic Pay

c. Deduction is 10% of (Basic Pay + DA)

d. Gross Salary = Basic Pay + DA+ HRA

e. Net Salary = Gross Salary - Deduction

Week 13:

Write a program to perform various string operations.

Week 14:

Write a program to read the data character by character from a file.

Week 15:

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, KRISHNA Dt., A.P.(Autonomous)

Accredited by NAAC with "A" Grade

2022-2023

DEPARTMENT OF ECONOMICS

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

27-03-2023

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE (AUTONOMOUS) VUYYURU

ACEDAMIC YEAR - 2022 - 2023

Minutes of the meeting of the Board of Studies in Economics of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 11.00 a.m on 27 – 03 – 2023 In the Department of Economics Through online Mode.

Sri.N.Rama Raol, HOD, Economics has Presided over the BOS meeting

Members Present:

1) ....N Rama......... Chairman   Head, Department of Economics
   (Sri.N.Rama Rao)   AG & SG S Degree College of Arts & Science
                                       Vuyyuru-521165

2)........................... University   Head Department of Economics
  (Mrs G.Nirmala Jyothi)   Nominee   S.A.S. Government Degree College
                                         Narayana Puram

3)........................... Academic Council   Head, Department of Economics
  (D.Aruna)   Nominee   SDMS Mahila Kalasala, Vijayawada

4)........................... Academic Council   Lecturer in Economics ,
  (G.Suresh Babu)   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 2ndand 4th Semesters of I and II Year B.A Economics 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 4thSemesters of B.A Degree Economics papers for the Academic Year 2022-2023.

3. To Recommend the guidelines to be followed by the Question Paper Setters in Economics for the2nd, 4thand 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.

<u>RESOLUTIONS:</u>

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.

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 has introduced Two New Subjects i.e., Economic Development inIndia 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 and 2022-23.**

It is resolved to follow further changes if any in the syllabus by the competent Authority.

N Ramaka
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**	**30**	**70**	**3 Hrs.**

SEMESTER –IV

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
ECO – T41	ECONOMIC DEVELOPMENT-INDIA AND ANDHRA PRADESH	5	4	25	75	3 Hrs.
ECO – T42	STATISTICAL METHODS FOR ECONOMICS	5	4	25	75	3 Hrs.

Economics	**ECOT21B**	**2021-2022**	**B.A.(E.M)**

MACROECONOMIC ANALYSIS

B.ASEMISTER–II

UNIT –IINTRODUCTION ANDNATIONAL INCOME

1.1AN INTRODUCTIONTO MACRO ECONOMICS
1.1.1   Definition, scopeandimportanceofMacroEconomics
1.1.2   EvolutionofMacroEconomics
1.1.3   MacroEconomicsParadoxes
1.1.4   Circular Flow ofIncomeandExpenditureinTwo,ThreeandFoursectorEconomy

1.2NATIONALINCOME
1.2.1   MeaninganddefinitionofNational Income–Marshall, Pigou,Fisher
1.2.2   National IncomeAggregates–GDP, GNP, NDP, NNP,NNPfc,PI,DI,P.CI, RNI, RPIC
1.2.3   Measurementof National Income–Product,Income andExpendituremethods
1.2.4   Concepts ofGreen Accounting

UNIT – IITHEROIESOFEMPLOYMENT

2.1THEORIESOFEMPLOYMENT
2.1.1   Classical Theoryof Employment
2.1.2   Say's LawofMarkets
2.1.3   KeynesianTheory ofEmployment

2.2THEORIESOFCONSUMPTION
2.2.1   AverageandMarginal propensitytoconsume
2.2.2   Keynes psychologicalLaw of Consumption
2.2.3   Briefreviewof Absolute, Relative,Life cycleand Permanent incomehypothesis

2.3THEORIESOFINVESTMENT
2.3.1   Marginal Efficiencyof Capital(MEC)
2.3.2   MultiplierPrinciple ConceptsanditsWorking
2.3.3   TheAccelerationprinciple

2.4AggregateDemandFunction–AlgebraicExplanation

2.5IS –LMCurves–Equations

2.6TheGoodsMarketandMoneyMarketEquilibrium–AlgebraicExplanation

UNIT IIIMONEYANDBANKING

3.1THEORYOFMONEY

3.1.1 Meaning, DefinitionandFunctionsofMoney
3.1.2 Gresham'sLaw
3.1.3 R.B.I ClassificationofMoney (NM_1, NM_2,
3.1.4 Fisher'sQuantity Theoryof Money
3.1.5 CambridgeApproach(Marshall,Pigou, RobertsonandKeynesEquations

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)

5.2THEORYOFINSURANCE

5.2.1Concept andOriginofInsurance

5.2.2Typesof Insurance

5.2.3Importanceof Insurance

Text book:

MacroEconomics–TeluguAkademiPublication

ReferenceBooks:

1. Dillard D.TheEconomicsofJhon Maynard Keynes, Cross byLockWoodandsons Londan
2. M. C. Vaish–MacroeconomicsTheory,VikasPublishingHouse,NewDelhi
3. S.B Guptha –MonetaryEconomics, S. Chanda andCo,Delhi
4. P.NChopra–Macroeconomics,KalyaniPublishers,Ludhiana 2014
5. D.MMithani,MacroEconomics Analysis andPolicy, OxfordandIBH, NewDelhi
6. MNMishra andS BMishra, InsurancePrinciples andPractice,S Chand
7. Lewis, MKandPDMizan–MonetaryEconomics, OxfordUniversityPress, New Delhi
8. Central StatisticalOrganisation, National AccountsStastics
9. M.L.Seth,Macroeconomics, Lakshmi NarayanAgarwal, 2006
10.K.P.M. Sundaram, Money,BankingandInternationalTrade,SultanChand,2006
11.R.R.Paul, MonetaryEconomics,KalyaniPublishers, Ludhiana, 2018
12.Macroeconomics, SpectrumPublishingHouse,Hyderabad, 2016

RecommendedCo-curricularActivities:

1. Assignmentsontrends in national income, moneysupplyandinflation
2. StudentSeminars/webinaronmacroeconomicthemesof contemporaryimportancefor Indian economy(Eg-Covid-19impactonaggregatedemand,supplychaindisruption, policyresponse etc)
3. Quiztotestcritical understandingof theconceptsandtheoriesofmacroeconomicsandtheir application inpractice
4. Groupdiscussiononmonetarypolicyanditseffectivenesswith referencetorecent developments.
5. Groupproject worktostudy thetrends in national income,inflation,money, supplyetc.
6. Chat/posterpresentationonNational IncomeTrends, inflation, aggregatedemandetc.
7. Web-based assignmentonBanking/Money.

(An Autonomous college in the jurisdiction of KrishnaUniversity, Machilipatnam)

SEMESTER- II

Economics	ECOT21B	2022-2023	B.A.(E.M)

MACROECONOMIC ANALYSIS

Max: Marks:70   **MaX.Time:3 Hrs.**

Answer all Questions
(Restrict to a maximum of 2 subdivisions)
SECTION-A (20 MARKS)   5X4=20M

1. (a)Macro Economic Paradoxes?   4M   L1
                              Or
    (b)Product method   4M   L1

2. (a) ExplainJ.B. Say market law?   .   4M   L1
                              Or
    (b)Marginal Efficiencyof Capital   4M   L1

3. (a)R.B.I ClassificationofMoney?   4M   L2
                              Or
    (b)Gresham'sLaw   4M   L2

4. (a) Types of inflation.   4M   L2
                              Or
    (b) CausesofTradeCycles.   4M   L2

5. (a) FunctionsofMoneyMarket   4M   L3
                              Or
    (b) FunctionsofStockExchange   4M   L3

ANSWER ALL QUESTIONS
(Restrict to a maximum of 2 subdivisions)
SECTION -B (50 MARKS) 5X10=50M

6. (a) Explain different concepts of National Income?　　　　10M　L1
　　　　　　　　　　　　Or
(b)Explain different methods of estimating National Income?10M　L1

7. (a) Critically examine Explain the classical theory of Employment.　　10M　L1
　　　　　　　　　　　　Or
(b) Discuss aboutKeynesian consumption function　　.　　　　10M　L1

8. (a) Explain the meaning and functions of Money　　　　　　10M　L2
　　　　　　　　　　Or

(b)Explain FunctionsofCommercial Banks　　　　　　　　　10M　L2

9. (a) ExplainPhasesof TradeCycles.　　　　　　　　　　10M　L2
Or
(b)Explain StructureofFinancialSystem?　　　　　　　　　10M　L2

10. (a) Explain the meaning, definition and Importanceof Insurance?　10M　L3
　　　　　　　　　　　　Or
(b)Explain FunctionsofCapitalMarket?　　　　　　　10M　L3

AG&SG SIDDHARTHA DEGREE COLLEGE OF ARTS and SCIENCE (AUTONOMOUS) VUYYURU

ACEDAMIC YEAR 2022 - 2023

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

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)
B. A. ECONOMICS

Economics	ECOT41	(2022-2023)	BA (EMS)

Semester – IV   MODEL QUESTION PAPERECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

Duration: 3hrs   Maximum marks: 75 M   Pass marks:30

Section- A

Answer any <u>Five</u> of the following questions: 5X5= 25M

1. What is Global Human Development index
2. Concepts of Poverty.
3. Start – up Programmes
4. Skill India
5. What is Goods and Services Tax?
6. Importance of Tourism in AP
7. What are the objectives of Indian Economy?
8. MGNREGS

Section - B

Answer any <u>Five</u> of the following questions: 5X10=50M

9. (A) Discuss about Basic Characteristics of Indian Economy as a Developing Economy?

(Or)

(B) Write about the establishment of NITI Ayog? Explain its objectives?

10 (A) Define poverty? Explain the causes for poverty and remedial measures to Reduce the poverty in India

(Or)

(B) What is unemployment? Explain the causes for Unemployment and Remedial measures to reduce Unemployment in India.

11. (A) Explain the Importance of Indian Agriculture sector in the Indian Economy.

(Or)

(B) Describe the Impact of Green Revolution on Indian Economy.

12 (A)Discuss about GST Impact on commerce and Industry.

(Or)

(B) Discuss the different methods of redemption of Public debt ?

13. (A) Explain the Basic characteristics of AP Economy after bifurcation in 2014?

(OR)

(B) Explain the Role of Information Technology in the economic development of Andhra Pradesh

.

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 usinggiven 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 2022 - 2023

COURSE– 5(Semester - IV)

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. Digambar Patri 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 (2022 – 2023)

Semester – IV   **PAPER CODE: ECO – T42**

PAPER TITLE :- STATISTICAL METHODS FOR ECONOMICS

Duration: 3hrs   **Maximum marks:75**
SECTION:A
Answer any <u>FIVE</u> of the following questions: 5x5= 25 M

<mark>SEMESTER- IV
Model Paper</mark>
SECTION-A

Answer of any five the Following: 5X5=25M

1. What are the uses of Statistics?
2. Pie diagram
3. Find the A.M.

No. of variable	1	2	3	4	5	6	7	8
Frequency	2	4	6	8	12	20	8	4

4. Bar Diagram
5. What is Dispersion?
6. Represent the following data by a histogram:

Marks	0-10	10-20	20-30	30-40	40-50
No. of Students	8	12	22	35	5

7. Explain the different types of Averages
8. Rank Correlation?

Answer of the Following: 5X10=50M

9.(A) From the following data Calculate A.M. by short cut method

Marks	No. of students
0-10	2
10-20	12
20-30	15
30-40	18
40-50	25
50-60	10
60-70	8
70-80	5
80-90	4
90-100	1

(OR)

(B) Find the Median:

Marks	No. of students
10-19	2
20-29	12
30-39	15
40-49	18
50-59	25
60-69	10

10.(A) What are the various methods used in Collecting Primary data?

(OR)

(B)Find median from the following data.

Classes	Frequency
100-200	3
200-300	19
300-400	17
400-500	15
500-600	18

600-700	16
700-800	12

11.(A)Compute Fisher's Ideal Index from the following data.

1989			1990	
Commodity	price	quantity	price	quantity
A	4	40	5	50
B	8	64	9	80
C	10	70	10	70
D	2	10	4	16

(or)

(B) Calculate the coefficient of correlation from the following data.

X	F
12.5	28
17.5	42
22.5	54
27.5	108
32.5	129
37.5	61
42.5	45
47.5	33

12. (A) Find Range and its Coefficient from the following:

Incomes	No. of workers
250-400	5
400-550	18
550-700	32
700-850	16
850-1000	20
1000-1150	25
1150-1300	10

(OR)

(B) Find the mean deviation and Co efficient using by A.M. and Median

X
31
47
48
52
58
59
60
65
66
75
46

13 (A)To Find Upper Quartile from the following table :

Marks	Wages
30-32	3
32-34	8
34-36	24
36-38	31
38-40	50
40-42	61
42-44	38
44-46	21
46-48	12
48-50	2

(OR)

(B) Explain Questionnaire

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

3rd April, 2023

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 03-04 -2023 through online at 11:00 am.

B.Bulli Babu   ...   Presiding

Members Present:

1)…………………………………………   Chairman   Head, Department of English
 (B.BULLI BABU)   AG & SG S Degree College
                                                                 Vuyyuru-521165

2)…………………………………………   University   Professor,
 (Dr.M.KOTESWARA RAO)   Nominee   Department of English
                                                                 Krishna University,
                                                                 Machilipatnam.

3)………………………………………...   Academic Council   Lecturer,
(Dr.G.SRILATHA)   Nominee   Department of English
                                                                 P.B.Siddhartha   College,
                                                                 Vijayawada.

4)……………………………   Academic Council   Head,
(G.SONI)   Nominee   Department of English
                                                                 GDS,
                                                                 Ravulapalem.

5)…………………………………………   Member   Lecturer in English
(R.V.V.APARNA)   AG & SG S Degree College,
                                                                 Vuyyuru-521165

Agenda for B.O.S Meeting of General English for II SEMESTER for the Academic Year 2022-23

1. To recommend syllabi for 2nd semester of I Degree students of all disciplines for the Academic Year 2022-23.

2. To recommend the Model Question Paper of 2nd semester of I Degree of all disciplines for the Academic Year 2022-23.

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 recommend the teaching and evaluation methods to be followed under Autonomous status.

5. Any suggestions regarding Certificate/Add-on Courses, Seminars, Workshops, Guest Lectures and student competitions to be organized.

6. 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 2022-23 without any changes.

3. Discussed and recommended the Question paper pattern for the 2nd Semester of I Year studentsof 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. Discussed and recommended the following teaching and evaluation methods for approval ofAcademic 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).

<u>Internal Assessment (IA)</u>

- The maximum mark for IA is 30 and SE is 70 for theory. Out of these 30 marks, 20 marks are allocated for announced tests.

- Each IA written examination is of 1½ hour duration for 30 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 for General English. 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.

<u>Semester Examinations (SE)</u>
- A student should register himself/herself to appear for the Semester Examinations by payment of the prescribed fee.
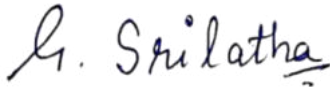
- The Semester Examinations will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration, with maximum 70 marks, irrespective of the number of credits allotted to it.

- 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 28 out of 70 in the Semester end examination.
- The maximum marks for each Paper shall be 100.
  6. 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.
  7. 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.
  8. Nil.

Signatures of the BOS Members:
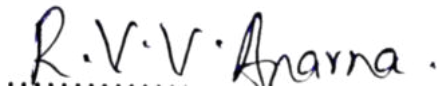
Dr.M.KOTESWARA RAO
(University Nominee)

Dr.G.SRILATHA
(Academic Council Nominee)

.

(G.SONI)
(Academic Council Nominee)

R.V.V.APARNA
(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**	**30**
No.of Lecture Hours / Week	**4**	**Semester End Exam Marks**	**70**
Total No.of Lecture Hours	**60**	**Total Marks**	**100**
Year of Introduction: 2020-21	**Year of Offering: 2022-23**	**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 appeal 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**

Changes made in the syllabus
Semester-II General English

Course content suggested by APSCHE	Additions	Deletion
I. UNIT **Prose**: 1. How to Avoid Foolish Opinions **Skills**: 2. Vocabulary: Conversion of Words 3. One Word Substitutes 4. Collocations **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 **III. UNIT** **Prose** : 1. The Night Train at Deoli **Poetry:** 2. Upagupta **Skill:** 3. Reading Comprehension 4. Note Making/Taking **IV. UNIT** **Poetry:** 1. Coromandel Fishers **Skill:** 2. Expansion of Ideas 3. Notices, Agendas and Minutes **V.UNIT** **Non-Detailed Text:** 1. An Astrologer's Day **Skills**: 2. Curriculum Vitae and Resume 3. Letters 4. E-Correspondence	Nil	Nil

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

ENGLISH	ENGT21B	2022-2023	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   Max. Marks: 70
Course Code: ENG T21B   Time: 03 Hours

QUESTION PAPER PATTERN

SECTION – A, 40 MARKS

I. ANSWER THE FOLLOWING QUESTIONS.   2x5=10M
   (Any FOUR short answer questions should be given from prose lessons in the given syllabus)
II. ANSWER THE FOLLOWING QUESTIONS.   2x5=10M
   (Any FOUR short answer questions should be given from poetry in the given syllabus)
III. ANSWER THE FOLLOWING QUESTIONS.   2x10=20M
   (Any FOUR essay questions should be given from non-detailed text in the given syllabus)

SECTION – B, 30 Marks

IV.A. Change the following sentences as directed without changing their sense. L1 CO1   2x1=2M
   (Any TWO words should be given from the given syllabus)
  B. Choose the right meaningful substitute word for the following statements. L5 CO1   2x1=2M
   (Any TWO words should be given from the given syllabus)
  C. Complete the following collocations using the words given in the brackets.L1CO3   2x1=2M
   (Any TWO words should be given from the given syllabus)
V. Read the following passage and make notes.   L3 CO3   1x4=4M
   (Any passage should be given from the given syllabus)
VI. Prepare curriculum vitae in response to the following advertisement. L3 CO5   1x4=4M
    (Any question should be given from the given syllabus)
VII. LETTER WRITING.   1x4=4M
                              OR
   E - CORRESPONDENCE
    (Any question should be given from the given syllabus)
VIII. Expand any ONE of the following proverb.   L4 CO5   1x4=4M
   (Any question should be given from the given syllabus)
IX. Read the following passage and answer the following questions. L2 CO5   5x1=5M
    (Any passage should be given from the given syllabus)
XII. NOTICES, AGENDAS AND MINUTES.
   (Any passage should be given from the given syllabus)   1x3=3M

A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE,
VUYYURU - 521165
DEPARTMENT OF ENGLISH

Title of the Paper: English Praxis –II   Max. Marks: 70
Course Code: ENG T21B   Time: 03 Hours

MODEL PAPER

SECTION-A

I. Answer the following questions: **2x5=10 M**

1. (a) What are the ways in which you can make yourself aware of your own biases?
                                OR
    (b) What was the main attraction of the doll's house for Kezia? Why?

2. (a) What happened when the train stopped at the Deoli station?
                                OR
    (b) According to the author Bertrand Russell, what are the methods by which one can get rid of dogmatism?

II. Answer the following questions: **2x5=10 M**

1. (a) What are the qualities of the West Wind that the poet admires?
                                OR
    (b) Why was the dance girl driven out of the town?

2. (a) How does Sarojini Naidu describe a day in the lives of the fishermen?
                                OR
    (b) How did Upagupta treat the suffering dancing girl?

SECTION -B

III. Answer the following questions: **2x10=20 M**

1. (a) How does Florence Nightingale describe the hospital in Scutari in one of her letters to her friend?
                                OR
    (b) Why was Florence Nightingale called as 'The Lady with the Lamp'?

2. (a) Retell the story 'An Astrologer's day' from the point of view of Guru Nayak.
                                OR
    (b) Attempt a character sketch of the astrologer.

SECTION – C
IV.A. Change the following sentences as directed without changing their sense. L1 CO1
                                                              2x1=2M
 1. The audience listened to the leader with 'patience'. (Use adverb of patience)
 2. At last he was successful in his venture. (Use verb of successful)

B. Choose the right meaningful substitute word for the following statements. L5 CO1

                                                                              2x1 =2M

1. One who looks at the bright side of things.-------------------------------
2. One believes in God._____

C. Complete the following collocations using the words given in the brackets.L1CO3
     (get, come, make)   **2x1=2M**

1. _____ a home
2. _____ a trouble

V. Read the following passage and make notes.   L3 CO3   **1 x4 =4M**

     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   1x4=4M
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   **1x4=4M**
VIII. Expand any ONE of the following proverb.   **L4 CO5**   **1x4=4M**
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 way. 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. Write the antonym for the following word.

    Worst

5. Write the synonym for the following word.

    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**
                                                                                    1x3=3M

A0G & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(AUTONOMOUS)

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

Department of Environmental studies

Minutes of the meeting of Board of Studies

27-10-2022

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. Siva Rao   Chairman   Head, Department of Environmental Studies
(Sri.R.V. Sivarao)   AG & SG S Degree College of Arts & Science
                                      Vuyyuru-521165

2) ....   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 I, semester of 1st Degree B.A, B.Com B.Sc , Environmental Studies Paper Under CBCS for the Academic year 2022-2023
2. To recommend the Teaching and Evaluation Methods to be followed under Autonomous Status.
3. Any other matter.

RESOLUTIONS

1). Discussed and Recommended changed Syllabi, Model Question Papers Under CBCS and Guidelines to be followed by the Question paper Setters of I Semester of Ist degree B.A,B.Com ,B.Sc for the Approval of the Academic Council (enclosed) for the Academic year 2022– 2023.

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 Ist Semester.

3). There is no internal Examination for this paper only External Examination will be conducted for 40 Marks But the question paper setting pattern is changed from Academic year 2021-2022. 10 marks Allocated for internal Examinations and 40 marks Allocated for External Examinations

4) 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-Siva Rao
Chairman

643

Semester: I

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
		2		CIA	SEE	
				MARKS	MARKS	DURATION
CLSC 001	Environmental Studies	30	2	10	40	2Hrs

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

LIFE SKIL COURSE

CLSC001　　2022 -'23　　B.A., B.Com., & B.Sc.

ENVIRONMENTAL STUDIES

CO1: Realize the importance of environment, the goods and services of a healthy biodiversity, dependence of humans on environment.

CO2: Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.

CO3: Discuss the laws/ acts made by government for environmental conservation and acquaint with international agreements and national movements and realize citizen's role in protecting environment and nature.

Unit 1: Environment and Natural Resources (8 Periods)

Multidisciplinary nature of environmental education. Scope and importance of vironmental education. A brief account of forest, water and renewable energy resources. Biodiversity introduction, Levels of Biodiversity: genetic, species and ecosystem diversity. Concept, Structure and functions of an Ecosystem.

Unit 2 : Environmental degradation and Impacts (12 Periods)

Threats to Biodiversity: Natural calamities, habitat destruction and fragmentation, over exploitation, hunting and poaching, introduction of exotic species, pollution, predator and pest control. A brief account of causes and effects of Air, Water, Soil and Noise pollution.

Non-renewable energy resources, their utilization and influences. Climate change, Global warming, Acid rains, Ozone depletion. Human population growth and its impacts on environment; land use change, land degradation, soil erosion and desertification.

Unit 3: Conservation of Environment (10 Periods)

Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.
Control measures for various types of pollution; use of renewable and alternate sources of energy.
Solid waste management- Measures for safe urban and Industrial wastes disposal.
Environment Laws: Environment Protection Act; Wildlife Protection Act; Forest Conservation Act.
International agreements: Montreal and Kyoto protocols. Environmental movements: Bishnois of Rajasthan, Chipko, Silent valley.

Suggested activities to learner:

1. Visit to a local polluted site-Urban/Rural/Industrial/Agricultural site.
2. Visit to a local waste disposal/ land filling site

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

Minutes of the meeting of Board of studies in Human values & Professional Ethics for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at *11.00 A.M on 19-04-2023* in the
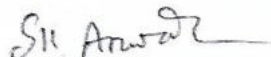
Department of Human values & Professional Ethics

Sri R.V. Sivarao   ...   *Presiding*

Members Present:

1).... *R.V.Sivalu* ....   Chairman   Head, Department of Environmental Studies
(Sri.R.V. Sivarao)   AG & SG S Degree College of Arts & Science
                                                    Vuyyuru.

2).. *PVradha* ....   University   Lecturer in Commerce
(Dr.P.V.Radhika)   Nominee   T.S.R & E.R.R Govt Degree College
                                             Pamarru.

3)...............................   Subject   Lecturer in Zoology
(Dr.K.Lakshmi)   Expert   S.D.M Siddhartha Mahila Kalasala
                                         Vijayawada.

4)...............................   Subject   Lecturer in commerce
(Sri.B.Venkateswararao)   Expert   K.T.R Women's College
                                                 Gudiwada.

Agenda for B.O.S Meeting

1. To recommend the syllabi and model paper for I. semester of I Year Degree B.A, B.Com B.Sc , Human values & Professional Ethics & Public Relations Paper Under CBCS for the Academic year 2022-2023.

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 II Semester of I degree B.A, B.Com , B.Sc., prescribed by APSCHE for the Approval of the Academic Council (enclosed) for the Academic year 2022-2023.

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 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 II semester.

3) Resolved to authorize the Chairman of Board of Studies to suggest the Panel of question Paper setters and Examiners to the Controller of Examinations as per the requirement.

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: HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)
Semester: II

Course Code	LSCT06	Course Delivery Method	Class Room / Blended Mode - Both
Credits	2	CIA Marks	15
No. of Lecture Hours / Week	2	Semester End Exam Marks	35
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:	I.B.COM., (gen/computer/e-commerce)		

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:

CO 1. Understanding Value Education, its need in modern days, the basic human aspirations of happiness and prosperity.   PO1

CO 2. Understanding harmony in the family and society   PO6

CO 3. Gaining competence in Professional Ethics.   PO4

Course Code: LSCT06   Max. Marks: 50
No. of Hours per Week: 2   External: 35
No. of Credits: 2   **SEM-II**   Internal: 15

HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)

(SYLLABUS)

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 (*SarvabhaumVyawastha*)- from family to world family.

UNIT: 3Professional 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.

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,
- 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.

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 HINDI
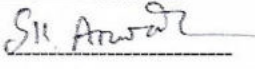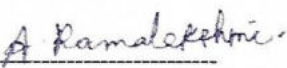
MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

28-03-2023

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 28-03-2023 in the Department of Hindi.

Members Present:

1. Sk. Anwar — Chairman — Head of the Department of Hindi AG & SGS Degree College OfArts & Science,Vuyyuru.

2. Dr. V. Mohana Rao — University Representative — Lecturer in Hindi,pricipal KRKGovt Degree college. Singarayakinda, Addanki Prakashandistrict.

3. Dr. K. SrikrishnaNominee — Academic Council — Asst. Professor, Department of Hindi, AacharyaNagarjunaUniversity. Guntur.

4. Smt.A.RamLakshmi — Academic Council — Asst. Professor, Nominee Department of Hindi, S. D.M siddharthamahilakalashala, Vijayawada.

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 syllabi, model question papers and guidelines of II semesterof I degree in Hindi for the academic year 2022-2023.
2. To discuss about the change of question papers of II semester for the academic year 2022-23
3. Any other matter.

Resolutions

1. It is unanimously resolved that there is no change in the syllabi II semester of I degree in Hindi for the academic year 2022-23.
2. It is unanimously resolved that ther is no change in the model question papers II semester of I degree in Hindi for the academic year 2022-23
3. It is unanimously resolved to follow the evaluation ratio 70:30(External and Internal) for the I & II degree for the academic year 2022-23
4. Nil.

SEMESTER- II

Title of the paper: HINDI-II

No of Hours: 60

Credits:03

Wef: 2021-22

Course Code: hint21a

COURSE OUTCOMES:

1. मानव मूल्यों से विद्यार्थी अवगत होंगे तथा इस दिशा में आगे बढ़ेंगे।

2. आधुनिक युग की भावनाओं को पहचानकर,निरंतर सामाजिक समस्याओं का सामना करते हुए,आगे बढ़ेंगे।

3. विषय के विश्लेषण से सामाजिक दायित्व को निभाने में अग्रसर होंगे।

4. ग्रहण किये गये पाठ्यांशों के द्वारा विद्यार्थियों का ज्ञान मापन बढ़ेगा तथा अपने क्षेत्र में भी आगे होंगे

5. भाषा की प्रवीणता और प्रयोग से विद्यार्थी उज्वल भविष्य की ओर बढ़ेंगे।

SYLLABUS:

I .गध्य संदेशः

  1. संस्कृति और साहित्य का परस्पर संबंध
  2. भारत एक है
  3. एच.आई.वी. / एड्स

II. कथा लोक

  1. ज़रिया
  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. **गध्य संदेश**- Dr. V. L.Narasimham Siva Koti
2. **कथा लोक**- Dr. Ghana Shyam

Course Code: HINT21A   **Max. Marks: 70M**

Time: 3 Hrs.   **Pass Min.   :30M**

ιφιφιφιφιφιφιφιφιφιφιφιφιφ

SECTION-I

निम्नलिखित प्रश्नों का उत्तर लिखिए।4×5=20

1.(a) भारत की मध्यकालीन संस्कृति कैसी रही है? L1

(अथवा)

(b) विविधता के भीतर भारत की एकता कैसे समायी हुई है? स्पष्ट कीजिए। L1

2.(c) एच.आई.वी./ एड्स के लक्षणों पर प्रकाश डालिए। L2

(अथवा)

(d)"अधेड आदमी" चरित्र चित्रण कीजिए। L2

3.(e)"ज़रिया" कहानी का उद्देश्य क्या है? L2

(अथवा)

(f)"भूख हड़ताल" की विशेषताएँ क्या-क्या हैं? L2

4.(g) अनुवाद किसे कहते हैं ?L1

(अथवा)

(h) संधि किसे कहते हैं तथा उसके कितने प्रकार के हैं ?L1

SECTION-II

1×10=10

1.(a) एच.आई.वी./ एड्स के इतिहास पर प्रकाश डालिए।L2

(अथवा)
(b)'भारत एक है' पाठ का सारांश लिखिए। L2

SECTION-III   1×10=10

6.(a) "ज़रिया"कहानीका सारांश लिखिए। L2
(अथवा)
(b) "भूख हड़ताल" कहानी का सारांश लिखिए। L2

SECTION-IV

7.(a) **किन्हीं दस शब्दोंको अंग्रेजी से हिंदी मेंअनुवाद कीजिए। L1**

10×1=10

1.Camp Office   2.Embassy   3.Muncipal Corporation   4.Governor
5.Applicant   6.Charge   7.Absence   8.Supervisor   9.Court
10. Building division   11.District board   12.Cash section   13. Branch office
14.Complaint office   15.Enquiry office

(अथवा)

(b)किन्हीं दस शब्दों को हिंदी से अंग्रेजी में अनुवाद कीजिए।L1

1.प्रशासनअधिकारी 2.विज्ञापन   3.लेखा परीक्षक 4.प्राचार्य5.स्वीकार करना
6.अतिथि गृह7.प्रयोगशाला8.हृदय-रोग विभाग 9.जिला बोर्ड   10.कलक्टरी
11.सिविल न्यायालय   12.वन विभाग   13.प्रसारण केन्द्र 14.बजट अनुभाग
15.अस्पताल

8.(a)**किन्हीं पाँच शब्दों का संधि विच्छेद कीजिए।L3**

                                                    5×2=10

1.रामावतार2.परमौषध 3.यद्यपि4.गायक
5.उन्नति6.प्रत्येक7.यशोधरा8.निराशा
(अथवा)
(b)किन्हीं पाँचशब्दों को वाक्यों में प्रयोग कीजिए। L3

1.विरासत 2.अज्ञानांधकार 3.इकट्ठा करना 4.बसर करना
5.दुर्भिक्ष   6.पथ प्रदर्शक 7.हवन   8.चिरस्थाई

SECTION-V   1×10=10

9.(a) अनुवादक की नौकरी के लिए प्रबन्धक के नाम पत्र लिखिए। L3

              (अथवा)
(b) किसी पुस्तक विक्रेता के नाम पत्र लिखिए। L3

1.विरासत 2.अज्ञानांधकार 3.इकट्ठा करना 4.बसर करना
5.दुर्भिक्ष   6.पथ प्रदर्शक 7.हवन   8.चिरस्थाई

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 HISTORY

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

24-03-2023

Minutes of the meeting of Board of studies in History for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 11.00 A.M on 24-3-2023 Online

T.NarasimhaRao _T. Narasimha Rao_ .... Presiding

Members Present:

1)...._T. Narasimha Rao_...... Chairman   Head, Department of History

Sri. *T.NarasimhaRao*)   AG & SG S Degree College of Arts & Science

Vuyyuru-521165

2)............................ University   Head, Department of History

(Dr.M.Suseela Rao)   Nominee   Government Degree College

Tiruvuru

3) .... Subject Expert   Lecturer in History

(Dr.D.Rajya Lakshmi)   Government Degree college

Avanigadda

4)........................... Subject Expert   Head,Department of History

(Smt.N.Jhansi)   S.D.M.S Mahila Kalasala.

Vijayawada

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.AHistory Papers for the Academic Year 2022-2023.

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 History papers for the Academic Year 2022-2023.

3. To Recommend the guidelines to be followed by the Question Paper Setters in for the   2nd, 4th,and 6th Semesters -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.

 6. To Suggest innovative methods of teaching.

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 1ˢᵗ Degree in II Semester & II Degree in IV Semester History papers, of B.A Classes.

> **The APSHE New syllabus was introduced in the I Semester of I Degree B.A from the Academic year 2020 – 2021 and in the III 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 II and IV 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 III and V Semesters from 2020-21Academic 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 II and IV 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.

3) Out of maximum 100 marks 25 Marks shall be allocated for Internal Assessments

> **Regarding the IV Semester from the Academic year 2022 – 2023.**

> **A) To implement 25 Marks for Internal Assessments and 75 Marks for External Assessment regarding the IV Semester from the Academic year 2022 – 2023.**

> **B) Out of these 25 marks, 15 Marks are allocated for internal tests, 5 marks are Allocated for assignment/attendanceactivitie 5m Regarding the IV Semester from the Academicyear 2022 – 2023.**

4)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 2022-2023.

5) 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.

6) 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.

7. It is resolved to follow further changes if any in the syllabus by the competent Authority.

Chairman

T. Narasimha Rao

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
A.P- 521165
(An autonomous college in the jurisdiction of Krishna university, Machilipatnam

PROGRAMME: BA

YEAR	CODE	SEM	Name of course (each course consists 5 units with each unit having 12 hours of class work)	Hours/week	Credits	Marks	
						Internal	Sem end
I		II	Medieval Indian history and Culture(1206 A.D to 1764 A.D)	5	4	30	70
II		IV	History and Culture of Andhra(from 1512 to1956 A.D)	5	4	25	75
		IV	History of modern world(from 15th century	5	4	25	75
III		V/VI	Tourism and Hospitality Services	5	4	30	70
		V/VI	Tourism Guidance and Operating Skills	5	4	30	70

HISTORY	HIST21B	2022-23	B.A/HEP

SEMESTER-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. Analyse 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 TurkishInvasions– Balban, AllauddhinKhilji, Md. Bin Tughlaq- Administration, Society,Economy, Religion andCultural developments under Delhi Sultanate (from 1206to 1526 AD)

Unit – II   **15 hours**
Impact ofIslam onIndian Societyand Culture–BhaktiMovement; Administration,
        Society,Economy,
Religion andCultural developments under VijayanagaraRulers

Unit – III   **15 Hours**
Emergenceof Mughal Empire – Babur – SurInterregnum-Expansion & Consolidation of MughalEmpire – Akbar, Jahangir,ShahJahan, Aurangazeb.

Unit – IV   **15 hours**
Administration, Economy,Societyand Cultural Developments under theMughals – Disintegration ofMughal Empire -Rise ofMarathas under Shivaji

Unit _ V   **15 hours**
India under Colonial Hegemony:Beginningof European Settlements-Anglo- French Struggle – Conquest of BengalbyEIC

CO-CURRICULAR ACTIVITIES AND ASSESSMENT METHODS:
Continuous Evaluation:
1. Monitoring the students 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 DesaCharitra – Si.K. Krishna Reddy.
2. BharathaDesaCharitra – Telugu Academy

REFERENCES:
1. Chandra, SHistoryof MedievalIndia(800– 1700)
2. Chattopadyay,B.D TheMakingofEarlyMedievalIndia. (Delhi, 1994)
3. Habib,Irfan, MedievalIndia: TheStudyofaCivilization
4. Habibullah, A.B.M, TheFoundation ofMuslimRule inIndia
5. Kumar Sunil, TheEmergenceof theSultanate ofDelhi
6. Nizami, K.A. Some Aspects of Religion and Politics inIndiain the13th c
7. K.A. NilakantaSastri, AHistoryof SouthIndiafrom PrehistoricTimes to the Fallof Vijayanagara
8. K.A.NilkantaSastri, TheCholas
9. ShireenMoosvi, TheEconomyof theMughal Empire
10. Stein, BPeasant, State&SocietyinMedieval SouthIndia
11. Yazdani, G. (ed)TheEarlyHistoryof theDeccan
12. R.C.Majumdar, TheAgeofImperial Kanauj
13. R. Soma Reddy, *LateMedieval Andhra Pradesh,A.D. 1324-1724 A.D.,*New Delhi, 2014
14. HarbansMukhia, TheMughals ofIndia
15. C.A.Bayly,Indian Societyand theMakingof theBritish Empire

MODEL PAPER
HISTORY Model Question Paper
(NEW MODEL PAPER)
PAPER CODE: HIST21BB.A/ HEP – II

Time : 3 hrs   Max. Marks : 70

Answer all Questions
(Restrict to a Maximum of 2 Subdivisions)

SECTION -A   (5X4=20MARKS)

1.(A) Explain the role of Balban Co1 L2
             or
(B) Illustrate the work of Razia sultan   Co1 L2

2..(A)Analyse the contributions of Ashtadiggaja's Co2 L3
             or
   (B) Analyse the role of Jahangir .Co3 L3

3..(A) How Aurangazeb was responsible for the downfall of the mughal empire Co3 L1
             or
    (B) Examine the role of Tajmahal in the past and present Co5 L3

.4.(A)Explain the portuguese establishments in India Co5 L2
             or
(B) What is the role of Dupleix as governor Co5 L1

5.(A)Write about the Anglo-french rivalry and Results
             or
(B)Explain the Causes and Results of the Battle of Plassey

SECTION – B
Answer all Questions
(Restrict to a Maximum of 2 Subdivisions)   5 x 10= 50M

6. A) Explain the administration of the Allauddinkhilji. Co1 L2

     OR
B.)What are the main reforms of Mohammad bin tughlaq Co1 L1
7.A) Explain the Bhakti movement Co2 L2

     OR

B.)Define the characteristics of Vijayanagara empire Co2 L1

8A)Explain the administration of shersha Co3 L2

    OR
     B.)What are the religious reforms of Akbar Co3 L1

    9A)Analyse the administration of Mughals Co4 L3

    OR
     B.)Explain Shivaji's administration Co4 L2

    10.A) Illustrate the anglo - French conflicts Co5 L2

    OR

    B.)What was the role of Robert clive as governor Co5 L1

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
A.P- 521165
(An autonomous college in the jurisdiction of Krishna university, Machilipatnam

HISTORY	PAPERCODE: HIST401	2021-22	B.A/HEP

==SEMESTER – IV==   Course: IV
                                                                 No. of
                                                                 Credits: 4
HISTORY & CULTURE OF ANDHRA (FROM 1512 TO 1956 AD)
==(NEW SYLLABUS)==

Learning objectives:
1. To give clear picture of Qutub shahis
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 Ceeded 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: KandukuriVeeresalingam, RaghupathiVenkataRathnam Naidu, GuruzadaApparao, KomarrajuVenkataLaxmana Rao.
3.2-New Literary Movements: RayaproluSubbarao, ViswanathaSathyanarayana, GurramJashua, BoyiBheemanna, 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 - AlluriSeetarama 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 PottiSriramulu – Formation of separate Andhra State (1953);
　5.3 Movement for formation of Andhra Pradesh (1956):
　5.4 VisalandhraMahasabha – 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 DesaCharitra – 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. Kesava Narayana, Political and Social Factors in Modern Andhra
　4. K.V.Narayana Rao, 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
　8. SarojiniRegani, ఆంధ్రలోస్వాతంత్ర్యోద్యోమచరిత్ర
　9. V. Ramakrishna, Social Reform Movement in Andhra
　10. B. Kesava Narayana, Modern Andhra & Hyderabad – 1858 – 1956 A.D., 2016 11 K. Koti Reddy, History of Modern Andhra, Telugu Academy, Hyderabad

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
A.P- 521165
(An autonomous college in the jurisdiction of Krishna university, Machilipatnam
<mark>MODEL PAPER</mark>PAPERCODE: HIST401

HISTORY & CULTURE OF ANDHRA (FROM 1512 TO 1956 AD)
B.A/ HEP – II

Time : 3 hrs   Max. Marks : 75
PART– A

I)Answer any FIVE of the following :   5 x 5=25M
(one Questions to be set from each unit)
1. Analyse the role of Quli Qutub Shah Co1 L3
2. Explain the battle of Chanderi   Co1 L2
3. What are the land reforms of British Co2 L1
4. Explain the contribution of C. P. Brown Co2 L2
5. Explain the works of social reformers in andhra Co3 L1
6. What is the role of Gurram Joshua in new literary movement Co3 L2
7. What is the role Alluri sitaramaraju Co4 L1.
8. Define Andhra mahasabha and its contribution Co5 L1
PART – B
II.Answer any FIVE of the following: 5 x 10= 50M
 (one Questions to be set from each unit)
9 A) What are the general conditions of Qutub shahis . Co1 L1

        OR
   b.) How the British aquiredNortgernCircars Co1 L1

10.A) What is the impact of industrial revolutionary in andhra   Co2 L1

        OR
b.)What are the revenue reform introduced by Sir Thomas Monroe Co2 L1

11.A)Explain about the Social reformers of andhra   Co3 L1
                OR
b.)Explain new literary movement in Andhra   Co3 L2

12.A)Explain about Vandemataram movement in Andhra   Co4 L2
              OR
b.)Examine the Non cooperation movement in Andhra Co4 L2

13. A) What was the role played by Pottisriramulu in the formation of Andhra state Co5 L1
                OR
 b.) Explain the formation of Andhra pradesh   Co5 L2

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
A.P- 521165
(An autonomous college in the jurisdiction of Krishna university, Machilipatnam

HISTORY	PAPERCODE: HIST402	2021-22	B.A/HEP

<mark>SEMESTER –IV</mark>

Course :V

No. of

Credits: 4
HISTORY OF MODERN WORLD (From 15th Cent. AD to 1945 AD) <mark>(NEW SYLLABUS)</mark>

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. Bhasha DesaCharitra – 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

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
A.P- 521165

(An autonomous college in the jurisdiction of Krishna university, Machilipatnam

HISTORY Model Question Paper
HISTORY OF MODERN WORLD (From 15th Cent. AD to 1945 AD) B.A/ HEP – IV

Time : 3 hrs   Max. Marks : 75
PART– A

I)Answer any FIVE of the following :   5 x 5=25M
(one Questions to be set from each unit)
1.What was the role of Martin luther in reformation Co1 L1
2.How far Louis VI was responsible for the outbreak of French revolution   Co2 L1
3. What is the role of Joseph Mazzini in unification of Italy Co3 L1
4. Explain the contribution of Bismark Co3 L2
5. Explain the role of Lenin in Russian revolution Co4 L2
6. Define League Of Nations Co4 L1
7. What is Fascism Co5 L1.
8. How Adolf Hitler was responsible for outbreak of World war II Co5 L1
PART – B
II.Answer any FIVE of the following: 5 x 10= 50M
 (one Questions to be set from each unit)
9 A) Explain about Renaissance . Co1 L2
              OR
   b.) What is Glorious revolution Co1 L1

10.A) Explain about American revolution   Co2 L2
                OR
 b) Analyse the causes and results of French revolution Co2 L3

11.A)Explain the unification of Italy   Co3 L2
                OR
 b.) Examine various factors of Unification of Germany Co3 L3

12.A)Explain about Russian revolution Co4 L2
                OR
b.)What are the causes and results of world war I Co4 L1

13.A) Analyse the causes for the outbreak of world war - II Co5 L1
              OR
   b.) What is the role of U. N. O   Co5 L1

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

(An autonomous college in the jurisdiction of Krishna university, Machilipatnam)

(2022 – 2023)

III BA History Syllabus:: Semester – V /VI

Title of the Paper : TOURISM AND HOSPITALITY SERVICES 6B

Paper Code; SECHIS601

No.of Hours per week:5   **No. of Credits:4**

I. Learning Outcomes:
Students after successful completion of the course will be able to:
1. Understand hospitality as a career
2. Inculcate interpersonal skills
3. Develop the ability for multitasking and crisis management
4. Understands the spirit of teamwork
5. Acknowledge the importance of guest service and satisfaction

Unit: 1
Tourism – Definition – Nature and Scope – History of Tourism–Types of Tourism – Domestic and International Tourism – Causes of rapid growth of tourism – National Institute of Tourism and Hospitality Management

Unit: 2
Relationship between history and tourism - Major tourist spots in AP – Gandikota, Nagarjunakonda, Salihundam, Konaseema

Unit: 3
Characteristics of Hospitality Industry - Inflexibility, Intangibility, Perish ability- Types of Hospitality jobs – Hotel Manager, Hotel Receptionist, Restaurant Manager, Catering Assistant, Executive Chef etc - Concepts of Atithi Devo Bhavah - Types of hotels in India

Unit: 4
Duties, responsibilities & skills of front office staff – duties, responsibilities and skills of housekeeping staff - guest stay process in a hotel - major processes and stages associated with it

Unit: 5
Different types of services offered in selected Hotels/Motels/Restaurants - Room Service, Catering Services -Different types of managerial issues - Service etiquettes

III. References:
1. Marketing for Tourism and Hospitality, Philip Kotler, Bowens and James Makens, Pearson Pub, New Delhi, 2010
2. Soft Sills for Hospitality, Amitabh Devendra, Oxford Higher Edn, 2015

3. The Indian Hospitality Industry: Dynamics and Future Trends, Ed: Sandeep Munjal, Sudhanshu Bhushan, CRC Press, 2017
4. Hotel Front Office: Operation and Management, Jatashankar Tewari, Oxford Higher Edn, 2016
5. www.ilo.org
6. https://riginstitute.com
7. nitahm.ac.in
8. web sources as suggested by teacher/librarian

IV. Co-Curricular Activities:
a) Mandatory:

(Training of student in skills by Teacher: Total 10 Hours)
1) For Teacher: Training of students by the teacher in the classroom and in the field for a total of not less than10 hours on various practical aspects related to tourism and hospitality industry. The teacher shall also train students with the help of experts in skills such as flower arrangements, cooking and catering supervision, speaking to guests etc. related to hospitality services.
2) For Student: Students shall visit any one of the local tourism offices, tourism sites, hotels, restaurants, catering offices to make personal observations and to gain hands-on experience. These individual observations shall be written as a Fieldwork/Project work Report not exceeding 10 pages and submit to teacher in the given format.
3) Suggested Fieldwork/Project work Format:
Title Page, Student Details, Acknowledgments, Index of Contents: Objectives, Step-wise process,
Findings & References
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations

b) Suggested Co-Curricular Activities
1) Invited Lectures
2) Hands on Experience with the help of Field Experts.
3) Debates on Interesting Topics
4) Seminars, Group Discussions, Quiz, etc.
5) Assignments
6) Alumni Interactions
7) Periodical Interactions with HR Managers

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU

A.P- 521165

(An autonomous college in the jurisdiction of Krishna university, Machilipatnam

HISTORY Model Question Paper
(NEW MODEL PAPER)
B.A/ HEP – SEMESTER – V/VI

Time : 3 hrs   Max. Marks : 70

Title: Tourism and Hospitality services

paper code:SECHIS601

Section-A

I. **ANSWER ANY TWO OF THE FOLLOWING QUESTIONS 2x5=10**

1 Explain the causes of rapid growth of tourism?

2 Types of restaurants services?

3 Konasema ?

4 Atithi devo bhava ?

Section - B

II.Answer any four of the following questions   4x15=60

5. Define tourism write about nature and scop of tourism?

6. Discuss about different types of services offered in a selected hotels?

7.Major tourism spots in Andhra Pradesh?

8.Write about domestic tourism and international tourism?

9. Explain duties and responsibilities of house keeping staff?

 10. Explain different types of hotels in india ?

11. Discuss about hospitality industry?

12. Explain the relationship between history and tourism?

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
A.P- 521165

(An autonomous college in the jurisdiction of Krishna university, Machilipatnam

Title: Tourism and Hospitality services

paper code; SECHIS601

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit-V
A **5 Marks Questions**	1	1	1		1
B **15 Marks Questions**	2	2	2	1	1
Weightage	35	35	35	15	20

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU
A.P- 521165

(An autonomous college in the jurisdiction of Krishna university, Machilipatnam

Course 7B: Tourism Guidance and Operating Skills

(Skill Enhancement Course (Elective), 4 Credits)

Paper Code: SECHIS602

II. Learning Outcomes:

Students after successful completion of the course will be able to:

1. Acquire tour guiding, operating and soft skills

2. Understand different situations under which one has to work

3. Cultivate cultural awareness and flexibility

4. Understand and apply team spirit

5. Plan and organize tour operations efficiently

Unit: 1   **12hrs**

Meaning of tour guide - types of tour guide: heritage guide, nature guide, adventure guide, business guide, special interest guide etc – duties and responsibilities of guides -various roles of tour guide.

Unit: 2   **12hrs**

Guiding techniques: leadership skills, social skills, presentation skills, communication skills - Guide's personality skills: passion, empathy, enthusiasm, punctuality, humouretc - Personal hygiene and grooming – code of conduct.

Unit: 3   **12hrs**

Guest Relationship Management- Handling emergency situations- Medical, Personal, Official, VISA/Passport, Death, Handling Guest with special needs/Different Abilities/ Different age groups.

Unit: 4   **12hrs**

Conducting Tours: Pre-Tour Planning, Route Chart, Modes of Transportation, Security Measures, and Check list etc. - Conducting various types of tours- Relationship with Fellow Guides - Coordination with hospitality institutions.

Unit: 5   **12hrs**

Travel Agency and Tour operations – Difference between Travel Agent and Tour operator – Functions of Tour Operator – Types of Tour Operations and of Tour Operators - A brief study of tour operating agencies like APTDC, Southern Travels etc.

III. References:

1. Jagmohan Negi, Travel Agency and Tour Operations, Kanishka Publishers,

New Delhi, 2006

2. Mohinder Chand, Travel Agency and Tour Operations: An Introductory Text,

Anmol Publications Pvt. Limited, New Delhi, 2009

3. Dennis L Foster – Introduction to Travel Agency Management

4. Pat Yale (1995); Business of Tour Operations, Longman Scientific & Technical, New

5. Pond K L, The Professional Guide: Dynamics of Tour Guiding, 1993

6. www.tourism.gov.in

7. www.qtic.com

9. www.cedeop.europe

10. web sources as suggested by teacher/librarian

IV. Co-Curricular Activities:

a) Mandatory: (Training of students in the related skills by the Lecturer, Total 10 Hours)

1) For Teacher: Training of students by the teacher in the classroom and in the field for a

total of not less than10 hours on various practical skills related to guidance and operating tours in

tourism sector, with the help of local experts. The teacher shall lead students to local tourist sites

and guide them to work with local tourist guides or local tourist operators.

2) For Student: Students shall individually choose and visit a local tourist place/monument

such as a historical site, temple etc., and talk to local guides personally. Observe their functioning

to gain experience, including suggestions for the improving the guidance. These individual observations shall be written in the given format not exceeding 10 pages and submit to the teacher as Fieldwork/Project work Report.

3) Suggested Fieldwork/Project work Format:

Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings & References

4) Max Marks for Fieldwork/Project work Report: 05

5) Unit Tests/Internal Examinations

a) Suggested Co-Curricular Activities

1) Invited Lectures

2) Hands on experience with the help of field experts.

3) Debates on interesting topics

4) Seminars, Group Discussions, Quiz, etc.

5) Assignments

6) Alumni Interactions

7) Periodical interactions with Tour Mana

III BA.Semester – V

Subject; History   3HIS7B

Title of the Paper – TOURISM AND HOSPITALITY SERVICES 7B

Paper Code:SECHIS602

Time : 3Hrs   Max. Marks : 70

Model Question Paper

SECTION – A

I. Answer any TWO of the following   2x5=10 M

1. Responsibilities of the Guide?

2. Explain Types of Tour Guide?

3. Explain Guides Personality skills?

4. Handling of the Guest in different situations?

SECTION – B

II. Answer any FOUR of the following   4x15= 60 M

5.Explain the meaning of the Tour Guide?

6.Explain duties of the Guide?

7..Write about the guiding techniques?

8.Explain hygiene and grooming of the guide?

9.Explain Relationship Management?

10..Passport and Visa process?

11.Write about Travel Agency and Tour operations?

12..Explain the functions of Tour operator?

III BA.Semester – V

Paper Code:SECHIS602

Title of the Paper – TOURISM AND HOSPITALITY SERVICES 7B

Section	Unit – I	Unit – II	Unit – III	Unit - IV	Unit-V
A **5 Marks Questions**	2	1		1	
B **15 Marks Questions**	1	2	2	1	2
Weightage	35	35	30	20	30

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

2022-2023

DEPARTMENT OF MATHEMATICS

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

19-04-2023

Minutes of the meeting of BOS in Mathematics for B. Sc Degree Courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 2.30 PM on 19 – 04 – 2023 through online mode.

N.V. Srinivasa Rao   *Presiding*

Members Present:

1)	_N . V . [signature]_ **(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)	_D. Sunitha_ **(D. Sunitha)**	Member	Lecturer in Mathematics AG & SG S Degree College.
6)	_A. Bhargavi_ **(A. Bhargavi)**	Member	Lecturer in Mathematics AG & SG S Degree College.
7)	_[signature]_ **(Noor Mohammad)**	Member	Lecturer in Mathematics AG & SG S Degree College.
8)	_[signature]_ **(K. Rajya Lakshmi)**	Member	Lecturer in Mathematics AG & SG S Degree College.
9)	_Jahnavi. G_ **(G . Jahanvi)**	Student Member	III B.Sc M.P.Cs AG & SG S Degree College.
10)	_N. Pavan Sai_ **(N. Pavan Sai Kumar)**	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 prescribed APSCHE and Krishna University from the Academic Year 2022-23.

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 prescribed APSCHE and Krishna University from the Academic Year 2022-23.

3. To discuss and recommend the Syllabi, Model Question Papers and Guidelines to be followed by question paper setters in Mathematics for 5th/ 6th Semester as per the guidelines and instructions prescribed APSCHE and Krishna University from the Academic Year 2022-23.

4. Any other matter.

Resolutions.

1. Discussed and recommended that no changes are required in Syllabi. Changes are required in Model Question Papers and Guidelines to be followed by the question paper setters in Mathematics for 2nd Semesters from the Academic year 2022-23. 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 for attendance and 5 marks are allotted for Assignment/ 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 70) and the result shall be declared as 'PASS' from the Academic year 2022-23.

2. Discussed and recommended that changes are required in Syllabi, Model Question Papers and Guidelines to be followed by the question paper setters in Mathematics for 4th Semesters from the Academic year 2022-23. 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 2022-23.

3. Discussed and recommended that changes are required in syllabi, Model Question Papers and Guidelines for question paper setters in Mathematics for the 5th/ 6th Semester for the Academic year 2022-23.

4. 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.

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 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 R, Absolute value and Real line, Completeness property of 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), 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 <u>FIVE</u> questions. Each question carries <u>FIVE</u> marks.   **5x5 = 25M**

1.
2.
3.
4.
5.
6.
7.
8.

SECTION - B

Answer <u>ALL</u> the questions. Each question carries <u>TEN</u> 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, Vuyyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

Department of Mathematics
COURSE STRUCTURE

Sem	Course Code	Paper	Title of the Paper	Total Marks	Internal Exam	Sem.End Exam	Teaching Hours	Credits
IV	MATT 01A	CORE	SOLID GEOMETRY	100	25	75	6	5

Programme Outcomes

S. No	P.O
	At the end of the Programme the student will be able to:
1	Demonstrate the ability to use mathematical skills such as formulating and tackling mathematics related problems and identifying and applying approximate physical principles and methodologies to solve a wide range of problems associated with mathematics.
2	Apply the underlying unifying structures of mathematics and the relationships among them.
3	Investigate and apply mathematical problems and solutions in variety of contexts related to science and technology, business and industry.

Course Outcomes of MATT01A

S. No	C.O — Upon successful completion of this course, students should have the knowledge and skills to:	Mapping
1	Understand the basic concepts of plane to find the length of perpendicular from a given point to given plane, bisectors of angles between two planes, angle between the pair of planes.	L2, PO-1
2	Determine the equation of a line in various forms & image of a given point w.r.t. a line and plane.	L3, PO - 1
3	Compute the equations of the hallow spheres through the given points, plane section of a sphere.	L3,PO - 1
4	Determine orthogonal spheres, coaxial system of spheres. The equation of cone, vertex of a cone ,General equation of second degree should represent a cone.	L3, P0-1
5	Calculate the equation of enveloping cone, reciprocal cone, right circular cone and intersection of two cones with a common vertex.	L3, P0-1

A.G & S.G Siddhartha Degree College of Arts and Science, Vuyyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

MATHEMATICS	MATT01A	2022-23 onwards	B.Sc (MPC,MPCS, MSCs, MCCS)

SOLID GEOMETRY

SEMESTER-IV   No of Credits: 5

OBJECTIVE: TO ENHANCE DATA ANALYTICAL SKILLS AND LOGICAL THINKING SKILLS TO THE STUDENTS.

UNIT-I: The Plane **(18Hrs)**

1.1 Equation of plane in terms of its interception the axis, Equations of the plane through the given points

1.2 Length of the perpendicular from a given point to a given plane, Bisectors of angles between two planes

1.3 Plane passing through the intersection of two given planes, Orthogonal projection on a plane

1.4 Joint equation of a pair of planes, Angle between the pair of planes, Angle between the pair of parallel planes.

UNIT-I: The Line **(18Hrs)**

2.1 Equation of a line in symmetric form and parametric form; Angle between a line and a plane

2.2 The condition that a given line may lie in a given plane, The condition that two given lines are coplanar

2.3 Number of arbitrary constants or parameters in the equations of straight line

2.4 Length of the perpendicular from a given point to a given line.

2.5 The shortest distance between two lines, The length and equations of the line of shortest distance between two straight lines.

UNIT-III: Sphere: **(18Hrs)**

3.1 Definition and equation of the sphere; Equation of the sphere through given points

3.2 Plane sections of a sphere, Great Circle, Small Circle

3.3 Intersection of sphere and a line.

3.4 Conditions for a plane to intersect a sphere

3.5 Equation of a Sphere through a given circle

3.6 Intersection of a sphere and a line; tangent plane touching spheres, Power of a point;

3.7 Plane of contact; Polar plane; Pole of a Plane; Conjugate points; Conjugate planes; Conjugate lines or polar lines, Angle of intersection of two spheres; Conditions for two Spheres to be orthogonal;

3.8 Radical plane; Radical line, Radical Centre, Coaxial system of spheres; Limiting points.

UNIT-IV: Cones   (18Hrs)

4.1   Definition of a cone, Vertex, guiding curve, generators, Equation of the cone with a given Vertex and guiding curve

4.2   Condition that the general equation of the second degree should represent a cone

4.3   Enveloping cone of a surface, Equations of cones with vertex at origin

4.4   Condition that a cone may have three mutually perpendicular generators, Intersection of a line with a cone

4.5   Tangent lines and tangent plane at a point, Condition that a plane may touch a cone

4.6   Reciprocal cones, Intersection of two cones with a common vertex

4.7   Right circular cone, Equation of the right circular cone with a given vertex, Axis and semi-vertical angle.

UNIT-V: Cylinders: (18Hrs)

5.1   Definition of a cylinder, Equation to the cylinder whose generators intersect a given Conic and are parallel to a given line

5.2   Enveloping cylinder of a sphere

5.3   The right circular cylinder

5.4   Condition for tangents, Director Sphere.

Student Activities:

4) **Class-room activities:** Power point presentations, Assignments

5) **Library activities:** Visit to library and preparation of notes for Assignment problems.

6) **Activities in the Seminars, workshops and conferences:** Participation/presentation in seminar/workshop/conference.

CO-CURRICULAR ACTIVITES:

- Quiz Competitions, Seminars
- Group Discussions

WEB LINKS:

https://www.whitman.edu/mathematics/calculus online/sectionl 2.05.html
https://en.wikipedia.org/wiki/Sphere

Prescribed Text book:

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAROF PUBLICATION
1	V. Krishna Murthy	A text book of mathematics for B.A/B.ScVol-1	S-Chand	2015

Reference books:

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAR OF PUBLICATION
1	Dr. A. Anjaneyulu	A text book of mathematics for B.A/B.ScVol-1	Deepthi Publications	2015
2	Shanti Narayan and P.K. Mittal	Analytical Solid Geometry	S.Chand& Company Ltd.	2010
3	Dr.C Govardhan	A text book of mathematics for B.A/B.ScVol-1	Telugu Academy	2009

A.G & S.G Siddhartha Degree College of Arts and Science, Vuyyuru

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam)

SEMESTER – IV

Model Paper

COURSE CODE   :   **MAT T01A**

TITLE OF THE PAPER   :   **SOLID GEOMETRY**

Time: 3hrs.   **Max. Marks: 75**

Section-A

Answer any FIVE questions   **(5x5=25 Marks)**

1. Find the equation of the plane through (4, 4, 0) and perpendicular to the planes x+2y+2z and 3x+3y+2z-8=0.   (CO l, L2)

2. Find the angle between the planes 2x-3y-6z =6 and 6x+3y-2z=18.   (CO l, L2)

3. Find the image of the point (2,-1,3) in the plane 3x-2y+z=9   (CO2, L3)

4. Find the equation to the sphere through 0=(0,0,0) and making intercepts a, b, c on the axes.   (CO3, L3)

5. Find the equations of the spheres passing through the circle $x^2 + y^2 = 4$, z=0 and is intersected by the plane x+2y+2z=0 in a circle of radius 3.   (CO3, L3)

6. Find the equation of the cone whose vertex is (1, 1, 0) and whose guiding curve is y=0, $x^2 + z^2 = 4$ (CO4, L3)

7. Find the equation to the cone which passes through the three coordinate axes and the lines (CO4, L3)
   $-$ $—$ $-$ and $-$ $-$ $-$

8. Find the equation of the cylinder whose generators are parallel to ~~and which~~ $-$

   Passes through the curve $x^2 + y^2$=16, z=0   (COS, L3)

Section-B

Answer ALL questions.   **(5 x 10 = 50 Marks)**

9(a). Prove that the equation $2x^2 - 6y^2 - 12z^2 + 18yz + 2zx + xy = 0$ represents a pair of planes, and find the angle between them.   (COl, L2)

(OR)

9(b). Find the bisecting plane of the acute angle between the planes 3x-2y+6z+2 =0, 2x-y+2z+2=0 (COl, L2)

I0(a). Find the image of the line $—$ $—$ $—$ in the plane x+y+z=l (CO2, L3)

OR)

I0(b). Find the length and equations to the line of S.D between the lines **(CO2, L3)**

   $—$ $—$ $—$ and $—$ $—$ $—$

11(a). Show that the plane 2x-2y+z+12=0 touches the sphere $x^2 + y^2 + z^2 - 2x - 4y + 2z - 3 = 0$ and find the point of contact. (CO3, L3)

(OR)

11(b). Find the limiting points of the co-axial system of spheres of which two members are
$x^2 + y^2 + z^2 + 3x - 3y + 6 = 0$, $x^2 + y^2 + z^2 - 6y - 6z + 6 = 0$ (CO3, L3)

12(a). Find the vertex of the cone
$7x^2 + 2y^2 + 2z^2 - 10zx + 10xy + 26x - 2y + 2z - 17 = 0$ (CO4, L3)

(OR)

12(b). Find the equation to the right circular cone whose vertex is (1,-2,-1), axes the line
— — — and semi vertical angle 60° (CO4, L3)

13(a). Find the equation to the right circular cylinder whose guiding circle is
$x^2 + y^2 + z^2 = 9$, x- y + z =3 (CO5, L3)

(OR)

13(b). Find the equation of the enveloping cylinder of the sphere $x^2 + y^2 + z^2 - 2x + 4y - 1 = 0$, having its generators parallel to the line x=y=z. (CO5, L3)

* * * * * * * * * * * * * * *

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 and *ISO 9001 – 2015 Certified*
DEPARTMENT OF MATHEMATICS

COURSE STRUCTURE

Semester	Course Code	Paper	Title of the paper	Total marks	Internal exam	Sem end exam	Teaching hours	credits
IV	MAT T41A	CORE	Linear Algebra	100	25	75	5	5

Programme Outcomes:

S.No	P. O
	At the end of the program the student will able to
1	Demonstrate the ability to use mathematical skills such as formulating and tackling mathematics related problems and identifying and applying approximate physical principles and methodologies to solve a wide range of problems associated with mathematics.
2	Apply the underlying unifying structures of mathematics and the relationships among them.
3	Investigate and apply mathematics problem and solutions in variety of contexts related to science and technology, business and industry.

Course Outcomes of MAT T41A

S. No	C.O	
	Upon successful completion of their course, students should have the knowledge and skills to	
1.	Knowledge in fundamental concepts of vector spaces.	L2, PO-1
2.	Ability to understand the basic concepts of Basis and Dimensions.	L2, PO-1
3.	Discuss the linear transformations, rank and nullity.	L2, PO-1
4.	Appreciation in the concept of matrices as a tool in solving system of linear equations and determining eigen values and eigen vectors.	L2, PO-1
5	Ability to understand the basis concepts of inner product spaces and to develop hypothetical ideas and laws to solve the related problems in the context.	L4, PO-1

MATHEMATICS	MAT T41A	2022 – 23 Onwards	B.Sc.(MPC,MPCS,MCCs,MSCS)

LINEAR ALGEBRA

SEMESTER-IV   **No of Credits: 5**

OBJECTIVE: TO ENHANCE THE ANALYTICAL SKILLS AND APPLICATION SKILLS.

UNIT I: Vector spaces   (18hrs)

1.1 Vector space definition – general properties of Vector space.

1.2 subspace definition – theorems & related problems.

1.3 Linear sum of two subspaces, linear combination of vectors and linear span of a set –
theorems &related problems.

1.4 Linear dependence of vectors - theorems & related problems.

1.5 Linear independence of vectors - theorems & related problems.

UNIT II: Basis and Dimension   (18hrs)

2.1 Basis of a vector space – definition, Basis existence, Basis extension, Basis Invariance,
theorems.

2.2 Coordinates – definition & related problems.

2.3 Dimension of a vector space, dimension of a subspace - theorems & related problems.

2.4 Quotient space, dimension of Quotient space - theorems.

UNIT III: Linear Transformation   (18hrs)

3.1 Vector space homomorphism – definitions

3.2 Linear transformation, Properties of L.T., Determination of L.T. - theorems & related
problems.

3.3 Sum of linear transformations, scalar multiplication of L.T., product of linear
transformations, Algebra of linear operators - theorems & related problems.

3.4 Range & Null space of a L.T. – Definitions, theorems & related problems.

3.5 Rank nullity theorem - related problems.

UNIT IV: Matrices (18hrs)

4.1 Fundamentals of Matrices.

4.2 Elementary matrix operations & elementary matrices.

4.3 Rank of a matrix – definition, related problems.

4.4 Echelon form of a matrix, reduction to normal form, PAQ form, Inverse of a matrix –
   related problems only.

4.5 System of linear equations – homogeneous & non homogeneous linear equations - related
   problems.

4.6 Eigen values & Eigen vectors of a matrix – definitions, theorems & related problems.

4.7 Cayley - Hamilton theorem, related problems.

UNIT V: Inner product spaces (18hrs)

5.1 Inner product spaces – definition, Norm (or) Length of a vector - theorems & related
   problems.

5.2 Schwarz in equality, Triangle inequality, parallelogram law – theorems.

5.3 Orthogonality – orthogonal, orthonormal vectors, orthogonal set, orthonormal sets of
   I.P.S - theorems & related problems.

5.4 Gram- Schmid orthogonalization process, Bessel's Inequality and Parseval's Identity.

Prescribed Text book:

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAR OF PUBLICATION
1.	V. Venkateswara Rao, N. Krishna Murthy.	A text book of Mathematics for B.A/B.ScVol – III. (Pg No: 111-192; 232 – 321 & 339 – 389; 395 – 434).	S-Chand & Co.	2006

Reference Text books:

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHER	YEAR OF PUBLICATION
1.	J.N. Sharma and A. R. Vasistha	Linear Algebra	Krishna PrakashanMandir Meerut-250002.	
2.	Dr. A. Anjaneyulu	A Text Book of Mathematics B.A/B.Sc – Vol III	Deepthi Publications	3rd Edition 2006 - 2007

SEMESTER – IV	**Model Paper**	
COURSE CODE	**: MAT T41A**	**Time: 3hrs.**
TITLE OF THE PAPER	**: LINEAR ALGEBRA**	**Max. Marks: 75**

SECTION – A

Answer any FIVE of the following questions   **5X5=25M**

1. The set W of ordered triads (x, y, 0) where x, y ϵ F is a subspace of V_3(F). (CO1, L2)

2. If two vectors are linearly dependent, prove that one of them is a scalar multiple of the

   other.   (CO1, L2)

3. Show that the set { (1,0,0), (1,1,0),(1,1,1) } is a basis of C^3(C).Hence find the coordinates

   of the vector (3+4i, 6i, 3+7i) in C^3(C).   (CO2,L4)

4. Describe explicitly the linear transformation T: $R^2 \rightarrow R^2$ such that T(2, 3) = (4, 5) and

   T(1, 0) = (0,0)   (CO3,L2)

5. Find the rank of the matrix $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 1 & 1 \\ 1 & 1 & 0 \end{bmatrix}$.   (CO4,L2)

6. Solve the system $2x_1 - x_2 + x_3 = 0$, $3x_1 + 2x_2 + x_3 = 0$, $x_1 - 3x_2 + 5x_3 = 0$.   (CO4,L2)

7. Show that zero is a characteristic root of a matrix if and only if the matrix is

   singular.   (CO4,L2)

8. State & prove the Triangle Inequality.   (CO5,L2)

SECTION -B

Answer the following questions.   **5X10=50M**

9a) If S, T are the subset of a vector space V (F), then prove that

        i) S $\subseteq$ T $\Rightarrow$ (i) L(S) $\subseteq$ L (T)

        ii) L (S U T) = L(S) + L(T).   (CO1,L2)

(OR)

9b). Let V (F) be a vector space and S = { $\alpha_1, \alpha_2, \alpha_3, \ldots \alpha_n$ } is a finite subset of non-zero

vectors of V (F).Then S is linear dependent if and only if some vector $\alpha_k \in S$, $2 \le k \le n$,

can be expressed as a linear combination of its preceding vectors. **(CO1, L2)**

10a) State and prove Basis extension theorem. (CO2, L2)

(OR)

10b) Let W be a subspace of a finite dimensional vector space V (F) then

dim V/W = dim V – dim W. (CO2,L2)

11a) Find T (x, y, z) where T : $R^3 \to R$ is defined by T (1 , 1, 1) = 3; T(0, 1 ,-2) = 1;

T(0, 0, 1) = -2. (CO3, L2)

(OR)

11b) State and prove Rank – nullity theorem. (CO3, L4)

12a) Show that the only number λ for which the system x + 2y + 3z = λx, 3x + y + 2z = λy,

2x + 3y + z = λz has non-zero solutions is 6. (CO4,L2)

(OR)

12b) State and prove Cayley – Hamilton theorem. (CO4,L2)

13a) State and prove Cauchy – Schwarz's Inequality. (CO5,L4)

(OR)

13b) Given {(2,1,3), (1, 2, 3), (1, 1, 1)} is a basis of R^3; Construct an orthonormal basis.

(CO5,L4)

****

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 PHYSICS
MINUTES OF BOARD OF STUDIES

EVEN SEMESTER
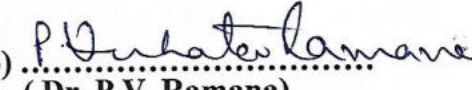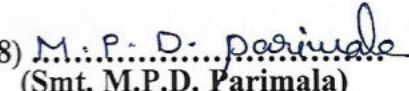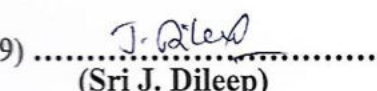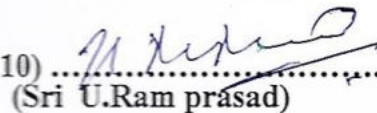
01-04-2023

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 11.00 A.M on 01-04-2023 in the Department of Physics.

Sri J. Hareesh Chandra   Presiding

Members Present:

1)............................... Chairman   **Head, Department of Physics**
(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   **H.O.D. Dent. of Physics,**
(Dr. P.V. Ramana)   Nominee   SRI DNR Women's
                                                       College, Palakollu.

4) .... Academic Council   **Associate Professor,**
(Dr. T. Srinivasa Krishna)   Nominee   H.O.D, Dept. of Physics,
                                                       P.B.Siddhartha College of
                                                       Arts   &   Science,
                                                       Vijayawada

5) .... Representative from **Sub Divisional Engineer**
(Sri I. Chittibabu)   Industry   BSNL , Vijayawada.

6).............................. Alumni   **Lecturer in Physics,**
(Sri B. Dileep Kumar)   Dept.ofPhysics,IIIT,
                                                       Nuzivid.

7) .... Member   **Lecturer in Physics,**
(Sri M. Sateesh)   A.G.&S.G.S.Degree
                                                       College   of   Arts   &
                                                       Science,   Vuyyuru   -
                                                       521165.

8) .... Member   **Lecturer in Physics**
(Smt. M.P.D. Parimala)   A.G. & S.G.S.Degree
                                                       College of Arts
                                                       & Science, Vuyyuru -
                                                       521165.

9) .... Member   **Lecturer in Physics**
(Sri J. Dileep)   A.G.&S.G.S.Degree
                                                       College of Arts & Science,
                                                       Vuyyuru - 521165.

10) .... Member   **Lecturer in Physics,**
(Sri U.Ram prasad)   A .G.& S.G.S.Degree,
                                                       College   of   Art.   &
                                                       Science,Vuyyuru -521165

Agenda for B.O.S Meeting :- PHYSICS

1. To recommend the syllabi (Theory & Practical), Model question paper for II Semester of I B.Sc (MPCS) for the academic year 2022 - 2023.

2. To recommend the syllabi (Theory & Practical), Model question paper for IV Semester of II B.Sc (MPC,MPCS) for the academic year 2022 - 2023.

3. To recommend the Blue print for the semester end exam for II & IV semester of I & II B.Sc (MPC,MPCS) for the academic year 2022 - 2023.

4. To recommend the Guidelines to be followed by the question paper setters in Physics for II, IV Semester – end exams.

5. To recommend the teaching and evaluation methods to be followed under Autonomous status.

6. Any suggestions regarding seminars, workshops, Guest lecture to be organized.

7. Any other matter.

Chairman.

(J. Hareesh Chandra)

RESOLUTIONS

1. It is resolved to continue the same syllabi (Theory & Practical), guide lines to be followed by the question paper setters of physics of II semester of I B.Sc. (MPCS) under Choice Based Credit System (CBCS) approved by the Academic Council of 2022 – 2023. Model question paper pattern changed.

2. It is resolved to continue the same syllabi (Theory & Practical), model paper, guide lines to be followed by the question papers under Choice Based Credit System (CBCS) setters of PHYSICS of IV Semester of II B.Sc. (MPC&MPCS) approved by the Academic Council of 2022 –2023.

3. It is resolved to Continue the same Blue prints of II & IV Semesters of B.Sc PHYSICS for the Academic year 2022-2023.

4. It is resolved to continue the following teaching & evaluation methods for the Academic year 2022-23.

5. 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 I 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 I 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, 5marks allocated on assignment and reaming 5 marks seminar for IV semester.

❖ There is no pass minimum for internal assessment for I & II B.Sc.

Semester – End Examination:

❖ The maximum mark for I (MPCS) semester – End examination shall be 70 marks and duration of the examination shall be 3 hours.

❖ The maximum mark for II B.Sc semester- End examination shall be 75 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 II & IV semester for I & II 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).

ALLOCATION OF CREDITS
For the Papers offered during II & IV Semesters

SEMESTER – II

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
PHYT21B	WAVE OPTICS	4	3	30	70	3 Hrs.
PHYP21B	WAVE OPTICS	2	2	10	40	3 Hrs.

SEMESTER- IV

Course Code	Title of the Course	Instruction Hours per week	Credits	Evaluation		
				CIA MARKS	SEE	
					MARKS	DURATION
PHYT41A	ELECTRICITY, MAGNETISM AND ELECTRONICS	4	3	25	75	3 Hrs.
PHYP41A	ELECTRICITY, MAGNETISM AND ELECTRONICS	2	2	10	40	3 Hrs.
PHYT01	MODERN PHYSICS	4	3	25	75	3 Hrs.
PHYP01	MODERN PHYSICS	2	2	10	40	3 Hrs.

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

TITLE OF THE PAPER: Wave Optics

Semester : II

Course Code	PHYT21C	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: 2021-22	Percentage of Deviation : 20%
CLASS:	I MPCs		

. **Course Objectives :**

➢ To help students to understand the nature of light, its propagation and interaction with matter which is essential to constantly emerging newest technologies.
➢ To create interest among the students about the modern communication systems by studying wave optics.
➢ Students will be able to understand applications of interference, diffraction, lasers in real life situations .

Course outcomes :

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

❖ Understand the phenomenon of interference of light and its formation in (i) Lloyd's single, Newton's rings and Michelson interferometer.

❖ Distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of a single slit and the diffraction grating.

❖ Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of opticalactivity.

❖ Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields.

Syllabus
WAVE OPTICS

Course Details

Unit	Learning Units	Lecture Hours
I	**Interference of light: (Problem)** **A) Division of Wavefront:** Introduction, Conditions for the interference of light, Interference of light by division of wavefront and amplitude, Phase change on reflection- Stokes' treatment, Fresnel's Bi-Prism-Determination of Wavelength of Light. **B) Division of Amplitude**: Cosine law - colours in thin films, Newton's rings in reflected light-Theory and experiment - Determination of wavelength of monochromatic light, Michelson interferometer and determination of wavelength.	12
II	**Diffraction of light(Problem)** **A) 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 a diffraction grating, Resolving power of grating, **B) Fresnel's Class: Fresnel's half-period zones, Zone plate, comparison of zone plate with a convexlens**	12
III	**Polarisation of light(Problem)** **A) 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,** Quarter wave plate, Half wave plate **B) Types and production of polarized Light:** **Plane, Circularly and Elliptically polarized light-Production and detection, Optical activity, Laurent's half shade polarimeter: determination of the specific rotation**	12
IV	**A) Aberrations**: **(Problem)** 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. **B) FibreOptics:(No Problem)** 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.	12
V	**Lasers and Holography (No Problem)** **A) Lasers**: Introduction, Spontaneous emission, stimulated emission, Population Inversion, Laser principle, Einstein coefficients, Types of lasers-He-Ne laser, Ruby laser, Applications of lasers **B) Holography**: Basic principle of holography, Applications of holography	12

REFERENCE BOOKS:

- 1) BSc Physics, Vol.2, Telugu Akademy, Hyderabad
- 2) A Text Book of Optics-N Subramanyam, L Brijlal, S.Chand&Co.
- 3) Optics-Murugeshan, S.Chand&Co.
- 4) Unified Physics Vol.II Optics, Jai PrakashNath&Co.Ltd.,Meerut
- 5) Optics,F.A. Jenkins and H.G.White,McGraw-Hill
- 6) Optics,AjoyGhatak,TataMcGraw-Hill.
- 7)Introduction of Lasers – Avadhanulu, S.Chand&Co.
- 8) Principles of Optics- BK Mathur, Gopala Printing Press,1995

STUDENT ACTIVITY

1. Seminars
2. Assignments.

LIBRARY ACTIVITY

Students visit the library to refer and gather information regarding seminar topics and assignments.

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
  andchallenging)

- Student seminars (on topics of the syllabus and related aspects (individualactivity)

- Quiz (on topics where the content can be compiled by smaller aspects and
  data (Individuals or groups asteams)

- 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 surprisetests),
- Practical assignments and laboratory reports,
- Efficient delivery using seminarpresentations , Viva voce interviews.

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

Max. Marks : 70   Max. Time : 3 Hrs

Answer all Questions.
SECTION A (20MARKS)

1.	(a)	4M	L1
		OR	
	(b)	4M	L1
2.	(a)	4M	L1
		OR	
	(b)	4M	L1
3.	(a)	4M	L2
		OR	
	(b)	4M	L2
4.	(a)	4M	L2
		OR	
	(b)	4M	L2
5.	(a)	4M	L3
		OR	
	(b)	4M	L3

SECTION B (50MARKS)
Answer all Questions.

6.	(a)	10M	L1
		OR	
	(b)	10M	L1
7.	(a)	10M	L1
		OR	
	(b)	10M	L1
8.	(a)	10M	L2
		OR	
	(b)	10M	L2
9.	(a)	10M	L2
		OR	
	(b)	10M	L2
10.	(a)	10M	L3
		OR	
	(b)	10M	L3

***

Practical Course II : Wave Optics

Workload : 30 hrs   **CREDITS -2**   **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, polarimeterand making finer measurements of wavelength of light using Newton Rings 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 methodand 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'srings.
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-hallowprism
9. Determination of thickness of a thin wire by wedge method
10. Determination of refractive index of liquid-Boy's method.
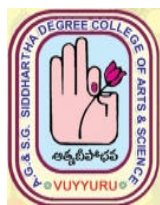
TITLE OF THE PAPER**: ELECTRICITY, MAGNETISM   AND ELECTRONICS**
Semester: IV

Course Code	PHYT41A	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: 2021-22	**Year of Offering: 2021-22**	**Year of Revision: ------**	**Percentage of deviation: ------**
CLASS:	**II . B.Sc. (MPC&MPCs)**	**2021-22**	

<u>**Course Objective**</u>   :

1. Understand the magnetic effects of electric current.
2. Study the unification of electric and magnetic phenomena.
3. To gain knowledge about Maxwell's equations and EM waves

4. develop competence in using laboratory instruments to carry out experiments to study different electromagnetic phenomena, that will enhance student's class room learning .

<u>**Course outcomes**</u> :-

On successful completion of this course, the students will be able to:

CO1 Remember and recollect of basic electrodynamic definitions and apply in daily life.

CO2 Understanding of electrodynamics and relativity.

CO3 Ability to define and derive expressions for the energy both for the electrostatic and

magnetostatic fields and derive Poynting's theorem from Maxwell's equations

and physical interpret.

CO4 Analyze Maxwell's equation in different forms (differential and integral) and apply

them to diverse engineering problems.

Syllabus
ELECTRICITY, MAGNETISM AND ELECTRONICS
Course Details

Unit	Learning Units	Lecture Hours
I	**A) 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 **B) Dielectrics: (6 hrs)** Polar and Non-polar dielectrics- Electric displacement D, electric polarization P,Relation between D, E and P, Dielectric constant and electric susceptibility.	12
II	**A) 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. **B) 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 a magnetic field, Eddy currents and Electromagnetic damping	12
III	**A) 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. **B) 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)	12
IV	**Basic Electronic devices:** **A) Diodes**: PN junction diode, Zener diode andLight Emitting Diode (LED) and their I-V characteristics, Zener diode as a regulator **B) Transistors**: Transistors and its operation, CB, CE and CC configurations, Input and output characteristicsofa transistor in CE mode, Relation between alpha, beta and gamma; Hybrid parameters, Determination of hybrid parameters from transistor characteristics; Transistor as an amplifier	12
V	**Digital Electronics:** 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.	12

TEXT BOOKS

1. BSc Physics, Vol.3, Telugu Akademy, Hyderabad.
2. Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.

REFERENCE BOOKS

1. Electricity, Magnetism with Electronics, K. K. Tewari, R. Chand& Co.,
2. Principles of Electronics, V.K. Mehta, S. Chand& Co.,
3. Digital Principles and Applications, A. P. Malvino and D. P. Leach, Mc Graw Hill Edition.

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 the syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

  GENERAL

  ❖ Group Discussion

  ❖ Visit 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.

*****

MODEL QUESTION PAPER
Title of the Paper: ELECTRICITY, MAGNETISM & ELECTRONICS
Section-A

Answer the following: (5X10=50M)

1 a) State Gauss law in electrostatics. Obtain an expression for potential due to point charge. (CO1, L1)

OR

b) Define D, E and P. Derive the relation between them. Hence deduce the relation between dielectric constant and susceptibility (CO3, L1)

2. a) Explain Biot-Savert Law. Derive an expression for the magnetic induction for infinite long straight wire. (CO2, L2)

OR

b) State Faraday's and Lenz's Law. Derive an expression for a long solenoid.(CO2, L2)

3 a) Derive an expression for the current flowing in an LCR series circuit. Explain resonance condition (CO3, L3)

OR

b) Write Maxwell's equations in differential form. Derive the equation of electromagnetic wave and hence evaluate the velocity of light in free space. (CO1, L3)

4 a) Explain the working and V-I characteristic of PN junction diode. (CO4, L2)

OR

b) Explain the working of PNP and NPN transistors. (CO3, L2)

5 a) State and prove De Morgan laws. (CO4, L2)

OR

b) Discuss the construction and working of Half Adder and Full Adder and give their truth tables. (CO3, L2)

SECTION- B

Answer any THREE of the following (3X5=15M)

6. Define electric potential. Write a note on equi potential surfaces. (CO1, L1)

7. What is Halll effect? Write its applications.(CO2, L1)

8. Explain about Q-factor (CO2, L2)

9. Derive the relation between α and β (CO3, L2)

10. Explain how NAND gate can act as universal gate. (CO4, L1)

SECTION - C

Answer any TWO of the following.   (2X5=10M)

11. Find the resonant frequency of LCR series with L = 2mH, C=0.8μf and R = 100KΩ
    (CO4, L3)

12. In a transistor base current and emitter current are 0.09mA and 9.09mA respectively.
    Calculate current gains α and β (CO4, L3)

12. Find the binary equivalent of 625. (CO4, L3)

13. Add binary numbers 110, 111 and 101 (CO4, L3)

Title of the Paper: ELECTRICITY, MAGNETISM & ELECTRONICS
(PRACTICALS)

Offered to: B.Sc. (MPC&MPCs)

Course Type: Core (L) PHYP**41A**

Year of Introduction: 2021-22	**Year of Revision: NIL**	**Percentage of Revision: 100**
Semester: IV		**Credits: 02**
Hours Taught: 30 hrs. per Semester		**Max.Time**: 2 Hours

After successful completion of the course, the student will be able to:

CO1	Learn how a sonometer can be used to determine the frequency of AC-supply.
CO2	Observe the variation of magnetic field along the axis of a circular coil carrying current using Stewart and Gee's apparatus.
CO3	Understand the operation of PN junction diode, Zener diode and a transistor and their V-I characteristics.
CO4	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.
CO5	Observe the resonance condition in LCR series and parallel circuit

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 adder-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.

TITLE OF THE PAPER : MODERN PHYSICS

Semester: IV

Course Code	PHYT01	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:**	**Year of Revision : 2022-23**	**Percentage of Deviation : 10 %**
CLASS:	**II. B.Sc. (MPC&MPCs)**	2021-22	

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 of particle physics.

Syllabus

MODERN PHYSICS

Course Details

Unit	Learning Units	Lecture Hours
I	1. **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. 2. **Molecular Physics** (05 hrs) Raman effect, Characteristics of Raman effect, Experimental study of Raman effect, Quantum theory of Raman effect, Applications of Raman effect.	12
II	3. **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**), 4. **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 complementarily.	12
III	5. **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)	12
IV	. 6. **Structure of Nuclei and Nuclear Models**: (06 hrs) Nuclear Structure: General Properties of Nuclei, Mass defect, Binding energy; Nuclear forces, Characteristics of nuclear forces, Nuclear Models: Liquid drop model, Shell model, Magic numbers. 7. **Elementary Particle Physics** (06 hrs) Elementary Particles and their classification, Fundamental Interactions – gravitational, electromagnetic, strong & week; Properties of Leptons, Mesons and Baryons	12
V	8. **Crystal Structure** Amorphous and crystalline materials, unit cell, Miller indices, reciprocal lattice, types of lattices, diffraction of X-rays by crystals, Bragg's law, Laue's method and powder diffraction method 9. **Superconductivity**: (05 hrs)	12

| | Introduction – **Properties of superconductors**- critical temperature (T_c), critical magnetic field (T_m), Meissner effect, Type I and Type II superconductors, BCS theory (Qualitative),Applications of superconductors. | |

TEXT BOOKS

1. BSc Physics, Vol.4, Telugu Akademy, Hyderabad

2. Modern Physics by R. Murugeshan 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).

6. Textbook of Nanoscience and Nanotechnology, BS Murthy, P Shankar, Baldev Raj, BB Rath and J Murday-Universities Press-IIM

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

<u>**Model Question Paper**</u>
Title of the Paper: Modern physics
<u>**Section-A**</u>

<u>Answer the following</u>:   (5X10=50M)

1 a) Explain briefly the salient features of vector atom model. Explain the quantum numbers Associated with vector atom model (CO1, L1)

OR

b)   What is Raman effect? Describe the experimental arrangement to study Raman effect in liquids. Write any two applications of Raman effect.(CO1, L1)

2. a) What are matter waves? Describe the Davisson and Germer experiment on electron diffraction (CO2, L2)

OR

b)   State and explain Heisenberg's uncertainty principal. Describe an experiment for verification
of uncertainty principle.(CO2, L2)

3 a) Derive Schrodinger time dependent wave equation.(CO3, L1)

OR

b)   Derive an expression for energy offree particle in one dimensional box of infinite height.(CO3, L2)

4. a) Write Liquid drop model (CO4, L2)

OR

b) Write a detailed note on elementary particles (CO4, L2)

5. a)   Derive Bragg's X ray diffraction condition. (CO5, L1)

OR

b) What is super conductivity? Give a qualitative description ofthe BCS theory. Write any three applications of super conductors(CO5, L1)

Section-B

Answer any **THREE** of the following: (3X5=15M)

6.   Explain the coupling schemes (CO1, L1)

7.   Write the properties ofmatter waves.(CO2, L1)

8.   State the basic postulates of Quantum mechanics.(CO3, L1)

9.   Write any three properties of nucleus (CO5, L2)

10.   Explain Meissner effect.(CO5, L1)

Section-C

Answer any **TWO** of the following: (2X5=10M)

11. If the uncertainty in position of an electron is 4×10^{-10}m. Calculate the uncertainty in its momentum.
(CO1, L3)

12.   Find the kinetic energy of an electron whose de-Broglie wavelength is 0.3A°. (Mass of electron = 9.1×10^{-31} kg, Planck's constant h = 6.6×10^{-34} J-s) (CO2, L3)

13.   Find the least energy of an electron moving in the dimension in an infinitely high potential box of width 1 A° (given mass of electron = 9.1×10^{-31}kg, Planck's constant h = 6.6×10^{-34} J-s)(CO3, L3)

14.   Compute the approximate nuclear radius of Al^{27}. (Given r_0 = 1.2 fermi) (CO4, 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: MODERN PHYSICS
(PRACTICALS)

Offered to: B.Sc. (MPC&MPCs)
Course Type: Core (L) PHYP**01**
Year of Introduction: 2020-21   **Year of Revision: NIL**   **Percentage of Revision: NIL**
Semester: III   **Credits: 02**
Hours Taught: 30 hrs. per Semester   **Max.Time**: 2 Hours

Course Description

In this course students would be able to understand Basic experiments of modern physics such as: Determination of Plank's and Boltzmann's constants, Determination of Range of β-particles, energy gap of semiconductor, Photo electric effect and determination of e/m

Objectives:

> The primary objective of this course is to provide the fundamental knowledge and able to write down the band theory of Solids
>
> Describe the characteristics of semiconductors on the basis of band theory of solids
>
> Relate Cosmic activity and the environmental effect on the earth"s surface

COURSE OUTCOMES

Upon successful completion of this course, students should have the knowledge and skills to:

CO1   Measure the charge of an electron and e/m value of an electron by Thomson method.

CO2   Understand how the Planck's constant can be determined using Photocell and LEDs.

CO3   Study the absorption of α-rays and β-rays, Range of β-particles and the characteristics of GM counter

CO4   knowledge of Energy gap of a semiconductor using thermistor and junction diode.

List of experiments

1. Determination of M & H.

2. Energy gap of a semiconductor using junction diode.

3. Energy gap of a semiconductor using thermistor

4. Verification of inverse square law of light using photovoltaic cell.

5. Determination of the Planck's constant using LEDs of at least 3 different colours.

6. e/m of an electron by Thomson method.

7. Determination of Planck's Constant (photocell).

8. Analysis of powder X-ray diffraction pattern to determine properties of crystals.

9. GM counter characteristics

10. Determination of work function of material of filament of directly heated vacuum diode.

11. Study of absorption of α-rays.

12. Study of absorption of β-rays.

13. Determination of Range of β-particles.

Note :

1. 9 (NINE) experiments are to be done and recorded in the lab. These experiments will

be evaluated in CIA.

2. For certification minimum of 7(Seven) experiments must be done and recorded by

student who had put in 75 % of attendance in the lab.

3. **Best 6 experiments are to be considered for CIA**.

4. 10 marks for CIA.

5. 40 marks for practical exam.

The marks distribution for the Semester End practical examination is as follows:

Formula/ Principle / Statement with explanation of symbols	05
Diagram/Circuit Diagram / Tabular Columns	05
Setting up of the experiment and taking readings/Observations	10
Calculations (explicitly shown) + Graph + Result with Units	05
Procedure and precautions	05
Viva-voce	05
Record	05
Total Marks:	40

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 0n 2 9-03-2023 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	Ch. Sandh...
Sri. M. Padhmanabham, Assistant Professor, Dept of Political Science, SRR & CVR Govt Degree College ,Vijayawada. Mobile: 9490772836	University Nominee, Krishna University	
SmtG.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	R.V.SivaRao

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 the2nd, 4thand 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
Chairman

PROGRAMME: BA

YEAR	CODE	SEM	Name of course (each course consists 5 units with each unit having 12 hours of class work)	Hours/week	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

IInd 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& 74thConstitutional 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 73rd and 74th 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 <u>INDIAN POLITICAL PROCESS</u>   **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 the73 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.   Analise 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,
<u>L5</u>   -o-

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE (AUTONOMOUS), (2022-2023)VUYYURU

SECOND YEAR FOURTH SEMESTER

Course5:WESTERN POLITICAL THOUGHT

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 Germen 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 SovereigntyError! Filename not specified.
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.

REEFERENCE BOOKS:

O.P.Gauba   **:**   **Western Political Thought**

G.H.Sabine   **:**   **A History of Political TheoryE.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**   Course Code :POLT42

SECTION- A

(Answer any five questions. Each question carries 5 marks)- 5X5=25

(2 questions should be given from eachUnit)

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

2022-2023

DEPARTMENT OF STATISTICS

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

15-04-2023

Minutes of the meeting of BOS in Statistics for B.Sc(MSCs) Degree Courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 2.30 PM on 15-04-2023 through online mode.

N.V. SrinivasaRao   *Presiding*

Members Present:

1) (N.V.Srinivasa Rao)	Chairman	Head, Department of Mathematics, AG & SG S Degree College.
2) (P. Ravi Kumar)	University Nominee	Department of Statistics, Pavitra Degree College, Machilipatnam.
3) (G. Chakravarthy)	Subject Expert	Department of Statistics, P. B. Siddhartha College, Vijayawada
4) (N. Siva Naga Raju)	Member	Lecturer in Statistics AG & SG S Degree College.
5) (D.Sunitha)	Member	Lecturer in Mathematics AG & SG S Degree College.
6) (A.Bhargavi)	Member	Lecturer in Mathematics AG & SG S Degree College.
7) (Noor Mohammad)	Member	Lecturer in Mathematics AG & SG S Degree College.
8) (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 prescribed APSCHE and Krishna University from the Academic Year 2022-23.

2. To discuss and recommend the Syllabi, Model Question Papers and Guidelines to be followed by question paper setters in Statistic for 4thSemester as per the guidelines and instructions prescribed APSCHE and Krishna University from the Academic Year 2022-23.

3. Discussed and recommended the teaching and evaluation methods for approval of Academic Council

4. Any other matter.

Resolutions.

1. Discussed and recommended thatno changes are required in Syllabi. Changes are required in Model Question Papers and Guidelines to be followed by the question paper setters in Statistics for 2ndSemester from the Academic year 2022-23.

2. To recommed the teaching and evaluation methods to be followed under Autonomous status. The maximum marks for IA is 30 and SE is 70. Each IA written examination is of 1 Hr. 30 min duration for 30 marks. The tests will be conducted centrally. To reduce two IA tests and is calculated for 20 marks. 5 marks will be allotted for attendanceand 5 marks are allotted for Assignment/ 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 70) and the result shall be declared as 'PASS' from the Academic year 2022-23.

3. To introduce new Syllabi, Model Question Papers and Guidelines to be followed by the question paper setters in Statistics of 4thSemester from the Academic year 2022-23. 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 2022-23.

4. 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 & SCIENCE
VUYYURU – 521165
Reaccredited at 'A' level by NAAC
Autonomous -ISO 9001 – 2015 Certified

Title of the Course: Probability Distributions and Statistical Methods

Offered to: B.SC (MSCs)   **Course Code : STAT21C**

Course Type: Core (Theory)   **Year of Introduction:2019-20**

Year of Revision: 2021-22   **Percentage of Revision: 0%**

Semester: II   **Credits: 4**

Hours Taught: 60periods   **Max.Time:** 3 Hours

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 theoreticalProbability 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 Out comes: 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

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.	**12**

	Relationship between coefficient of association and colligation and simple problems.		
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

                          ***

STAT21C   **Max.: 70Marks**
                                               Min.Pass:28 Marks

Section – A

Answer the following   **5 x 4M = 20M**

1. a) In Binomial distribution mean and variance are 4 and 3 respectively.
    Find mode of the distribution.   (CO-1,L-2)

                        (OR)

    b) Show that in Poisson distribution mean and variance are equal.   (CO-1,L-2)
2. a) Write the properties of normal distribution.   (CO-2,L-2)

                        (OR)

    b) Obtain the mean and variance of Beta distribution of 2nd kind .   (CO-2,L-2)
3. a) Explain the types of correlation   (CO-3,L-2)

                        (OR)

    b) Define class and class frequency of an attribute with examples.   (CO-3,L-2)
4. a) Write the properties of regression coefficients.   (CO-4,L-2)

                        (OR)

    b) Explain the concept of rank correlation.   (CO-4,L-2)
5. a) Write the properties of multiple correlation coefficient.   (CO-5,L-2)

                        (OR)

    b) Write the properties of Regression coefficient.   (CO-5,L-2)

Section – B

Answer the following   **5 x 10M = 50M**

6. a) Define Binomial distribution and derive the recurrence relation for central moments
                                                                             (CO-1,L-2)

                        (OR)

    b) (i) A book contain 43 mistakes in 585 pages. Find the probability that there will be no
        mistake in randomly selected 10pages of the book.
       (ii) If a Poisson distribution such that $3P(x=1) = 2P(x=3)$. Find $P(2 \le X \le 5)$ (CO-1,L-2)
7. a) Show that mean, median and mode are equal in Normal distribution.   (CO-2,L-2)

                        (OR)

    b) In a distribution exactly normal, 7% of the items are under 35and 89% are under 63. What
       are the mean and standard deviation of the distribution.   (CO-2,L-2)
8. 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-3)

                        (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-3)
9. a) State the Karl Pearson's correlation coefficient and prove that it has between -1 and +1
                                                                             (CO-4,L-2)

                        (OR)

    b) Obtain the rank correlation coefficient of marks of 12 students in statistics and computer science
       given below   (CO-4,L-3)

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 |

10. a) Derive the regression equation of y on x   (CO-5,L-2)

(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 & SCIENCE

VUYYURU – 521165

Reaccredited at 'A' level by NAAC

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:** 2019-2020

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.   Computation of Yule's coefficient of association. (CO – 2)

5.   Computation of Pearson's and Tcherprows coefficient of contingency(CO – 2)

6. (a)   Computation of correlation coefficient for ungrouped data. (CO – 3)

   (b)   Computation of correlation coefficient for grouped data. (CO – 3)

7. (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)

   (c)   Fitting of power curve $y = ax^b$ by the method of least squares. (CO – 3)

   (d)   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   :   15 marks (Internal Evaluation)
(ii) For semester end Practical Examination   :   35 marks (External Evaluation)

A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
VUYYURU – 521165
Reaccredited at 'A' level by NAAC

Autonomous -ISO 9001 – 2015 Certified

Title of the Course: Sampling Techniques and Design of Experiments

Offered to: B.SC (MSCs)   **Course Code: STAT 41B**

Course Type: Core (Theory)   **Credits: 4**

Year of Introduction: 2022-23   **Semester: IV**

Hours Taught: 60periods.   **Max.Time:** 3 Hours

Course Prerequisites: Basic Knowledge of Mathematics, Counting principles, distributions, Estimation and Testing of Hypothesis.

Course Description: This course helps the students to understand the various sampling ideas to conduct the socio economics studies. Introduces the basic concepts and principles of experimental design

Course Objectives:
1) To impart basic concepts in Sampling Theory.
2) To explore various sampling techniques and understand their merits and drawbacks.
3) To understand the basic terminology in experimental design.
4) To develop the students ability to plan an experiment.
5) Obtaining relevant information from the experiment in relation to the statistical hypothesis under study.

Learning Outcomes: At the end of the course, the student will
1) Acumen to apply for collecting data for various studies.
2) ability to understand the design for comparing the various fields.
3) develop the skill of identifying important inputs that impact the output.

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 understand the principles and principal steps of sampling, and different sampling techniques. Apply different sampling techniques to take samples and computeunbiased estimates and confidence limits of population parameters.	PO - 5
CO 2	To analyse the unbiasedness and efficiencies of estimates obtained using different sampling techniques.	PO - 6
CO3	To understand the basic concepts and principles of experimental designs.	PO - 5
CO 4	To Analyze the various design of experiment concepts and missing plot techniques.	PO - 6
CO 5	To Identify the factors and variable for the experiment for building statistical model.	PO - 7

Syllabus

Unit	Learning Units	Lecture Hours
I	**Introductory Concepts of sampling :** Concepts of Population and Sample, Basic principles of sample survey, The principles steps in a sample survey, Complete enumeration Vs Sampling, Sampling and non-sampling errors, Limitations of sampling, Types of sampling, Non Probability sampling methods, Probability sampling methods **Simple Random sampling:** SRSWR definition and procedure of selecting a sample, SRSWOR definition and procedure of selecting a sample , expectation of sample mean	**12**

	and variance of sample mean in srswor and srswr, advantages and disadvantages.	
II	**Stratified random sampling:** Stratified random sampling, Advantages and Disadvantages Allocation and types of allocation. Estimation of population mean, and its variance. Comparison between proportional and optimum allocations with SRSWOR. **Systematic sampling:** Procedure of construction, types, merits and demerits of systematic sampling. Comparison of systematic sampling with Stratified and SRSWOR	12
III	**Analysis of variance :** Analysis of variance(ANOVA) –Definition and assumptions. One-way classification, Two way classification.(one observation per cell) **Design of Experiments:** Terminology, Principles of design of experiments, CRD: Layout, advantages and disadvantage and Statistical analysis of Completely Randomized Design(C.R.D)	12
IV	Randomized Block Design (R.B.D) and Latin Square Design (L.S.D) with their layouts, advantages and disadvantage and Statistical analysis, Missing plot technique in RBD and LSD. Efficiency RBD over CRD, Efficiency of LSD over RBDand CRD.	12
V	**Factorial experiments** – Main effects and interaction effects of 2^2 and 2^3 factorial experiments and their Statistical analysis. Yates procedure to find factorial effect totals.	12

Text Book:
Fundamentals of Applied Statistics, 11th Edition, 2010, 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   **Course Code: STAT 41B**   **Min. Pass : 30 Marks**

Model Paper
Section A

Answer any FIVE of the following.   **5 x 5M = 25M**

1. Write a short note on ANOVA
   2. Define the terms (i) Treatments (ii) Blocks (iii) Experimental error
   3. Write the applications of Completely randomized design
   4. Explain the layout of Latin square design
   5. Explain the layout of Randomized block design
   6. Write the advantages of simple random sampling
   7. Explain the construction of stratified random sampling
   8. Explain the advantages of systematic sampling

Section – B

Answer the following.   **5 x 10M =50M**

9 a) Explain basic principles of sampling

(OR)

b) In SRSWOR, the sample mean square is an unbiased estimate of the population mean square

10 a) Show that $V(\overline{y_{st}})_{Ney} \leq V(\overline{y_{st}})_P \leq V(\overline{y_n})_R$

(OR)

b) If the population consists of a linear trend then Show that
$$V(\overline{y_{st}}) \leq V(\overline{y_{sys}}) \leq V(\overline{y_n})_R$$

11 a) Explain the principles of design of experiments

OR

b) Explain analysis of Completely randomized design

12 a) Explain analysis of Randomized block design

(OR)

b) Explain analysis of Latin square design

13 a) Explain analysis of 2^2 – factorial design

OR

b) Explain analysis of 2^3 – factorial design

***

A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
VUYYURU – 521165
Reaccredited at 'A' level by NAAC
Autonomous -ISO 9001 – 2015 Certified

Title of the Course : <mark>Sampling Techniques and Design of Experiments Lab</mark>

Offered to: B.SC (MSCs)   **Course Code: STAT 41BP**

Course Type: Core (Practical)   **Credits: 1**

Year of Introduction: 2022-23   **Semester: IV**

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 draw the sample from the population using sampling techniques	PO – 5
CO 2	To Construct suitable designed experiment for a given real life data.	PO - 6

List of Practicals

1. Simple random sampling with and without replacement. Comparison between SRSWR & SRSWOR

2. Stratified random sampling – proportional & optimum allocations. Comparison between proportional & optimum allocations with SRSWOR

3. Systematic sampling with N = nk. Comparison of systematic sampling with stratified and SRSWOR

4. Analysis of CRD

5. Analysis of RBD. Relative efficiency of RBD over CRD

6. Estimation of single missing observation in RBD and its analysis

7. Analysis of LSD. Relative efficiency of LSD over CRD and RBD

8. Estimation of single missing observation in LSD and its analysis

9. Analysis of 2^2 with RBD layout

***

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
Reaccredited at 'A' level by NAAC
Autonomous -ISO 9001 – 2015 Certified
Applied Statistics

Offered to: B.SC (MSCS) / STAT01
Course Type: Core (Theory)
Year of Introduction: 2022-23   **Percentage of Revision: 0%**
Semester: IV   **Credits: 4**
Hours Taught: 60 periods. per Semester   **Max. Time:** 3 Hours
Course Prerequisites: Students required knowledge in Mathematics and Statistical techniques
Course Description: This course provides the study of data related to population growth, construction index numbers. Also this course deals with industry problems and analyse and get solutions.
Course Objectives:
1) To enable the students to develop basic knowledge in Applied Statistics
2) To provide understanding in some advanced statistical techniques which are used for solving business problems.
Learning Outcomes: At the end of the course, the student will
1) have the hands on practice of working on the data and interpreting the results.
2) Acquire to apply the techniques related solve the real business problems.

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	Measure the Mortality and Fertility rates and the construction of Life tables	PO - 4
CO 2	construct the Quality Control charts for Variables.	PO – 6
CO3	construct the Quality Control charts for Attributes	PO – 6
CO 4	Obtain the knowledge on asses the population growth by using vital statistics	PO - 7
CO 5	Helps asses the normalization processes of different scores and estimating the IQ levels.	PO - 6

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Index Numbers** Basic problems involved in the construction of index numbers. Construction of index numbers - Simple aggregate, Weighted aggregate, Simple price relative and Weighted price relative methods. The criteria of good index number. Cost of living index number. Uses and Limitations of index numbers.	12
II	**Statistical Quality Control – I** Introduction. Basis of SQC. Uses of SQC. Types of controls – Process &Product. Construction of 3-σ limits. Construction of Mean ($\bar{x}$) and Range (R) charts. Interpretation of $\bar{x} and R charts$	12
III	**Statistical Quality Control – II** Construction of p and c charts - Fixed control limits. Interpretation of p and c - charts. Natural and Specification limits. Acceptance sampling inspection plans – AQL, LTPD, AOQL and ASN. OC curves.	12
IV	**Vital Statistics** Introduction, definition and uses of vital statistics, sources of vital statistics. Measures of different Mortality and Fertility rates, Measurement of population growth. Life tables: construction and uses of life tables.	12
V	**Statistics in Psychology & Education**	12

| | Introduction. Scaling procedures – Scaling of scores – Z or σ scores, Standard and normalized scores, T and Percentile scores. Reliability of test scores – Def. index and parallel tests. Methods of determining test reliability. Validity of test scores. | |

Text Book:

1. S.C. Gupta, (2016), Seventh Edition, Fundamentals of Statistics, Mumbai: Himalaya Publishing House.
2. Fundamentals of Applied Statistics, 2014, S.C. Gupta and V.K. Kapoor ; Sutan Chand &Sons , New Delhi.

Reference Books:

1. Levine, D.M., Berenson, M. L. & Stephan, D. (2012*), Statistics for managers using Microsoft Excel*, New Delhi: Prentice Hall India Pvt.
2. Aczel, A. D. & Sounderpandian, J. (2011), *Complete Business Statistics*, New Delhi: Tata McGraw Hill.
3. Sharma, J. K. (2013), *Business statistics*, New Delhi: Pearson Education
4. Anderson, D., Sweeney, D., Williams, T., Camm, J., & Cochran, J. (2013), *Statistics for Business and Economics*, New Delhi: Cengage Learning.
5.Agarwal, B.L. Basic Statistics, New Age International Publishers, New Delhi, 6th edition 2013

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

****

Reference Books:
1. Levine, D.M., Berenson, M. L. & Stephan, D. (2012*), Statistics for managers using Microsoft Excel*, New Delhi: Prentice Hall India Pvt.
2. Aczel, A. D. & Sounderpandian, J. (2011), *Complete Business Statistics*, New Delhi: Tata McGraw Hill.
3. Sharma, J. K. (2013), *Business statistics*, New Delhi: Pearson Education
4. Anderson, D., Sweeney, D., Williams, T., Camm, J., & Cochran, J. (2013), *Statistics for Business and Economics*, New Delhi: Cengage Learning.
5. Agarwal, B.L. Basic Statistics, New Age International Publishers, New Delhi, 6th edition 2013

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

****

Max.: 75 Marks   **Min. Pass: 30 Marks**

Applied Statistics

Section – A

Answer any Five of the following   **5 x 5M = 25M**

1. Define SQC and write its uses (L- 1, CO – 2)

2. Explain 3 –σ limits (L – 2, CO – 2)

3. What are the applications of C- chart (L – 3, CO – 3)

4. Explain base shifting in index numbers (L – 2, CO – 1)

5. From the following data calculate Index Number by simple (i) aggregate and (ii) relative method (L – 3, CO – 1)

Commodity	A	B	C	D
Price in 1980	162	256	257	132
Price in 1981	171	164	189	145

6. Explain the sources of vital statistics (L – 2, CO – 4)

7. Explain reproduction rates (L – 2, CO – 4)

8. Explain scaling methods (L – 2, CO – 5)

Section – B

Answer all the questions   **5 x 10M = 50M**

9. (a) Explain the basic problems involved in the construction of index numbers (L – 2, CO – 1)

                                    OR

 (b) Find the cost of living index number by family budget method from the following data

                                               (L – 5, CO – 1)

Commodities	Base Year Price	Current Year Price	% of Weights

A	20	26	17
B	28	31	29
C	34	40	20
D	92	95	34

10. (a) Explain different fertility rates (L – 2, CO – 4)

OR

(b) Fill in the blanks of the following table which are marked with ?   (L – 2, CO – 4)

Age	l_x	d_x	q_x	p_x	L_x	e_x^o
20	693435	?	?	?	?	35081126
21	690673	-	-	-	-	?

11. (a) Explain the construction of mean and range charts (L – 2, CO – 2)

OR

(b) Explain the statistical basis of SQC (L – 2, CO – 2)

12. (a) Explain the construction of fraction defective chart (L – 2, CO – 3)

OR

(b) Explain the construction of number of defects per unit chart (L – 2, CO – 3)

13. (a) Letter grades A,B,C,D and E are assigned by two teachers X and Y to the students of class for Honesty. The table gives the distribution of the proportion of individuals in each rating

(L – 5, CO – 5)

Teacher	A	B	C	D	E
X	0.10	0.15	0.50	0.20	0.05
y	0.20	0.40	0.20	0.10	0.10

OR

(b) Define reliability and validity tests. (L – 2, CO – 5)

****

A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
VUYYURU – 521165
Reaccredited at 'A' level by NAAC
Autonomous -ISO 9001 – 2015 Certified

Applied Statistics

Offered to: B.SC (MSCS) / STAP01
Course Type: Core (Practical)
Year of Introduction: 2022-23   **Percentage of Revision: 0%**
Semester: IV   **Credits: 1**
Hours Taught: 30periods. per Semester   **Max.Time: 2** Hours

Course Prerequisites: Students required knowledge in Mathematics and Statistical techniques

Course Description: This course provides the study of data related to population growth, construction index numbers. Also this course deals with industry problems and analyse and get solutions.
Course Objectives:
1)   To enable the students to develop basic knowledge in Applied Statistics
2)   To provide understanding in some advanced statistical techniques which are used for solving business problems.
Learning Outcomes: At the end of the course, the student will
1)   have the hands on practice of working on the data and interpreting the results.
2)   Acquire to apply the techniques related solve the real business problems.

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	Measure the Mortality and Fertility rates and the construction of Life tables	PO - 5
CO 2	construct the Quality Control charts for Variables and attribute charts	PO - 6
CO 3	Construct the various types of index numbers	PO - 6

Practical No	Theme	Key Topics
		Applied Statistics
1	Control Charts	Construction of Mean & Range charts
2	Control Charts	Construction of p & c charts
3	Index Numbers	Construction of Weighted index numbers
4	Index Numbers	Testing of good index number
5	Index Numbers	Construction of Whole sale price index number
6	Vital Statistics	Determining of Mortality rates
7	Vital Statistics	Determining of Fertility & reproduction rates
8	Vital Statistics	Construction of life tables
9	Psychology & Education	Scaling of ratings using Normal distribution

****

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 TELUGU

MINUTES OF BOARD OF STUDIES

EVEN SEMESTER

28-03-2023

తెలుగు విభాగం పాఠ్య నిర్ణాయక మండలి (బోర్డ్ ఆఫ్ స్టడీస్) సమావేశం - 15

తేదీ 28.03.2023 ఉదయం 11 గంటలకు అడుసుమిల్లి గోపాలకృష్ణయ్య చెరకు రైతుల సిద్ధార్థ డిగ్రీ కళాశాల ఉయ్యూరు, తెలుగు శాఖలో 2022 - 2023 విద్యా సంవత్సరానికి తెలుగు శాఖ అధ్యక్షురాలు శ్రీమతి ఎం.ఎల్.యస్ కుమారి అధ్యక్షతన సమావేశం నిర్వహించటం జరిగినది. తెలుగు పాఠ్యాంశ నిర్ణాయక మండలి సమావేశానికి చర్చనీయాంశాలు.

1. 2022 - 2023 విద్యా సంవత్సరంలో ప్రథమ బి.ఎ., బి.కాం., బి.యస్.సి. తరగతులకు రెండవ సెమిస్టర్ కు సంబంధించిన పాఠ్యాంశాల నిర్ణయం గురించి.

2. తెలుగు శాఖ ఆధ్వర్యంలో 'యోగ' యాక్టివిటీని ద్వితీయ సంవత్సరం నాలుగవ సెమిస్టర్ విద్యార్థులందరికీ నిర్వహించాలని, పరీక్ష 50 మార్కులకి, క్రెడిట్స్ 2గా ఆమోదం కోరుతున్నాము.

3. అధ్యక్షురాలు అనుమతితో ఇతర అంశాలు ఏమైనా........

తీర్మానాలు:

తేదీ 28.03.2023 ఉదయం 11 గంటలకు అడుసుమిల్లి గోపాలకృష్ణయ్య చెరకు రైతుల సిద్ధార్థ డిగ్రీ కళాశాల ఉయ్యూరులో 2022 – 2023 విద్యా సంవత్సరానికి రెండవ భాషగా తెలుగు పాఠ్యాంశాలు నిర్ణయించిన తరువాత తెలుగు పాఠ్య నిర్ణాయక మండలి (బోర్డ్ ఆఫ్ స్టడీస్) సభ్యులు ఈ క్రింది తీర్మానాలను ఏకగ్రీవంగా ఆమోదించడమైనది.

1. 2022 – 2023 విద్యా సంవత్సరం రెండవ సెమిస్టర్ పాఠ్యాంశాలలో ఎటువంటి మార్పు లేదని అనగా 2021 – 2022లో నున్న పాఠ్యాంశాలనే ఉంచాలని తీర్మానించడమైనది.

2. 2022 – 2023 విద్యా సంవత్సరం ప్రథమ బి.ఎ., బి.కాం., బి.యస్.సి. రెండవ సెమిస్టర్ ప్రశ్న పత్రం ఎక్స్ టర్నల్ 70 మార్కులకు, ఇంటర్నల్ 30 మార్కులకు ఇవ్వాలని తీర్మానించడమైనది.

3. తెలుగు శాఖ ఆధ్వర్యంలో యోగ యాక్టివిటీని నిర్వహించాలని తీర్మానించడమైనది.

హాజరైన సభ్యులు:-

1. శ్రీమతి ఎం.ఎల్.యస్ కుమారి   M. L. S. Cumari
   తెలుగు శాఖ అధ్యక్షురాలు, పాఠ్య నిర్ణాయక మండలి అధ్యక్షురాలు.

2. శ్రీమతి బి.ఎస్.ఎల్ పద్మశ్రీ
   తెలుగు శాఖ అధ్యక్షురాలు
   ఎస్.పి. మహిళ కళాశాల, మచిలీపట్నం
   (కృష్ణా విశ్వవిద్యాలయ నామిని)

3. డాక్టర్.జి.శ్రీనివాస్   G. Sr...
   తెలుగు శాఖ అధ్యక్షులు
   ప్రభుత్వ డిగ్రీ కళాశాల
   చింతలపూడి
   విషయం నిపుణులు (Subject Expert)

4. శ్రీమతి.జి.జ్యోతి   G. Jyothi
   తెలుగు అధ్యాపకురాలు

5. శ్రీమతి.పి కాశీ విశ్వేశ్వరి
   విద్యార్థి ప్రతినిధి.

TELUGU – II

పాఠ్య ప్రణాళిక

యూనిట్ – I

1. ఆధునిక కవిత్వం – పరిచయం
2. కన్యక - గురజాడ వెంకట అప్పారావు
3. కొండవీడు – దువ్వూరి రామిరెడ్డి (కవి కోకిల గ్రంథావళి – ఖండకావ్యాలు - నక్షత్రాల సంపుటి నుండి)
4. మాతృ 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.

ఆధార గ్రంథాలు / వ్యాసాలు

1. ఆధునిక కవిత్వం - పరిచయం - ప్రొ.ఎస్.సత్యనారాయణ
2. తెలుగు కథానిక - పరిచయం - ప్రొ.రాచపాళెం చంద్రశేఖర రెడ్డి
3. తెలుగు నవల - పరిచయం - వల్లంపాటి వెంకట సుబ్బయ్య
4. సాంఘిక నవల - కథన శిల్పం - ప్రొ.సి.మృణాళిని
5. తెలుగు నాటకం - పరిచయం - ప్రొ.ఎస్.గంగప్ప
6. తెలుగు సాహిత్య విమర్శ - పరిచయం - ప్రొ.జి.వి.సుబ్రహ్మణ్యం
7. నూరేళ్ళ తెలుగు నాటక రంగం - ప్రొ.మొదలి నాగభూషణ శర్మ
8. నాటక శిల్పం - ప్రొ.మొదలి నాగభూషణ శర్మ

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 మరియమ్మ పాత్ర.　L2

　　4.　కథానిక లక్షణాలు తెలపండి.　L2

　　　　　　(లేదా)

　　　　'భయం' కథలో సొమ్ముల గురువడు పాత్రను వివరించండి.　L2

　　5.　యక్షగానం పాఠ్యంశంలో 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. L.1

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 లకణాలను తెలుపండి.   L3

A.G & S.G. Siddhartha Degree College Of Arts & Science Vuyyuru – 521 165, Krishna Dist.

(An Autonomous College in the jurisdiction of Krishna University, Machilipatnam, A.P.,India)

ACCREDITED AT 'A 'NACC

I Year B.A., B.Com., B.SC.,

Telugu II SEMESTER

Guidelines to paper Setters

ప్రశ్నాపత్ర నిర్మాణ సూచిక :

1. సంక్షిప్తరూప ప్రశ్నలు :   5 X 5 = 25 మా

      ప్రతి యూనిట్ నుండి తప్పని సరిగా ఒక ప్రశ్న ఇచ్చి మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో
ఐదింటికి సమాధానాలు వ్రాయాలి.

2. వ్యాసరూప ప్రశ్నలు   5 X 10 =50 మా

      ప్రతి యూనిట్ నుండి తప్పని సరిగా ఒక ప్రశ్న ఇచ్చి మొత్తం మీద ఎనిమిది ప్రశ్నలు ఇవ్వాలి. అందులో
ఐదింటికి సమాధానాలు వ్రాయాలి.

                                                మొత్తం - 75 మా

TELUGU II
ఆధునిక తెలుగు సాహిత్యం

యూనిట్ల సంఖ్య -5

కోర్సు అవుట్ కమ్స్

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. ఆంగ్లభాష ప్రభావం కారణంగా తెలుగులో వచ్చిన ఆధునిక సాహిత్యాన్ని, దాని విశిష్టతను గుర్తిస్తారు.

2. సమకాలీన ఆధునిక సాహిత్య ప్రక్రియలైన "వచన కవిత్వం, కథ, నవల, నాటకం, విమర్శల" పై అవగాహన పొందుతారు.

3. భావ కవిత, అభ్యుదయ కవిత్వాల లక్ష్యాలను గూర్చిన జ్ఞానాన్ని పొందుతారు. ఇంకా అస్తిత్వవాదం, ఉద్యమాల పుట్టుకను, ఆవశ్యకతను గుర్తిస్తారు.

4. కథా సాహిత్యం ద్వారా సామాజిక చైతన్యాన్ని పొందుతారు. సిద్ధాంతాల ద్వారా కాకుండా, వాస్తవ పరిస్థితులను తెలుసుకోవడం ద్వారా సిద్ధాంతాన్ని సమీక్షించుకోగలరు.

5. ఆధునిక తెలుగు కల్పనా సాహిత్యం ద్వారా సామాజిక, సాంస్కృతిక, రాజకీయ చైతన్యాన్ని పొందుతారు.

లెర్నింగ్ ఆబ్జక్షివ్స్

1. ఆధునిక భాషా సాహిత్యము నందలి ప్రక్రియల పట్ల ప్రీతి, మమకారం, ఆసక్తి కలుగుతుంది.

2. ఆధునిక కవిత్వము పట్ల అవగాహన పద్ధతులు, ప్రసిద్ధులైన కవుల, రచయితల రచనాశైలి తెలుస్తాయి.

3. ఆధునిక సాహిత్య ప్రక్రియలైన కథ, నవల, నాటకం, విమర్శ మొదలగు సాహిత్య ప్రక్రియలలో రచనా మెళకువలు తెలుసుకోవటం జరుగుతుంది.

4. ఆధునిక సాహిత్యంలోని వివిధ కొత్త పదబంధాలు, శబ్ద ప్రయోగ వైచిత్రి, భాషా పరిజ్ఞానాన్ని తెలుసుకుంటారు.

5. కాలానుగుణంగా సాహిత్యం తన స్వరూపాన్ని ఏ విధంగా మార్చుకుంటుందో విద్యార్థులు క్షుణ్ణంగా పరిశీలించే అవకాశం కలుగుతుంది.

ADUSUMILLI GOPALAKRISHNAIAH & SUGAR CANE GROWERS SIDDHARTHA
DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
An Autonomous College in the Jurisdiction of Krishna University, Machilipatnam
NAAC reaccredited at 'A 'level
ISO 9001-2015

BOARD OF STUDIES MEETING
FOR B.SC. BZC2022-2023
II& IV&VI SEMESTERS

25th March 2023

DEPARTMENT OF ZOOLOGY

AG& SG Siddhartha Degree College of Arts & Science
Vuyyuru

2022-2023

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 10:00 am on 25-03-2023 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.Vijay 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) ....　Industrialist　　　　Principle Scientific Officer,
　　(B. Appala Naidu.)　　　　　　　　　　RGCA
　　　　　　　　　　　　　　　　　　　　Manikonda.

6) ....　Member　　　　　　　Lecturer in Zoology,
　　(Smt. K. Padmaja.)　　　　　　　　　　A.G&S.G.S Degree College
　　　　　　　　　　　　　　　　　　　　Vuyyuru-521165.

7) ....　Member　　　　　　　Lecturer in Zoology,
　　(Smt. Dr.V.Subhashini.)　　　　　　　　A.G&S.G.S Degree College
　　　　　　　　　　　　　　　　　　　　Vuyyuru-521165.

8) ....　Student Represent　　P.hd –Research Scholar,
　　(Ch.Chiranjeew.)　　　　　　　　　　　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 IB.Sc   (B.Z.C) for the academic year 2022 - 2023.

2. To recommend the syllabi (Theory & Practical), Model question paper for IV Semester of II B.Sc (B.Z.C) for the academic year   2022 - 2023.

3. To recommend the Blue print for the semester end exam for II&IV semester of I &IIB.Sc (B.Z.C) for the academic year 2022 - 2023.

4. Tointroduce SkillDevelopment Course –Poultry Farming for I year students in thisacademic year 2022-23.

5. To recommend the teaching and evolution methods to be followed under Autonomousstatus.

6. Any other matter.

Chairman.

ZOOLOGY- RESOLUTIONS
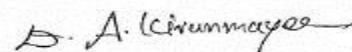
1. It is resolved to continue the same syllabi (Theory & Practical), model question paper &guide lines to be followed by the question paper setters of Zoology of II semester of I B.Sc. (B.Z.C) under Choice Based Credit System (CBCS) to be approved by the Academic Council of 2022 – 2023.

2. It is resolved to implement new paper for IV SEM of II B.Sc. BZC as approved by BOS members. The paper title is Embryology, Animal Physiology and Animal Ecology. It is resolved to continue the same syllabus for the IV SEM of II B.Sc. BZC in 402 paper.

3. It is resolved to Continue thesame Blue prints of II&IV Semestersof B.Sc Zoology for the Academicyear 2022-2023.

4. It is resolved to implement SkillDevelopment Course for I year students in Poultry farming.

5. It is resolved to continue the following teaching & evaluation methods for the Academic year 2022-23.

6. In VI Sem there is 3 months Internship for III BZC students

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 IB.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 I 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 assignment andreaming 5 marks seminar for IV semester.

❖ **Semester – End Examination:**

❖ The maximum mark for I (BZC) semester – End examination shall be 70 marks and duration of the examination shall be 3 hours.

❖ The maximum mark for IIB.Sc semester- End examination shall be 75 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 semester for I &II 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.

D. A. Chinmayee

Chairman

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

❖ **ALLOCATION OF CREDITS**
❖ **For the Papers offered during II&IV Semesters**

Year	Semester	Title	Teaching hours	Internal marks	External marks	Credits
I	II	Animal Diversity Biology of Chordates	4	30	70	03
		Practical – II	2	10	40	02
	II	Poultry farming	2	15	35	02
II	IV	Embryology, Physiology, & Ecology	4	25	75	03
		Practical – IV	2	10	40	02
		Immunology & Animal Biotechnology	4	25	75	03
		Practical – V	2	10	40	02
III	VI	VIII	SEMESTER INTERNSHIP			

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: **Animal Diversity Biology of Chordates**

Semester: - II

Course Code	ZOOT21A	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 – 2021-22	Percentage of Revision: 0%

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 piousness 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 o evolutionary significance.
CO 3	Comprehend and compare the morphology and anatomy of different classes ofchordates 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 Indianfauna in specific.
CO 5	Acquaint with the significance of unique mechanisms and behavioral patternsexhibited by different groups of chordates.

Syllabus

Unit	Learning Units	Lecture Hours
I	**UNIT I** 1.0. Protochordates to cyclostomes 1.1. Protochordates 1.1.1 Salient features of Urochordataand Cephalochordata 1.1.2. Structure and life-history of *Herdmania*, 1.1.3. Significance of retrogressive metamorphosis. 1.2. General organization of vertebrates 1.3. General characters of cyclostomes 1.4. Comparison of *Petromyzon*and*Myxine*1 hour	8 hrs
II	**UNIT II** 2.0 Fishes 2.1. Type study – *Scoliodon* - Morphology, respiratory, circulatory, excretory and nervous systems and sense organs. 2.2. Migration in fishes. 2.3. Viviparity in fishes 2.4. Types of scales 2.5. Accessory respiratory organs in fishes	13 HOURS
III	**UNIT III** 3.0. Amphibia 3.1. South Indian Amphibians. 3.2. Type study - *Rana*: Morphology, digestive system, respiratory system circulatory system,excretory system, nervous system and reproductive system 3.3. Parental care in amphibians	11 HOURS
IV	**UNIT IV** 4.0. Reptilia 4.1. South Indian Chelonians. 4.2. Type study – *Calotes*: Morphology, digestive, respiratory, circulatory, urinogenital and nervous systems. 4.3. Identification of poisonous snakes	11 HOURS
V	**UNIT V** 5.0. Aves and Mammalia 5.1. Aves 5.1.1 Birds as Glorified Reptiles. 5.1.2. Type study-Pigeon (*Columbialivia*): Exoskeleton, respiratory, circulatory and excretory systems 5.1.3. Significance of migration in birds 5.1.4. Flight adaptations in birds 5.2. Mammalia 5.2.1. Aquatic Mammals 5.2.2. Dentition in Mammals.	17 HOURS

Textbooks
1. R.L. Kotpal, *Modern Text Book of Zoology - Invertebrates*.
2. P.S. Dhami and J.K. Dhami*Invertebrate Zoology*.

Recommended Reference book:
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. Marshal, 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
5. George C. Kent, Robert K. Carr. *Comparative Anatomyof the Vertebrates*, 9th ed. McGraw Hill.
6. Kenneth Kardong*Vertebrates: Comparative Anatomy, Function and Evolution*, 4thed, 'McGraw Hill.
7. J.W. Young, *The Life of Vertebrates*, 3rded, OxfordUniversity press.
8. Harvey Pough F, Christine M. Janis, B. Heiser, *Vertebrate Life,* Pearson, 6thed, Pearson Education Inc.2002.

Course Delivery method: Face-to-face / Blended.
Course has focused on: Foundation

Websites of Interest:
> https://www.youtube.com/watch?v=-mcfPHd_sH8https://www.youtube.com/watch?v=U8F9IzuwdzQhttps://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
• 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.)
• Collecting and preparation of Museum specimens with dead frogs/snakes/lizards etc., and/or their skeletons
• Additional input on types of snake poisons and their antidotes (student activity).
• Collection of bird feathers and submission of report on Plumology
• Taxidermic preparation of dead birds for Zoology Museum
• Map pointing of prototherian and metatherian mammals
• Chart preparation for dentition in mammals

D.A. Kiranmayee

Signature of the Course In-charge

D.A. Kiranmayee

Signature of the Program In-charge   Signature of the HOD

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

II SEMESTER END EXAMINATIONS

PAPER – IIMODEL PAPERCours Code: ZOOT21A
Title of the paper: Animal Diversity Biology of   Chordates
(W.E.F 2022-2023)

Time: 3 Hours   **Max. Marks: 70**

Draw neat labelled diagrams wherever necessary.

SECTION –A   (20M)
Answer all Questions
(Restrict to maximum of 2 sub divisions)

1. i. Describe the structure of *Herdmania*– CO1 L2   4M
(Or)
  ii. Enumerate the general characters of Cephalochordata – CO1 L1   4M

2. i. Explain the different types of Scales in fishes –CO2 L2   4M
(Or)
   ii. Explain Viviparity in fishes – CO2, L2 4M

3. i. Describe the southindian amphibians– CO3, L2   4M
(Or)
 ii. Describe the ventricles of brain of frog – CO3, L24M

4. i. Distinguish between poisonous and non-poisonous snakes – CO4, L2   4M
(Or)
 ii. Describe the functions of brain of calotes- CO4, L2   4M

5. i. explains the structure of tooth. CO5, L2   4M
(Or)
  ii. Describe the structure of quill feather. CO5, L2   4M

SECTION – B(50M)
Answer all Questions
(Restrict to maximum of 2 sub divisions)

6.i. What is meant by Retrogressive Metamorphosis? Apply the phenomenon with reference
    tothe development of *Herdmania* – CO1, L3   10M
(Or)
ii. Enumerate the General characters of Cyclostomes – CO1 L3   10M

7. i. Describe the Respiratory system in *Scoliodon*– CO2, L2   10M
(Or)
ii. Explain the significance of Accessory respiratory organs –CO2, L2   10M

8. i. Describe Respiratory system in *Rana*– CO3, L2   10M
(Or)
ii. Discuss Parental Care in Amphibians – CO3 L2   10M

9. i. Explain about the South Indian Chelonians – CO4, L2   10M
(Or)
ii. Describe the structure and working of heart of *Calotes*- CO4, L2   10M

10. i. Describe the Respiratory system in Pegion – CO5, L2   10M
(Or)
 ii. Explain about the Aquatic Mammals – CO5, L2   10M

PRACTICAL- II (At the end of II Semester)

Title of the paper: Animal Diversity -Biology of Chordates

No of Hours: 30   **Credits: 02**
WEF: 2022-2023Course Code: ZOOP21A

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
5. to Maintain a neat, labeled record of identified museum specimens
6. to Exhibit the hidden creative talent

COURSE OUTCOMES:

CO1	To identify the systematic position of Protochordata, Cyclostomata and Pisces. PO1, PO2, PO5, PO6, PO7, PSO1
CO2	To identify the systematic position of Amphibians and Reptiles. PO1, PO2, PO5, PO6, PO7, PSO1
CO3	To identify the systematic position of Aves and mammals. PO1, PO2, PO5, PO6, PO7. PO1, PO2, PO5, PO6, PO7, PSO1
CO4	To Study the Appendicular skeleton of Varanus, Gallus and Oryctolagus. PO1, PO2, PO5, PO6, PO7, PSO1
CO5	To understand the various systems of Fish by Dissecting and process of Mounting the scales of Fish. PO1, PO2, PO5, PO6, PO7, PSO1

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 – ChordataP.S.Verma

Course Delivery method: Face-to-face / Blended.
Course has focused on: Skill Development

Weblinks:

https://www.youtube.com/watch?v=-2Q2rqEh0Bk
https://www.youtube.com/watch?v=C35LwntxUkE
https://www.youtube.com/watch?v=OuEUQRQ3iQo

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.)
• Collecting and preparation of Museum specimens with dead frogs/snakes/lizards etc., and/or their skeletons
• Additional input on types of snake poisons and their antidotes (student activity).
• Collection of bird feathers and submission of report on Plumology
• Taxidermic preparation of dead birds for Zoology Museum
• Map pointing of prototherian and metatherian mammals
• Chart preparation for dentition in mammals

 D.A Kiranmayee
Signature of the Course In-charge
D.A Kiranmayee
Signature of the Program In-charge   Signature of the HOD

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

I B.Sc. ZOOLOGY PRACTICAL EXAMINATION

Practical - IICourse Code: ZOOP21A
Title of the paper: Animal Diversity Biology of Chordates

Time: 3hrs.	**Max. Marks 40M**

1. List out the general characters of Class Mammalia. CO5, L   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 M
Diagram : $^1/_2$
Classification: $^1/_2$
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, VUYYURU-521165, KRISHNA Dt., A.P. (AUTONOMOUS).

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

Title of the Paper:**Embryology, Animal Physiology and Animal Ecology.**
Semester: - IV

Course Code	**ZOOT41A**	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 2021-2022	Year of Revision – 2021-22	Percentage of Revision: 0%

OBJECTIVES

- The study of fundamentals of embryology
- The study of functional aspects of the body.
- Understanding the mechanism of homeostasis
- Understanding the mechanism of coordination in the body.
- Understanding the structural and functional aspects of an ecosystem.
- Understanding the dynamics of populations

COURSE OUTCOMES

CO 1	Comprehend and describe the process of formation and fusion of gametes and appraise the significance of foetal membranes and placenta in the formation of an embryo.
CO 2	Understand the mechanism of functioning of the different organ systems of a vertebrate and analyse their coordination in adapting the animal to the changing environment.
CO 3	Identify and describe the histology of various organs of a mammal and developmental stages of chick embryo at different hours of incubation.
CO 4	Develop skill in conducting tests for identification of the presence of biomolecules and excretory products and estimating various water parameters.
CO 5	Acquaint with the structural and functional aspects of an ecosystem, concept of community and population - their characteristics and interactions and analyse the adaptations of animals to specific habitat and explain peculiarities in their distribution in different zoogeographical realms.

SYLLABUS

	UNIT- I	14hrs
I	Embryology Spermatogenesis, oogenesis and Fertilization. Types of eggs Types of cleavages Development of frog up to gastrulation and formation of primary germ layers Foetal membranes and their significance in chick embryo Placenta in mammals: types and functions	
	UNIT- II	14hrs
II	Physiology – I Digestive system: process of digestion Absorption of digested food Respiratory system - Pulmonary ventilation, transport of oxygen and Carbon dioxide Circulatory system - Structure and functioning of heart, Cardiac cycle. Excretory system - Structure of nephron, urine formation, and counter current Mechanism	
	UNIT - III	12hrs
III	Physiology - II Nerve impulse -Resting membrane potential, origin and propagation of action potentials along myelinated and non- myelinated nerve fibres Muscle contraction - Ultra structure of muscle fibre, molecular and chemical basis of muscle contraction Endocrine glands - Structure, secretions and the functions (of hormones) of pituitary, thyroid, parathyroid, adrenal glands and pancreas Hormonal control of reproduction in human being 1 Hour	
IV	**UNIT - IV** Ecology I Physical and chemical factors of an ecosystem Pressure Atmospheric gases: oxygen and carbon dioxide. Functional aspects of an ecosystem Biogeochemical cycles: nitrogen cycle, phosphorus cycle and carbon cycle Animal communities Types of communities Community structure Ecotone and edge effect, Community interactions Prey-predator relationships Competition	11hrs
V	**UNIT - V** Ecology - II Habitat Ecology and adaptations Ecological habitat and niche Desert adaptations,Pelagic adaptations Population Ecology Characteristics of animal populations <u>Zoogeography</u> Zoogeographical regions: Study of physical and faunal peculiarities of Oriental, Australian and Ethiopian regions.	9hrs

Textbooks
1. A.K. Berry, *A Text Book of Animal Physiology*, Delhi
2. SubrahmanyamN.S.&. Sambamurthy A.V.S.S, *Ecology,* Narosa Publishing House,New Delhi

Suggested Readings
1. Gerard J. Tortora and Sandra Reynolds Garbowski*Principles of Anatomy and Physiology*, Tenth Ed., John Wiley & Sons
2. Arthur C. Guyton MD, *A Text Book of Medical Physiology,* Eleventh ed., John E. Hall, Harcourt Asia Ltd.
3. William F. Ganong, *A Review of Medical Physiology*, 22 ed, McGraw Hill, 2005
4. Sherwood, Klandrof, Yanc, *Animal Physiology*, Thompson Brooks/Coole, 2005.
5. Sherwood, Klandrof, Yanc,*Human Physiology*, Thompson Brooks/Coole, 2005.
6. Knut Scmidt-Nielson, *Animal Physiology*, 5thed, Cambridge Low Price Edition.
7. Roger Eckert and Randal, *Animal Physiology*, 4thed, Freeman Co, New York.
8. BaliniskyB.I.*An introduction to Embryology*, 5thed, Thompson Brook, Coole.
9. McEwen, R.s. *Vertebrate Embryology*, Oxford and IBH Publishing Co. New Delhi.
10. M.P.Arora, '*Ecology*' Himalaya Publishing company.
11. P.D.Sharma, *Environmental Biology'*.
12. P.R.Trivedi and Gurdeep Raj. '*Environmental Ecology'*
13. BuddhadevSarma and Tej Kumar, *Indian Wildlife Threats and Preservation*
14. Chapman J.L. and Reiss M.J, *Ecology Principles and Applications*, Second Ed., Cambridge University Press, London.
15. Benny Joseph, *Environmental Studies*, TATA MGraw Hill Com., New Delhi.
16. Eugene P. Odum, *Fundamentals of Ecology* Third Ed., NataraJ Publishers, Dehradun.
17. BaliniskyB.I.*An introduction to Embryology*, 5thed, Thompson Brook, Coole.
18. McEwen, R.s. *Vertebrate Embryology*, Oxford and IBH Publishing Co. New Delhi.

Course Delivery method: Face-to-face / Blended.
Course has focused on: Foundation

Weblinks
https://www.youtube.com/watch?v=4Q43dqaIvnc
https://www.youtube.com/watch?v=7LqQYmgMqLk
https://www.youtube.com/watch?v=qtTLiQoYTyQ

CO-CURRICULAR ACTIVITIES
- Chart on cardiac cycle, human lung, kidney/nephron structure etc.
- Working model of human / any mammalian heart.
- Chart of sarcomere/location of endocrine glands in human body
- Chart affixing of photos of people suffering from hormonal disorders
- Student study projects such as identification of incidence of hormonal disorders in the local primary health center, studying the reasons thereof and measures to curb or any other as the lecturer feels good in nurturing health awareness among students
- Preparation of models of different types of eggs in animals
- Chart on frog embryonic development, fate map of frog blastula, cleavage etc.

D.A. Kiranmayee
Signature of the Course In-charge
D.A. Kiranmayee
Signature of the Program In-charge   Signature of the HOD

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

Semester IV   **w.e.f. 2022-2023**
(Model question paper)
Title of the paper: Embryology, Animal Physiology and Animal Ecology.
Code – ZOOT41A
Time: 3hrs.   **Max.Marks: 75**

SECTION –A

Answer and FIVE of the following   5x5=25 Marks
Draw neat labelled diagrams wherever necessary.

1. Mention the different types of eggs   CO1, L1
2. Explain fate maps of frog blastula   CO2, L2
3. Illustrate the structure of nephron   CO3, L3
4. Analyze the process of absorption of lipids   CO3, L4
5. Explain the significance of adrenal hormones   CO3, L5
6. Explain Phosphorous cycle   CO4, L2
7. Write a comparative account on ecotone and edge effect.   CO5, L4
8. List out the different pelagic adaptations.   CO5, L1

SECTION – B

Answer any FIVE of the following   5X10=50 Marks
Draw neat labelled diagrams wherever necessary.

9. Write an essay on foetal membranes and their significance in chick embryo. CO2, L2
                                                OR
    Describe the process of gametogenesis   CO2, L2

10. Explain the process of transportation of Oxygen through blood.CO3, L2
                                                OR
    Describe the structure and functioning of mammalian heart. CO3, L2

11. Write an essay on hormonal control of reproduction in human beings. CO3, L4
                                                OR
    Explain the propagation of action potential along myelinated and non-myelinated
nervefibres.   CO3, L4

12. Explain pressure as an ecological factor. CO4, L2
                                                OR
    Explain prey-predator relationships in animal communities.CO5, L2

13. Write an essay on the various adaptations of desert animals. CO5, L1
                                                OR

 Describe the physical features and fauna of Ethiopian region.CO5, L1

PRACTICAL - IV
.Title:-. **Embryology, Animal Physiology and Animal Ecology**
Code: ZOOP41A
Credits:- (02)
MAX.MARKS: 40
 (2hrs/week)

OBJECTIVES

- Identify the different stages of development of a vertebrate embryo
- Analyze the presence of various substances of metabolism
- Estimate the amount of chemical parameters of a water body
- Maintain a neat, labelled record of work done in the laboratory

Syllabus:

I. 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

4. Study of chick embryos of 18 hours, 24 hours, 33 hours and 48 hours of incubation

II. Physiology

1. Qualitative tests for identification of carbohydrates, proteins and fats

2. Qualitative tests for identification of ammonia, urea and uric acid

3. Study of activity of salivary amylase under optimum conditions

4. Study of prepared slides of T.S. of duodenum, liver, lung, kidney, spinal cord, bone and cartilage of a mammal

III. Ecology

1. Determination of pH of given sample.

2. Estimation of dissolved oxygen of given sample.

3. Estimation of total alkalinity of given sample.

4. Estimation of salinity of given sample.

REFERENCE BOOKS:
1. Harper's Illustrated Biochemistry
2. Cell and molecular biology: Concepts & experiments. VI Ed. John Wiley &sons. Inc.
3. Lab Manual on Blood Analysis and Medical Diagnostics, S. Chand and Co. Ltd.
4. Laboratory techniques by Plummer

Course Delivery method: Face-to-face / Blended.
Course has focused on: Skill Development
Weblinks
https://www.youtube.com/watch?v=4Q43dqaIvnc
https://www.youtube.com/watch?v=7LqQYmgMqLk
https://www.youtube.com/watch?v=qtTLiQoYTyQ

CO-CURRICULAR ACTIVITIES
• Chart affixing of photos of people suffering from hormonal disorders
• Student study projects such as identification of incidence of hormonal disorders in the local primary health center, studying the reasons thereof   and measures to curb or any other as the lecturer feels good in nurturing health awareness among students
• Preparation of models of different types of eggs in animals
• Chart on frog embryonic development, fate map of frog blastula, cleavage etc.

D.A.Kiranmayee
Signature of the Course In-charge

D.A.Kiranmayee
Signature of the Program In-charge   Signature of the HOD

A. G & S. G. S. DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU 521165,
KRISHNA Dt., A.P. (AUTONOMOUS)
PAPER – IV
Title: Embryology, Animal Physiology and Animal Ecology

w.e.f.2022-23.

Time:3hrs Model Question paper (External) Max.Marks: 40 M.
Paper Code: ZOOP41A

1. Identify any two organic substances (Proteins and Carbohydrates) present in the given tissue sample.   Write the procedure and tabulate the results.   10 M

2. Estimate the total Alkalinity of the water sample. Write the procedure and tabulate the results.   10 M
i. Procedure   03
ii. Experiment 05

                                  iii. Table   02

3. Identify, Classify, Draw diagrams and write notes on.   4 X 2 ½ = 10M

       A. Histology slide

       B. Histology slide

       C. Embryology slide

       D. Embryology slide

                  Identification: 1 M
                 Diagram: ½ M
               Comments: 1 M

4. PRACTICAL RECORD BOOK   10M

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: Immunology and Animal Biotechnology

Semester: - IV

Course Code	**ZOOT01**	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 : 2021-22	Year of Offering 2021-2022	Year of Revision – 2021-22	Percentage of Revision: 0%

OBJECTIVES

- To understand the different types of immunity in man and different cells and organs of immune system
- To understand the different types of antigens and antibodies
- To analyze the role of immunity in health and disease management and get acquainted with the concept of vaccination
- To understand the mechanism of techniques in r DNA technology and the concept of animal cell technology.
- To study the reproductive technologies and different aspects of industrial biotechnology.
- To be aware of the ethical, legal, and social issues related to genetically modified organisms.

COURSE OUTCOMES

CO 1	Understand the basic concepts of immune system and hypersensitivity reactions and apply the same in identification of diseases and describe the triggering and regulation of immunological response.
CO 2	Acquire basic knowledge in r DNA technology and acquaint with the techniques of PCR, hybridization and DNA sequencing.
CO 3	Comprehend Animal Cell Culture technology, Reproductive technologies and techniques.
CO 4	Apply the techniques of animal biotechnology in various fields like industry, medicine, animal husbandry etc., for improving the quality of life.
CO 5	Acquaint with safety measures in using the techniques and develop skills in handling and maintaining laboratory equipment.

Syllabus

I	**UNIT – I** Immunology – I (Overview of Immune system) Introduction to basic concepts in Immunology Innate and adaptive immunity Cells of immune system Organs of immune system Antigens: Basic properties of antigens B and T cell epitopes, haptens and adjuvant Factors influencing immunogenicity	13hrs
II	**UNIT – II** Immunology – II (Antigens, Antibodies, MHC and Hypersensitivity) Antibodies Antigen – antibody reactions Structure of antibody Classes and functions of antibodies Structure and functions of major histocompatibility complexes Exogenous and Endogenous pathways of antigen presentation and processing Hypersensitivity – Classification and Types Basic properties and functions of cytokines Vaccines and Immunization programme	17hrs
III	**UNIT – III** Biotechnology – I (Techniques of Recombinant DNA technology) Genetic Engineering: Basic concept, Vectors, Restriction Endonucleases and Recombinant DNA technology Gene delivery: Microinjection, electroporation, biolistic method (gene gun), liposome and viral-mediated gene delivery PCR: Principle, procedure and advantages of PCR DNA Sequencing: Maxam Gilbert and Sanger's methods of DNA sequencing- traditional and automated sequencing Hybridization techniques: Southern, Northern and Western blotting	11hrs
IV	**UNIT – IV** Biotechnology – II (Cell culture techniques) Animal Cell, Tissue and Organ culture media: Natural and Synthetic media Cell cultures Establishment of cell culture: Primary culture, Protocols for Primary Cell Culture and Secondary culture Types of cell lines: Continuous and Established Cell lines (common examples such as MRC, HeLa, CHO, BHK,Vero) Organ culture; Cryopreservation of cultures Stem cells: Types of stem cells and applications Hybridoma Technology: Production & applications of Monoclonal antibodies(mAb)	11hrs
V	**UNIT – V** Biotechnology – III (Applications of Animal Biotechnology). Transgenesis: Production of Transgenic animals: sheep and fish Ethical, Legal, Social and Disposable issues of Genetically Modified Organisms Manipulation of reproduction in animals: Artificial Insemination, *In vitro* fertilization, super ovulation, Embryo transfer, Embryo cloning Applications in Industry: Fermentation: Different types of Fermentation and Downstream processing	8hrs

TEXT BOOKS:
 1. B.D.Singh, Biotechnology, Kalyani Publishers, 1998 (reprint 2001)
 2. Armugam, A Text Book of Immunology, Saras Publications

REFERENCE BOOKS
 1. Immunology by Ivan M. Riott
 2. Immunology by Kubey
 3. Sree Krishna V. 2005. *Biotechnology –I, Cell Biology and Genetics.*New Age International
Publ.New Delhi, India.

Course Delivery method: Face-to-face / Blended.
Course has focused on: Foundation

CO-CURRICULAR ACTIVITIES:

- Organizing awareness on immunization importance in local village in association with NCC and NSS teams
- Charts on types of cells and organs of immune system
- Student study projects on aspects such as – identification of allergies among students (hypersensitivity), blood groups in the class (antigens and antibodies duly reported) etc., as per the creativity and vision of the lecturer and students
- Visit to research laboratory in any University as part of Zoological tour and exposure and/or hands-on training on animal cell culture.
- Visit to biotechnological laboratory in university or any central/state institutes and create awareness on PCR, DNA finger printing and blot techniques or Visit to a fermentation industry

Weblinks:

https://www.youtube.com/watch?v=EfNY0aiYRIE
https://www.youtube.com/watch?v=R69M7NuBNBA
https://www.youtube.com/watch?v=hqs57VsSk7s
https://www.youtube.com/watch?v=8rAgLPb85N0

D.A Kiranmayee
Signature of the Course In-charge

D.A Kiranmayee
Signature of the Program In-charge   Signature of the HOD

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

Semester IV *w.e.f. 2022-2023*
(Model question paper)
Title of the paper: Immunology and Animal Biotechnology
Code – ZOOT01
Time: 3hrs.   **max.marks: 75**

Draw neat labelled diagrams wherever necessary for sections A and B.

SECTION –A

Answer and FIVE of the following   5x5=25 Marks
   1. Describe the structure and function of Lymph node   CO1 L1
   2. Role of B – cells in immune system   CO1   L2
   3. Illustrate the endogenous pathway of antigen presentation and process   CO2   L3
   4. List out the properties of cytokines   CO2   L1
   5. Explain the process of microinjection in gene delivery   CO3   L2
   6. Explain the importance of cryopreservation in cell culture   CO4   L3
   7. Explain the role of natural media in cell culture CO4   L2
   8. Mention the significance of superovulation in animal husbandry CO5   L4

SECTION – B

 Answer the following questions   5X10=50 Marks

9. Explain the different factors contributing for innate immunity.   CO1   L1

Or

List out the different types of vaccines.CO1   L1

10. Describe the structure and function of different types of immunoglobulin. CO2   L2

Or

   Give an account of the various hypersensitivity reactions. CO2   L2

11. Explain the principle, procedure and advantages of PCR. CO3   L2

Or

Explain in detail about Maxam-Gilbert method of DNA sequencing.   CO3   L2

12. What are cell lines? List out their types with examples   CO4   L1

Or

 Explain in detail about the production of Monoclonal antibodies through Hybridoma TechnologyCO4   L1

 13. What is transgenesis? Explain the production of transgenic sheep. CO5   L2

Or

   Explain the significance of downstream processing.CO5   L4

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

PRACTICAL - V
*w.e.f. 2022-2023.***Title:-**Immunology and Animal Biotechnology
Code: ZOOP01
Credits:-   (02)
(2hrs/week)MAX.MARKS: 40

Objectives

- Acquaint with immunological techniques vis-à-vis theory taught in the class room
- 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
- Apply the lab techniques for taking up research in higher studies

SYLLUBUS:

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 - Pregnancy Test and HBs Ag,
    b. Immunoelctrophoresis - Malarial parasite (cells) and VDRL

II. ANIMAL BIOTECHNOLOGY

1. Preparation of culture media.
2. DNA quantification using by agarosegel electrophoresis (by using Lambda DNA as standard) Method.
2. Techniques: Western Blot, Southern Hybridization,
3. study of the following techniques through
A. Paper chromatography
B. Thin layer chromatography.
4. Cleaning and sterilization of glass and plastic wares for cell culture.
5. Project work.

SUGGESTED MANUALS

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 - Edward, G
4. Laboratory Techniques – Plummer

Course Delivery method: Face-to-face / Blended.
Course has focused on: skill development

CO CURRICULAR ACTIVITIES

- Charts on types of cells and organs of immune system
- Student study projects on aspects such as – identification of allergies among students (hypersensitivity), blood groups in the class (antigens and antibodies duly reported) etc., as per the creativity and vision of the lecturer and students
- Visit to research laboratory in any University as part of Zoological tour and exposure and/or hands-on training on animal cell culture.
- Visit to biotechnological laboratory in university or any central/state institutes and create awareness on PCR, DNA finger printing and blot techniques or Visit to a fermentation industry

WEBLINKS:
https://www.youtube.com/watch?v=Svoipyl6IRc
https://www.youtube.com/watch?v=I_CAmtiwmyQ
https://www.youtube.com/watch?v=LlGHHueBVVg
https://www.youtube.com/watch?v=4srp4ooLYNg
https://www.youtube.com/watch?v=_rp4mAHeYmE

D.A. Kiranmayee
Signature of the Course In-charge

D.A. Kiranmayee
Signature of the Program In-charge

PAPER – IV

Title: Immunology and Animal Biotechnology

w.e.f.2022-23.

Time:3hrs *Model Question paper (External)*Max.Marks: 40 M.

Paper Code: ZOOP01

I. Analyse the given sample for HBs Ag/HIV/Malarial parasite/VDRL/Ra factor 8 M

Principle : 2M
   Procedure : 4M
   Result : 2M

III.   Identify the sample using paper chromatography technique   10M
Principle : 3M
  Procedure : 5M
  Result : 2M

IV. Identify, draw labelled diagram and comment on   3x4=12 M

 A. Lymphoid organ   Identification : 1M
 B. Histology slide   Diagram : 1M
 C. Glass ware for cell culture   Notes : 2M

V. Practical Record Book   5 M

VI. Viva   5 M

SKILL DEVELOPMENT COURSE OFFERED BY

THE DEPARTMENT OF ZOOLOGY

DURING -2022-2023

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

Title of the Paper:**Poultry Farming**

Semester: - II

Course Code	**SDCZOOT01**	Course Delivery Method	Class Room/Blended Mode - Both
Credits	2	CIA Marks	15
No. of Lecture Hours/ Week	2	Semester End Exam Marks	35
Total Number of Lecture Hours	08	Total Marks	50
Year of Introduction :	Year of Offering 2021-2022	Year of Revision – 2022-23	Percentage of Revision: 0%

SKILL DEVELOPMENT COURSE	Course code:SDCZOOT01	*2022-2023*	**I BA, MPCS, MSCS & MCCS, ABC&BZC,**

Learning Outcomes:

By successful completion of the course, students will be able to;

1. Understand the field level structure and functioning of insurance sector and its role in protecting the risks
2. Comprehend pertaining skills and their application for promoting insurance coverage
3. Prepare better for the Insurnace Agent examination conducted by IRDA
4. Plan 'promoting insurance coverage practice' as one of the career options.

COURSE OUTCOMES

CO 1	Understand the basic concepts of poultry farming andapply the same in the management practices of poultry farming.
CO 2	Acquire knowledge in the preparation of project report for banking and insurance.
CO 3	Acquaint with the poultry feed management practices
CO 4	Understand the nutrient requirements for different stages of layers and broilers
CO 5	Gain knowledge in harvesting of eggs and recycling of poultry waste.

Syllabus

Course Details

Unit	Learning Units	Lecture Hours
I	**Section I (Introduction to Poultry Farming):** General introduction to poultry farming -Definition of Poultry; past and present scenario of poultry industry in India. Principles of poultry housing. Poultry houses, Systems of poultry farming. Management of chicks, growers and layers. Management of Broilers. Preparation of project report for banking and insurance	10
II	**Section II (Feed and Livestock Health Management):** Poultry feed management – Principles of feeding, Nutrient requirements for different stages of layers and broilers. Feed formulation and Methods of feeding. Poultry diseases – viral, bacterial, fungal and parasitic (two each); symptoms, control and management; Vaccination programme.	**10**
III	**Section III (Harvesting of Eggs and Sanitation):** Selection, care and handling of hatching eggs. Egg testing Methods of hatching. Brooding and rearing. Sexing of chicks. Farm and Water Hygiene, Recycling of poultry waste.	**10**

Co- Curricular Activities suggested: **(4 Hrs)**

1. Group discussion& SWOT analysis
2. Visit to a poultry farm
3. Invited Lectures by Concerned officers of government or private farms
4. Cheap and Healthy Feed preparation by students based on government standards
5. Market study and Survey (Monitoring of daily price hike in poultry market and analysis)
6. Online Swayam Moocs course on poultry farming (see reference 9 below)

Reference books:
1. Sreenivasaiah., P. V., 2015. Textbook of Poultry Science. 1st Edition. Write & Print Publications, New Delhi
2. 2. Jull A. Morley, 2007. Successful Poultry Management. 2nd Edition. Biotech Books, New Delhi"

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

Semester –II
w.e.f. 2022-20223Time: 90 mins   (Model question paper)
 Title of the paper: Poultry Farming.Code – SDCZOOT01
 Max.marks: 35

Section – A

 Answer any **Three** questions. Each question carries **five** marks.*3 x 5= 15.*

1. Poultry house
   2. Broilers
   3. Methods of feeding
   4. Any two bacterial diseases of poultry
   5. Egg testing

Section – B

   Answer any **TWO** questions. Each question carries **Ten** marks.   *2 x 10 =20*

 1. Explain principles of poultry housing in detail, with examples.

 2. Write an essay on viral diseases of poultry.

 3. Give an account of fungal and bacterial diseases (any two each) of poultry

 4.Write an essay on selection, handling and hatching of eggs.

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

SEMESTER-II
SKILL DEVELOPMENT COURSE

Guide lines

to the paper setter   Time: $1^{1/}_{2}$ hrs

Max.Marks:35

Paper Title: - Poultry Farming.   **Paper Code:** SDCZOOT01

----

*Note:*1. Answer **any THREE** questions out offive in Part-A. Each question carries five marks.3X 5 = 15M.

2. Answer any**TWO**questions out of fourin Part-B. Each question carries 10 marks.2 X 10 = 20M.

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

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

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

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS &SCIENCE (AUTONOMOUS) VUYYURU- 521165

Re-Accredited by NAAC with 'A' Grade

2022-2023
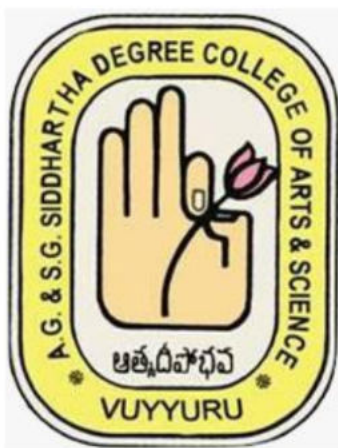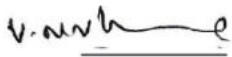
PG Department of Chemistry

Minutes of the meeting of Board of Studies

03-04-2023

Members Present:-

S.No	NAME		Signature
1	**Dr. V.Sreeram** Head, Dept. ofChemistry(P.G) AG & SG S College,Vuyyuru.	Chairman	*V.f~*
2	**Prof.C.Suresh Reddy** Department ofChemistry 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. Hyderbad.	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	*V.nvh~e*
9	**Dilshad Begum** Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member	*Dilshad lu*
10	**M.Rekha** Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member	*Rekh~*

A.G. & S.G. Siddhartha Degree College of Arts &Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)

DEPARTMENT OF CHEMISTRY (P.G)

Board of Studies for the academic Year 2022-23 (Even (2& 4th) Semesters)

1. Agenda:

Agendafor   Board of studies in **Chemistry** on 03-04-2023 through online mode at 04:00P.M.

1. Approval of programme structure II Semester for the batch of students admitted in the year 2022-2023 onwards

2. Approval of syllabus for II semester for the batch of students admitted in the year 2022 – 2023 as per revised guidelines / curriculum of Krishna University and with no revision of syllabus of IV semester for the batch of students admitted in the year 2021-2023 batch.

3. Approval of the syllabus of semester – II & IV with course out comes drafted inline with levels of blooms taxonomy.

4. Approval of modified model question papers for II semester & unmodified model question papers for IV semester inline with Bloom's taxonomy.

5. Any other with the permission of the chair.

A.G.& S.G.SIDDHARTHADEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY

PROPOSED COURSE STRUCTURE FOR PG PROGRAMS (SCIENCE SRTREAM)
UNDER CHOICE BASED CREDIT SYSTEM (CBCS)
W.E.F 2022-23 (R22 Regulations)

I SEMESTER

Course Code	Course Name	Teaching Hours/ week			CORE / IDC/DSE/ SEC/OEC/ MOOCS	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH1T1	General Chemistry	4	0	0	Core	30	70	4
22CH1T2	Inorganic Chemistry	4	0	0	Core	30	70	4
22CH1T3	Introductory Organic Chemistry	4	0	0	Core	30	70	4
22CH1T4	Physical Chemistry	4	0	0	Core	30	70	4
COMPULSORY 22PG101	**Personality Development through Life Enlightenment Skills**	3	1	0	Core	30	70	3
22CH1L1	Inorganic chemistry Practical	0	6	0	Core	30	70	3
22CH1L2	Organic chemistry Practical -I	0	6	0	Core	30	70	3
TOTAL FOR FIRST SEMESTER						**210**	**490**	**25**

II SEMESTER

Course Code	Course Name	Teaching Hours/ week			CORE / IDC/DSE/ SEC/OEC/ MOOCS	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH2T1	Advanced Inorganic Chemistry	4	0	0	Core	30	70	4
22CH2T	Advanced	4	0	0	Core	30	70	4

Course Code	Course Name	Lecture	Practical	Tutorial	Core / IDC/DSE / SEC/OEC/MOOCS	Internal Marks	External Marks	No. of Credits
2	OrganicChemistry							
22CH2T3	Advanced Physical Chemistry	4	0	0	Core	30	70	4
COMPULSORY 22PG201	Research Methodology & IPR	3	1	0	SEC	30	70	3

DOMAIN SPECIFIC ELECTIVE COURSES (CHOOSE ANY ONE)

Course Code	Course Name	Lecture	Practical	Tutorial	Type	Internal	External	Credits
22CH2E1	Molecular Spectroscopy	4	0	0	DSE	30	70	4
22CH2E2	Instrumental methods of Analysis	4	0	0	DSE	30	70	4
22CH2E3	Analysis of foods & Drugs	4	0	0	DSE	30	70	4

LAB PRACTICALS

Course Code	Course Name	Lecture	Practical	Tutorial	Type	Internal	External	Credits
22CH2L1	Physical chemistry Practical	0	6	0	Core	30	70	3
22CH2L2	Organic chemistry Practical-II	0	6	0	Core	30	70	3
TOTAL FOR SECOND SEMESTER						210	490	25

At the end of 2nd semester, every student must undergo summer Internship/ Apprenticeship/Project work/Industrial training/Research based Project work for Six weeks and must prepare a report concerned as per approved project guidelines, and submit the same to the University 14 days before the commencement of third semester end examinations.

III SEMESTER

Course Code	Course Name	Teaching Hours/ week			CORE / IDC/DSE / SEC/OEC/MOOCS	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH3T1	Organic Spectroscopy	4	0	0	Core	30	70	4

DOMAIN SPE22CH3E1CIFIC ELECTIVE COURSES (CHOOSE ANY THREE)

Course Code	Course Name	Lecture	Practical	Tutorial	Type	Internal	External	Credits
22CH3E1	Organic Reaction mechanism	4	0	0	DSE	30	70	4
22CH3E2	Organic Synthesis	4	0	0	DSE	30	70	4
22CH3E3	Natural Products	4	0	0	DSE	30	70	4
22CH3E4	Separation Techniques & Electro analytical	4	0	0	DSE	30	70	4

Course Code	Course Name	Lecture	Practical	Tutorial	CORE / IDC/DSE/ SEC/OEC/MOOCS	Internal Marks	External Marks	No. of Credits
	techniques							
22CH3E5	Marine Chemistry or Chemistry of Drugs	4	0	0	DSE	30	70	4
22CH3E6	Antibiotics, Drugs, Vitamins & Steroid harmones	4	0	0	DSE	30	70	4
LAB PRACTICALS								
22CH3L1	Organic Preparations	0	6	0	Core	30	70	3
22CH3L2	Organic Binary mixture Analysis.	0	6	0	Core	30	70	3
OPEN ELECTIVE (INTERDISCIPLINARY/MULTIDISCIPLINARY) COURSES (CHOOSE ANY ONE)								
22OE301	Polymer Chemistry	3	0	0	OEC	30	70	3
22OE302	Basic Bio Chemistry	3	0	0	OEC	30	70	3
22OE303	Basic Analytical Chemistry	3	0	0	OEC	30	70	3
		3	0	0	OEC	30	70	3
		3	0	0	OEC	30	70	3
TOTAL FOR III SEMESTER						210	490	25

IV SEMESTER

Course Code	Course Name	Teaching Hours/ week			CORE / IDC/DSE/ SEC/OEC/MOOCS	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH4T1	Advanced Organic Spectroscopy	4	0	0	Core	30	70	4
DOMAIN SPECIFIC ELECTIVE COURSES (CHOOSE ANY THREE)								
22CH4E1	Green Chemistry	4	0	0	DSE	30	70	4
22CH4E2	Techniques for Modern Industrial applications	4	0	0	DSE	30	70	4
22CH4E3	Nano Chemistry	4	0	0	DSE	30	70	4
22CH4E5	Bio-organic chemistry	4	0	0	DSE	30	70	4
22CH4E6	Bio-Inorganic Chemistry	4	0	0	DSE	30	70	4
22CH4E7	Environmental chemistry	4	0	0	DSE	30	70	4
LAB PRACTICALS								
22CH4L1	Organic Estimations	0	6	0	Core	30	70	3
ENTREPRENURAL & INNOVATION/IT SKILL RELATED TO DOMAIN SPECIFIC ELECTIVE								

COURSES (CHOOSE ANY ONE)								
22CH4E8	Asymmetric Synthesis	3	0	0	SEC	30	70	3
22CH4E4	Organo metallic Chemistry	3	0	0	SEC	30	70	3
22CH4E9	Heterocyclic chemistry	3	0	0	SEC	30	70	3
CHOOSE MOOCs FROM SWAYAM/NPTEL SOURCES								
MOOCS	22CH4M1							4
PROJECT WORK EVALUATION AND VIVA-VOCE - 22CH4P1							100	4
TOTAL FOR IV SEMESTER						180	520	30

Note: Students may be allowed to register and appear for MOOCS from the third semester itself. However, students are to complete the MOOCS successfully and submit pass certificate of the same to the University through the Principal of the College concerned for approval and endorsement of the same on grade cards and PCs and ODs as per the regulations of the University.

Resolutions/ Recommendations

Resolution –I

1. It is resolved and recommended to implement the course structure as per R 22 regulations of Krishna University.

Resolution –II

2. a) It is resolved and recommended to continue with the same syllabus for the course code 22CH2T1. However here after the course title will be referred as Advanced Inorganic chemistry instead of Inorganic chemistry – II.

   b) It is resolved and recommended to continue with the same syllabus for the course code 22CH2T2. However here after the course title will be referred as Advanced organic chemistry instead of Organic chemistry –II.

   c) It is resolved and recommended to continue with the same syllabus for the course code 22CH3T3. However here after the course title will be referred as Advanced Physical chemistry instead of Physical chemistry – II.

   d) It resolved and recommended to Introduce new paper Reasearch methdology & IPR with Course code 22PG201 for the batch students admitted in 2022-2023 and onwards

   e) It is resolved and recommended to implement the modified & modified semester syllabus and modified model question papers for all the papers of Second semester.

Resolution –III

3. Resolved and recommended to introduce the course outcomes in line with the guidelines of OBE

   Following Bloom's Taxonomy for all the courses (both theory and practical) in semester –I I of M.Sc (org.Chemistry) for the students admitted in the academic year 2022-23 and onwards.

Resolved to implement the revised syllabus for both theory and practicals with revision for Semester-IV students admitted batch 2021-23. The courses of semesters II& IV are listed below.

Semester – II:

Paper	Title of the Paper	Code
Paper-I	Advanced Inorganic Chemistry	22CH2T1
Paper-II	Advanced organic Chemistry	22CH2T2
Paper-III	Advanced Physical Chemistry	22CH2T3
Paper-IV	Molecular Spectroscopy	22CH2E1
Paper-V	Research Methodology & IPR	22PG201
Practical-I	Physical Chemistry Practical	22CH2L1
Practical-II	Organic Chemistry Practical-II	22CH2L2

Semester – IV:

Paper	Title of the Paper	Code
Paper-I	MooCs(Analytical Chemistry)	22CH4T1
Paper-II	Hetero Cyclic Chemistry	22CH4T2A
Paper-III	Green Chemistry	22CH4T2B
Paper-IV	Techniques For Modern Industrial Applications	22CH4T3A
Paper-V	Nano Chemistry	22CH4T3B
Paper-VI	Organo Metallic Reagents	22CH4T4
Practical-I	Organic Estimations	22CH4L1
Practical-II	Project Work	22CH4L2

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER
Paper Code & Title: 22CH2T1: ADVANCED INORGANIC CHEMISTRY

No. of hours per week: 04   **Total credits: 04**

Total marks: 100   (Internal: 30 M & External: 70M)

S.No	Course: Advanced Inorganic chemistry (code 22CH2T1) COURSE OUTCOMES	PO'S
	The graduate will be able to	
1	Memorize the 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	Comprehend the 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	Apply the conceptual knowledge gained in the areas of metallic & nonmetallic clusters, inorganic reaction mechanisms, organo metallic chemistry, electronic & magnetic properties of complexes and bio inorganic chemistry in other fields of chemistry as well as in research.	1,2,7
4	Analyze the role of metallic & non metallic clusters / cages, inorganic Reaction mechanisms, organo metallic chemistry, electronic & magnetic properties of complexes and bio inorganic chemistry in understanding the similarities and differences among the concepts of chemistry.	1,3,2

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 B12 icosahedra). 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, Hunds 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, Slator–Condon parameters, Racah parameters, Term separation energies for dn configurations, Orgel diagrams. Tanabe-Sugano diagrams for d1 to d9 configurations. Calculations of Dq, 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 Para magnetism, 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.Addiso, W. R. Cullen, D.Dorphin and G. J. James. WelieyInterscience.
9. Photochemistry of coordination compounds by V. BalzaniandV.Carassiti. Academic Press.
10. Text book of Coordination chemistry by K. Soma Sekhara Rao and K.N.K. Vani, Kalyani Publish

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

Paper Code & Title: **22CH2T2: ADVANCED ORGANIC CHEMISTRY**

No. of hours per week: 04   Total credits: 04
Total marks: 100   (Internal: 30 M &
External: 70M)

S.No	COURSE OUTCOMES	PO`S
	Course: Advanced Organic chemistry (code 22CH2T2)	
	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 ring annulation 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:

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.

Reference 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: Percentage ofChange - 0%

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

Paper Code & Title: 22CH2T3: ADVANCED PHYSICAL CHEMISTRY
No. of hours per week: 04   **Total credits: 04**
Total marks: 100   **(Internal: 30 M & External: 70M)**

S.No	Course: Advanced Physical chemistry (code 22CH2T3)	PO`S
	COURSE OUTCOMES	
	The student will be able to	
1	Remember the concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry and Radio chemistry.	1,2,7
2	Understand the concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry and Radio chemistry.	1,2,7
3	Apply the concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry and Radio 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 and Radio chemistry.	1,2,7
5	Evaluate the role of concepts of thermodynamics, polymer chemistry, electro chemistry, chemical kinetics, photo chemistry and Radio chemistry in understanding the named concepts in chemistry.	1,2,7

Unit-I: Third law of Thermodynamics and Statistical thermodynamics:
Nernst 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 - Michelis-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.

Course Learning Outcome(S):

After studying this paper, students will acquire the knowledge of Third law of Thermodynamics and Statistical thermodynamics, Polymer chemistry and Raman Spectroscopy, Electro Chemistry, Chemical kinetics and Photo chemistry, Radio activity and isotopes.

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 Sceince, 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 Billmayer.
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 ofChange

AG.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

Paper Code & Title: 22PG201: RESEARCHMETHODOLOGY&INTELLECTUAL PROPERTYRIGHTS(IPR)

No. of hours per week: 04   Total
credits: 03
  Total marks: 100   (Internal: 30 M & External:
                                    70M)

Course: Research Methodology & Intellectual Property Rights (IPR) (code 22PG201)		
S.No	COURSE OUTCOMES	PO`S
	The student will be able to	
1	Memorize the basic concepts of research and its methodologies.	2,7
2	Understand some basic and advanced concepts of research and its methodologies.	1,4,7
3	Demonstrate the ability to choose methods appropriate to research aims and objectives.	1,3,6
4	Analyze the role of research methodologies in designing the new strategies.	1,4,5

UNITI
FoundationsofResearch
MeaningofResearch–DefinitionsofResearch–MotivationinResearch–
GeneralCharacteristicsofResearch–CriteriaofGoodResearch–TypesofResearch–
ResearchProcess–ResearchMethodsvs.Methodology–
DefiningandFormulatingtheResearchProblem – Review of Literature – Approaches to
Critical Literature Review – Importance ofLiterature Review in Identifying Research Gaps
and Defining a Problem – Development ofWorkingHypothesis.

UNITII
ResearchDesign,SamplingConcepts,andDataCollectionMethods
Meaning,SignificanceandCharacteristicsofGoodResearchDesign–TypesofResearchDesign:
Exploratory, Conclusive Research andExperimental – Sampling Theory:Types ofSampling
and Errors in Sampling – Data Collection: Types of Data – Data Collection Methodsand
TechniquesforPrimaryand SecondaryData.

UNITIII
Measurement & Scaling Techniques, Hypothesis Formulation and Testing, Overview ofDataAnalysis and Report Writing
Basic measurement scales – Reliability & Validity – Definition and Types of Hypothesis – Hypothesis Formulation and Testing Procedure – Overview of Data Analysis: Methods, Processand Types – Report Writing: Significance of Report Writing, Different Steps in Writing Report,Layout of the Research Report, Types of Reports, Oral Presentation, Mechanics of Writing aResearch Report, Precautions for WritingResearchReports– HowtoWriteaResearchProposal, Research Ethics,ConflictofInterestandPlagiarism.

UNITIV
IntellectualPropertyRights(IPR)
DefinitionandNatureandFeaturesofIntellectualPropertyRights(IPR)– TypesofIntellectualPropertyRights – Procedurefor Grantsof Patents–Rights ofaPatent –Scopeof aPatentRights
– LicensingandTransferofTechnology–Whyprotectionofintellectualpropertyisimportant?
– EnforcementofIPR–InfringementofIPR.

UNITV
IndianandInternationalScenarioandNewDevelopmentsinIPR
IPR Developments in India for the past Five Years – Development of IPR Laws in India – International Cooperation onIPR– New DevelopmentsinIPR– Administration of PatentSystem–InternationalPatent protection– CaseStudies inIndianandGlobal Contexts.

REFERENCEBOOKS:
1. Garg,B.L.,Karadia,R.,Agarwal,F.andAgarwal,U.K.,2002,AnintroductiontoResearchMetho dology,RBSA Publishers.
2. Cohen,L.Lawrence,M.,&Morrison,K.(2005),ResearchMethodsinEducation(5thedition).Oxf ord: Oxford UniversityPress.
3. Kothari,C.R.,1990,ResearchMethodology:MethodsandTechniques,NewAgeInternational.
4. Dornyei,Z.(2007).ResearchMethodsinAppliedLinguistics.Oxford:OxfordUniversityPress.
5. Anthony,M.,Graziano,A.M.andRaulin,M.L.,2009,ResearchMethods:AProcessofInquiry,Al lynand Bacon.
6. Fink,A.,2009,ConductingResearchLiteratureReviews:FromtheInternettoPaper.SagePublica tions.
7. Day,R.A., 1992,Howto Writeand Publisha ScientificPaper,CambridgeUniversityPress.
8. Wadehra,B.L.2000,Law relatingtopatents, trade marks,copyright designsandgeographicalindications.UniversalLaw Publishing.
9. Coley,S.M.andScheinberg,C.A.,1990,ProposalWriting,SagePublications.
10. Carlos,C.M.,2000.Intellectualpropertyrights,theWTOanddevelopingcountries:theTRIPSa greement and policyoptions,ZedBooks,New York.
11. Leedy,P.D.andOrmrod,J.E.,2004,PracticalResearch:Planning andDesign,PrenticeHall.
12. Satarkar,S.V., 2000. Intellectual propertyrightsand Copyright.EssEss Publications

II SEMESTER Paper Code & Title: 22CH2E1: MOLECULAR SPECTROSCOPY

No. of hours per week: 04 Total credits: 04
Total marks: 100 (Internal: 30 M & External: 70M)

	Course: Molecular Spectroscopy (code 22CH2E1)	
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 calculating the bond length, identifying the functional group present in molecules.	1,5,6
4	Identify the role UV – visible spectroscopy in the determination of absorption maximum and ESR spectroscopy in studying the properties of paramagnetic substances.	1,3,4

UNIT- I

Introduction to Molecular Spectroscopy: Motion of molecules-Degrees of freedom – Energy associated with the degrees of freedom-Type of spectra.

Microwave spectroscopy: Classification of molecules, rigid rotator model, effect of isotopic substitution on the transition frequencies, Intensities non-rigid rotator-Microwave spectra of polyatomic molecules.

UNIT – II

Infrared spectroscopy:
Harmonic oscillator, vibrational energies of diatomic molecules, zero point energy, force constant and bond strengths, anhormonicity Morse potential energy diagram. Vibration – rotation spectroscopy. PQR braches, Born – oppenheimer approximation, Break down Born – openheimer approximation, normal modes of vibration group frequencies, overtones, hot bands, application of IR spectra to polyatomic molecules.

UNIT – III

Unit-II: Raman Spectroscopy:
Classical and quantum theories of Raman effects, pure rotational, vibrational and Vibrational-rotational Raman spectra, selection rules, mutual exclusion principle, Resonance Raman spectroscopy, coherent antistrokes Raman Spectroscopy (CARS).

UNIT – IV

UV- Visible Spectroscopy:
Electronic Spectra of diatomic molecules, vibrational structure of an electronic transition, classification of bands, rotational fine structure of electronic vibrational transition. Electronic Spectra of Polyatomic Molecules.

UNIT – V

Electron Spin Resonance Spectroscopy:

Basic Principles, zero field splitting and kranners's degeneracy, factors affecting the 'g' value. Istropic and anisotropic hyperfine coupling constants, spin hamiltenia, spin densities measurement techniques - simple applications like methyl radical, ethyl radical etc.,

Text books/ Reference books:

1. Introduction to Spectroscopy – D. L. Pavia, G.M. Lampman, G. S. Kriz, 3rd Ed. (Harcourt college publishers).
2. Absorption spectroscopy of organic molecules – V. M. Parikh
3. Nuclear Magnetic Resonance – Basic Principles- Atta-Ur-Rehman, Springer-Verlag (1986).
4. Molecular spectroscopy by Kalidas&B.K.Sharma
5. Vibrational Spectroscopy by D.N.Sathyanarayana New Age Int. Pub.
6. Spectroscopy by Aruldas.
7. Symmetry & Spectroscopy of molecules by K.Veerareddy

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

Paper Code & Title: 22CH2E2: INSTRUMENTALMETHODSOFANALYSIS
No. of hours per week: 04   Total
credits: 04
Total marks: 100   (Internal: 30 M &
External: 70M)

S.No	Course: Instrumental Methods of Analysis (code 22CH2E2)	
	COURSE OUTCOMES	PO`S
	The graduate will be able to	
1	Memorize the basic principles of the modern methods of analysis.	2,7
2	Understand the basic and advanced concepts of modern methods (i.e Instrumental methods) of analysis.	1,2,7
3	Apply the instrumental methods of analysis in any chosen job role.	1,4,5
4	Interpret the role of these instrumental methods in the quantitative determination of constituents.	1,3,6

UNIT-I: Spectro-analytical methods of analysis :Flamephotometry:
Theory,instrumentation, combustion flames, detectors and analysis of Na, K, Ca, Mg.
Atomic AbsorptionSpectrometer: theory, instrumentation, flame and non-flame techniques, resonancelinesources,hollowcathodelamp,chemicalandspectral interferences, applications with specialreference to analysis of trace metalsin oils,alloysandtoxic metals in drinking waterandeffluents.
Inductively coupled plasma spectrometer (ICP-AES,   ICP-MS):
Principles,   instrumentation,plasma
,AESdetectors,quadrupolemassspectrometers,differencebetweenthetwodetectors,applications.

UNIT-II: ThermalmethodsofAnalysis:Thermometry
:Theory,instrumentation,applicationswith specialreference to $CuSO_4.5H_2O,CaC_2O_4.2H_2O,$ $CaCO_3,(COOH)2.2H2O$
Differential thermal analysis: Principle, instrumentation, difference betweenTGandDTA-applicationswithspecialreferencetotheclaysandminerals,coals(fuels).
Differential scanningcalorimetry : Principle, instrumentation, applications to inorganic materials like chlorates and per chlorates, ammonium nitrate, organic compoundsand drugs.

UNIT-III: Electro analytical Methods-1: Polarographic   analysis:
Principle and Instrumentation, Dropping   mercury   electrode (DME),advantages and disadvantages of DME, qualitative and quantitative analysis of inorganic ions-Cu, Bi,Pb,Cd,Zn,ACpolarography,pulsepolarography.
Anodestrippingvoltametry:Principle,instrumentation,Hanginmercury
dropelectrode,applicationintheanalysisofPbandCdinenvironmentalsamples,principle ofcathode strippingvoltametry.

UNIT-IV: **Electro analytical methods -2** Principle, important terms in electrogravimetry, decomposition voltage or decomposition potential, over voltage and their importance, instrumentation, electrolysis at constant current, determination of Cu^{2+} by constant current electrolysis, electrolysis at controlled potentials, determination of Cu, Pb, Sn in brass and bronze by controlled potential electrolysis.

Coulometric analysis: Principles of coulometric analysis with constant current and controlled potential, coulometric analysis with controlled potential, applications of coulometric methods for the analysis of cations- As(III), Fe(II) and I$^-$ and S^{2-} by using I$_2$ liberations and Ce^{4+} liberation in solutions.

UNIT-V: **Electro analytical methods-3 Amperometry:** Introduction, principle, conditions for performing amperometric titrations, advantages, titrations with rotating platinum electrode, applications.

Biamperometry: Principle, biamperometric titrations and its curves, applications.

Cyclic voltametry: Basic principles, applications.

Reference books:
1. Instrumental methods of analysis- H.H Willard, Meritt Jr. and J.A Dean.
2. Principles of instrumental analysis-Skoog and West.
3. Vogel's Textbook of Quantitative Inorganic analysis - J. Basset, R.C. Denney, G.H. Jefferey and J.Madhan.
4. Instrumental methods of analysis-B.K Sarma, Goel Publishing House, Meerut.
5. Instrumental methods of Analysis-Chatwal and Anand.
6. Instrumental methods of Analysis-Ewing W.Wendtland.
7. Thermal Analysis, John Wiley Sons, New York.

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

Paper Code & Title: **22CH2E3: ANALYSIS OF DRUGS, FOODS, DAIRY PRODUCTS & BIOCHEMICALANALYSIS**

No. of hours per week: 04   Total credits: 04
Total marks: 100   (Internal: 30 M & External: 70M)

S.No	COURSE OUTCOMES	PO`S
	Course: Analysis Of Drugs, Foods, Diary Products &BiochemicalAnalysis (code 22CH2E3)	
	The graduate will be able to	
1	Memorize the basic principles of analysis drugs. Food, dairy products and biological analysis.	2,7
2	Understand the basic and advanced concepts of drugs. Food, dairy products and biological analysis.	1,4,7
3	Apply the analysis of drugs, foods, dairy products and biological analysis in any chosen job role.	1,4,6
4	Interpret the role of the analysis of drugs, foods and biological analysis, quantitatively.	1,3,5

UNITI
Analysisofthefollowingdrugsandpharmaceuticalspreparations:(Knowledgeofmolecularfo rmula, structure and analysis) Analysis of analgesics and antipyretics like aspirin and paracetamolAnalysisof antimalerialslikecholoroquine.Analysisof drugsinthetreatmentofinfectionsandinfestations: Amoxycillin., chloramphenicol, metronidazole, penicillin, tetracycline. Anti tuberculousdrug-isoniazid.

UNITII
Analysisofthefollowingdrugsandpharmaceuticalspreparations:(Knowledgeofmolecularfo rmula,structureandanalysis)Analysisofantihistaminedrugsandsedativeslike:allegra,zyrtec(citir izine),alprazolam,trazodone,lorazepem.

UNITIII
Analysis of anti epileptic and anti convulsant drugs like phenobarbital and phenacemide. Analysis ofdrugsusedincaseofcardiovasculardrugs:atenolol,norvasc(amlodipine),AnalysisofLipitor(ato rvastatin)adrugforthepreventinofproductinofcholesterol.
Analysis of diuretics like: furosemide (Lasix), triamterene Analysis of prevacid (lansoprazole) a drugusedforthepreventionofproductionofacidsinstomach.

UNIT IV

Analysis of Milk and Milk Products: Acidity, total solids, fat, total nitrogen, protenines, lactose, phosphate activity, casein, chloride Analysis of food materials.

Preservatives: Sodium carbonate, sodium benzoate sorbic acid Flavoring agents - Vanilla, diacetyl, isoamyl acetate, limonene, ethylpropionate, allyl hexanoate and Adulterants in rice and wheat, wheat flour, sago, coconut oil, coffee powder, tea powder, milk.

UNIT V

Clinical Analysis of Blood: Composition of blood, clinical analysis, trace elements in the body. Estimation of blood cholesterol, glucose, enzymes, RBC &WBC, Blood gas analyser.

Reference Books:
1) F.J.Welcher-Standard methods of analysis,
2) A.I.Vogel-A textbook of quantitative Inorganic analysis-ELBS,
3) F.D.Snell&F.M.Biffen-Commercial methods of analysis-D.B.Taraporavala&sons,
4) J.J.Elving and I.M.Kolthoff- Chemical analysis-A series of monographs on
5) Analytical chemistry and its applications--InterScience-Vol I to VII.,
6) A analytical Agricultrual Chemistry by S.L.Chopra&J.S.Kanwar-Kalyani Publishers
7) Quantitative analysis of drugs in pharmaceutical formulations by P.D.Sethi, CBS Publishers and Distributors, New Delhi.
8) G.Ingram-Methods of organic elemental microanalysis-Chapman and Hall.
9) H.Wincciam and Bobbles(Henry J)-Instrumental methods of analysis of food additives.,
10) H.Edward-The Chemical analysis of foods; Practical treatise on the examination of foodstuffs and the detection of adulterants,
11) The quantitative analysis of drugs- D.C.Garratt-Chapman&Hall,
12) A textbook of pharmaceutical analysis by K.A.Connors-Wiley-International,12.Comprehensive medicinal chemistry-Ed Corwin Hansch Vol5, Pergamon Press.

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER
Paper Code & Title: 22CH2L1: ORGANIC CHEMISTRY PRACTICAL-II

No. of hours per week: 06   **Total credits:**
03
Total marks: 100   **(Internal: 30 M & External:**
70M)

Practical – I – Organic Chemistry (22CH2L1)

S.No	COURSE OUTCOMES	PO`S
	After completion of the course, the student will be able to :	
1	To understand the importance of organic compound synthesis and identify various functional groups in the given organic compound by using systematic procedures.	1,5,7
2	To get familiarized with the procedures of different steps involved in the compound synthesis and solubility nature of organic substances of different functional groups.	1,4,6
3	To understand mechanism for synthesis and formation of derivatives of functional groups.	1,3,6
4	To apply the procedure of recrystallisation of organic compounds and preparation of functional group derivatives as and when required.	1,6,3

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: Percentage ofChange - 0% (Sem – I & II merged)

DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

Paper Code & Title: **22CH2L2: PHYSICAL CHEMISTRY PRACTIAL**

No. of hours per week: 04   Total credits: 03
Total marks: 100   (Internal: 30 M & External: 70M)

S.No	Course: Physical chemistry (code 22CH2L2)	PO`S
	COURSE OUTCOMES	
	The student will be able to	
1	Develop skills in problem solving, critical thinking and analytical reasoning in finding the CST of phenol water system and partition coefficient of benzoic acid between benzene and water, potentiometric tritrations of Fe(II) with $K_2Cr_2O_7$.	1,2,5
2	Determine the rate constants of first and second order reactions, P^H and conductance of strong &weak acids and bases.	1,2,5
3	Understand the practical knowledge on Beer's law	3,5
4	Communicate the results of analysis with ethics and responsibility	1,2,4

List of experiments:
1. Relative strengths of acids by studying the hydrolysis of ethyl acetate / methyl acetate.
2. Determination of equilibrium constant of KI3 KI + I2 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 (CH3COOH) 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, Paul 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.

A.G.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
IV SEMESTER

22CH4T1: MOOCS – ANALYTICAL CHEMISTRY

	Course:MOOCS - ANALYTICAL CHEMISTRY	
S.No	COURSE OUTCOMES	PO`S
	The student will be able to	
1	Memorize basic concepts of analytical chemistry, chemical equilibrium, absorption spectrometry, thermal methods of analysis and potentiometry.	2,7
2	Understand the principle, theory and advanced aspects of analytical chemistry, chemical equilibrium, absorption spectrometry, thermal methods of analysis and potentiometry.	1,3,7
3	Display the knowledge gained in the areas of analytical chemistry, chemical equilibrium, absorption spectrometry, thermal methods of analysis and potentiometry in chosen job role.	1,6,4
4	Analyse the role of analytical chemistry, chemical equilibrium, absorption spectrometry, thermal methods of analysis and potentiometry as and when required.	1,5,7

UNIT – 1
Basic introduction to nature of analytical chemistry Quantitative methods Qualitative methods , Flow diagrams ,Chemistry in toxicology ,Examples for quantitative and qualitative methods, real life examples ROLE : sample preparation basic techniques for analysis physical separation , separation in liquids ,micro analytical balance ,filtration techniques ,wet washing ,dry Ashing , crucibles, filter paper uses of crucibles and filter papers stereo chemical modes are applied [supra +supra] : supra-anta Antra, supra Antra- anta.

UNIT - 2
Chemical equilibria, Chemical equilibria in nature chemical equilibria in analytical chemistry, equilibria between strong and week acids , equilibrium state, different acids, types of equilibria as basis of chemical analysis, equilibria and equilibria constants , importance in analytical chemistry, salt hydrolysis, titration curves , common ion effect , formation constant for complex ions, Introduction from different titrimetric methods, hendersonhesselbalch equation, spectro chemical methods , acid base titrations, acid base titration indicators.

UNIT- 3
Absorption Spectrometry , instruments , beers law, different transitions , chromophores , d-d , f-f, C-T transitions and applications, chromophoric reagents , analysis of mixture , applying beers law to mixtures , applications – photometric titrations, spectro photometric titrations, A) complexing agent B) complex ion in solution , infrared absorption spectroscopy A)theory B) principle C) instrumentation for IR, FTIR techniques A) theory B) principle, instrumentation of FTIR , uses and interterometer.

UNIT – 4
Thermal method of analysis, Introduction ,dynamic measurement, thermo gravimetric analysis, differential thermal analysis , differential scanning calorimerty, thermo balance, thermal

techniques and uses , thermal analysis – solids , Standardisation, geometric estimation, water content, TG-plot , thermo gravimetry – example, mixture of solids in TG, introduction of DTG, samples , furnaces and crucibles, DT, uses of DTG data, food analysis, introduction to DTG, DTA , instruments, uses and applications, DSC, instruments uses and applications, Introduction, electron transfer reactions, electrodes, electrode potential, standard electrode potential, nernest equation, applications of nernest equation, precipitaion /complex ions in nernest equation, electro chemical method of analysis, potentiometry, reference electrode

UNIT 5

Potentiometers, cells, potentiometric titrations, Use of oxidising and reducing agents , redox potential, potentiometric titrations, uses of oxidising and reducing agents, electrode potentials, IR drop In electrochemical cells, ohmic potential electro gravimetric method , controlled potential coulrometry, Its uses in synthesis , colorimetric titrations Applications, electrochemical methods, volumetric methods, analytical method , voltametry, cyclic voltametry – waveforms , CV plot, CV and its application to identity, potential pulses, Differential pulses.

Reference Books:

1. Physical chemistry, G.K. Vemulapalli (Prentice Hall of India).
2. Physical chemistry, P.W. Atkins. ELBS**.**
3. Text book of Physical Chemistry, Samuel Glasstone, Macmillan pub.
4. Quantitative Analysis, A.I.Vogel, Addison Wesley Longmann Inc.
5. Fundamentals of Analytical Chemistry, Skoog & West
6. Quantitative Analysis, Day & Underwood.
7. Instrumental Methods of Analysis, H.H.WAILLARD, Merritt.Jr and J.A.D.Can
8. Instrumental Methods of Analysis, Ewing W.Wend&Pand
9. Instrumental Methods of Analysis, B.K.Sharma
10. Instrumental Methods of Analysis, Chatwel& Anand.
11. Analytical Chemistry, An introduction, D.A.Skoog, D.M.West&F.J.Holler, Sanders college Publishing,
Newyork.

S.No	COURSE OUTCOMES	PO`S
	Course:HETERO CYCLIC CHEMISTRY	
	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 Thiepines. 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 Modem Methods of Organic Synthesis W.Caruthers, Cambridge University Press, Cambridge.
2. Organic Synthesis viz Boranes, HerbetC. BrownGray, W.KramerAlanB.Levy and M.MarkMidland JohnWilly&Sons, NewYork.
3. Heterochemistry, T.L.Gilchrist, Longman science and tech.
4. Anintroduction to the Chemistry of Heterocyclic Compounds, R.M.Acheson, Interscience Publishers, NewYork
5. Principle of Organic Chemistry, RocNorman, J.M.Coxon, Nelson Throms
6. Advanced Organic Chemistry, F.ACarey and R.J.Sundberg. Plenum.
7. Heterocyclic chemistry by Jai JackLie, Springer publications.

S.No	COURSE OUTCOMES	PO`S
	Course:**GREEN CHEMISTRY**	
	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 in 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 ofMicrowave, 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: esterfication, 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, alkoxycarbonylation, 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.
4. Organic synthesis – special Techniques, V.K.Ahluwalia, Renu Aggarwal.
5.Green Chemistry - V.K.Ahluwalia, Ane Books Pvt. Ltd.,

22CH4T3 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	Assess 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.

REFERENCE 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.

22CH4T3 B : NANO CHEMISTRY

	Course:NANO CHEMISTRY	
S.No	COURSE OUTCOMES	PO`S
	The student will be able to	
1	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
NanochemistryinNature: The science behind the nanotechnology in lotuseffect-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 spidersilk.

Textbooks/ Referencebooks:
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.Hornyak, CRCpress, BocaRaton, 2008.

22CH4T4: ORGANO METALLIC REAGENTS

	Course:ORGANO METALLIC REAGENTS	
S.No	COURSE OUTCOMES	PO`S
	The student will be able to	
1	Memorize the synthetic roots 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, carbondioxide, carbondisulfide, sulfurdioxide. 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 (Gilmanreagents). Organonickel compounds: π-allylnickel complexes, preparation of 1,5 cyclic dienes, nickelcarbonyl.

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 Organobornaes viz hydroboration with BH_3-THF, dicylohexyl boranes, disiamylborane, thexylborane, 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, trimethylsilly ethers, sillylenolethers, 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 AManualbyMSchlosser, L.Hegedus, B.Lipshutzetal, JohnWily&sons.

2. Modern methods of organic synthesis by W.Carruthers (Cambridge).

3. Organic synthesis by H.O.House.

4. Organo metallics: Aconcise introduction, ChristophElschenbroich, 3rdedition,Willey-VCH.

5. Advanced Organic Chemistry, F.ACarey and R.J.Sundberg.Plenum.

6. Transition metals in the synthesis of complex organic molecules, Hegedus, L.S,secondedition, University Science, Book ,CA,1999.

7. Organo metallic Chemistry and Catalysis, Astruc, D,Springer Verlag, 2007.

8. Organo transition metal chemistry: Applications to organic synthesis, Davies, S.G,Pergamon Press, NewYork, 1986.

22CH4L1: ORGANIC ESTIMATIONS

Course: ORGANIC ESTIMATIONS (22CH4L1)		
S.No	COURSE OUTCOMES	PO`S
	The student will be able to	
1	Memorize the basic principles involved in organic quantitative analysis.	2,7
2	Understand the importance of organic quantitative analysis and their use on research and industry.	1,3,4
3	Exercise the procedure of quantitative analysis in chosen job roles.	1,6,3
4	Evaluate how far these methods are accurate in quantitative determinations.	1,5

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.

22CH4L2: PROJECT WORK

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.

Dissertation must be submitted at the end of the semester which will be assessed by the external examiners. Dissertation must be prepared with introduction, Review of the literature, Experimental Session, Results and Discussion, Conclusion and References.

The final dissertation should have at least 40 – 60 pages typed in Times New Roman 12 font except Headings and side headings with 1.5 line spacing.

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: 06-04-2023

A.G & S.G SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE :: VUYYURU
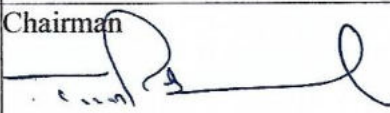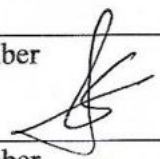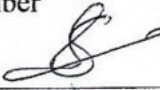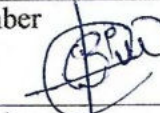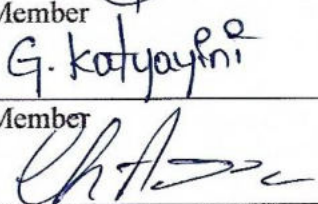
DEPARTMENT OF COMPUTER SCIENCE

Minutes of the meeting of Board of Studies in Computer Science for PG held on 06-04-2023 in the Department of Computer Science.

Name of the Member	Role
Sri. T.Naga Prasada Rao, I/C HOD,Dept of Computer Science, A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru-521165. Mobile: 9866803938, E-Mail: t.nagaprasadarao@gmail.com	Chairman
Dr. K. Madhavi, Associate Professor, Dept of ComputerScience, JNTUA. College of Engineering, Anantapur. Mobile: 9440206501 E-Mail: kasamadhavi@yahoo.com	University Nominee, Krishna University
Dr. R. Satya Prasad, Professor, Department of ComputerScience, 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, tsravikiran@pbsiddhartha.ac.in	Special Invitee
Mr. U. Sairam, C.E.O, Codegnan I.T Solutions OPC PVTLTD., Vijayawada520002 Mobile: 9959555952 E-Mail: uppugundlasairam@gmail.com	Industrialist
Mr.Korada Sri Venkata Siva Sai Kumar, Software Developer, GGS Information Services India Pvt., Ltd. Mobile: 8686541443 E-Mail: svkorada@gmail.com	Alumni Representative
Ms. S. Prabhavathi , Assistant Professor, Dept. of Computer Science, A.G & S.G Siddhartha Degree college of arts and science, Vuyyuru – 521165 Mobile : 9989098703 E-mail : s.prabha2424@gmail.com	Member
Ms. A. Sravani , Assistant Professor, Dept. of Computer Science, A.G & S.G Siddhartha Degree college of arts and science, Vuyyuru – 521165 Mobile : 9490866599 E-mail :adirajusravani93@gmail.com	Member
Mr. A.N.Srinivasarao Assistant Professor, Dept. of Computer Science, A.G & S.G Siddhartha Degree college of arts and science, Vuyyuru – 521165 Mobile : 9553539203 E-mail :srinu7mca@gmail.com	Member
Ms.G. Katyayini, Assistant Professor, Dept. of Computer Science, A.G & S.G Siddhartha Degree college of arts and science, Vuyyuru – 521165 Mobile : 9553892569 E-mail : katyayinigona@gmail.com	Member
Mr.Ch. Anil kumar, Assistant Professor, Dept. of Computer Science, A.G & S.G Siddhartha Degree college of arts and science, Vuyyuru – 521165 Mobile : 9701463015 E-mail : aniltimes13@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 2022-2023 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 2022-2023 and onwards.

RESOLUTIONS

- Resolved and recommended to continue the same syllabus, model papers without changes in the Second Semester for the following courses:
  - Data Structure Lab (22CS2L1)

- Resolved and recommended to introduce new syllabus, model papers in the Second Semester for the following courses:
  - Computer Networks (22CS2T1)
  - Data Structure (22CS2T2)
  - Web Technology (22CS2T3)
  - Software Engineering (22CS2E1)
  - Web Technology Lab(22CS2L2)

- To discuss and approve the *Structure*, S*yllabi* and *Model Question Papers* of Open Electives *"Research Methodology"* for Second Semester

- Resolved and recommended to continue the same syllabus, model papers without changes in the Fourth Semester for the following courses:
  - Artificial intelligence & Machine learning (22CS4T3)
  - Cloud Computing (22CS4T4)

- Resolved and recommended to introduce new syllabus, model papers in the Third Semester for the following courses:
  - Big Data Analytical Lab (22CS4L1)
  - Privacy & Security in Online Social Media (22CS4M1)
  - Big Data Analytics (22CS4T1)
  - Project Work (22CS4P1)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru521165.

(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (ComputerScience) Programme – II Semester

Course	Computer Networks		
Course Code	**22CS2T1**	Course Delivery Method	Class Room /
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:2020-21	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

Course Description and Purpose:
Computer Networks is a course that will exemplifies basic concepts of *Computer Networks*, *Functionality of Layered Architecture*, *Error Correction and Detection Code* and *Various Protocols used in Layers and Protocols*, *Functionality of Medium Access Control Sub Layer*, *Various Routing Strategies used in inter networking using IPAddresses*, *Different Services* and *Protocols of Transport Layer* and *Various Application Layer Protocols* used over the internet.

Course Objectives:
This course will help the students t o understand and learn importance of *Protocols in a Network*, *The usage of the Protocols in Layered Architecture* and brief information of functionality of all the *Five Layers and their Protocols*.

Specific objectives include:
- To understand functionality of *Layered Architecturee*.
- To understand Ethernet, *Bluetooth and Data Link Layer Switching.*
- To learn Network Layer Design issues and Routing Algorithm used.
- To learn *Transport Services and TCP and UDP*.
- To understand the Protocols and services of *Applications Layer*.

Course Learning Outcomes:
Upon successful completion of the course, the student will be able to:
CO1: Understand *Functionality of Layered Architecture*, *Error Correction and Detection Codes* and *Various Protocols used in Layers*.
CO2: Understand functionality of *Medium Access Control* Sub Layer.
CO3: Understand the various *Routing Strategies* used in internet working using *IP Addresses*.
CO4: Understand different Services and Protocols of *Transport Layer*.
CO5: Understand the various *Application Layer Protocols* used over internet.

Unit	Learning Units	Lecture Hours
I	**Introduction:** Uses of Computer Networks: Business Application, Home Applications, Mobile Users, Social Issues, Connection Oriented and Connectionless Services, Service Primitives, The relationship of Services to Protocols, *Reference Models*: The OSI Reference Model, The TCP/IP Reference Model, A Comparison of OSI and TCP/IP Reference Model. **Physical Layer:** ALOHA, CSMA, CSMA/CA **Data Link Layer:** *Data Link Layer Design Issues*: Services Provided to the Network Layer, Framing, Error Control, Flow Control, *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, *Sliding Window Protocols*: A One Bit Sliding Window Protocol, A Protocol Using Go Back N, A Protocol using Selective Repeat.	**12 Hours**
II	**The Medium Access Control Sub Layer:** *Ethernet*: Ethernet Cabling, Manchester Encoding, The Ethernet MAC sub layer Protocol, The Binary Exponential Backoff Algorithm, *Bluetooth*: Bluetooth Architecture, Bluetooth Applications, The Bluetooth Protocol Stack, The Bluetooth Radio Layer, The Bluetooth Link Layers, The Bluetooth Frame Structure, *Data Link Layer Switching*: Uses of Bridges, Learning Bridges ,Spanning Tree Bridges, Remote Bridges, Repeaters, Hubs, Bridges, Switches, Routers and Gateways, Virtual LANs.	**12 Hours**
III	**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, Routing for Mobile Hosts *The Network Layer in the Internet*: The IP Version 4 Protocol, IP Address, IPV6 Features and Advantages.	**12 Hours**
IV	**The Transport Layer:** *The Transport Service*: Services provided to the Upper Layers, Transport Services Primitives, Berkeley Sockets. *Elements of Transport Protocols*: Addressing, Connection Establishment, Connection Release, Flow Control and Buffering, Multiplexing, Crash Recovery. **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, Comparison of TCP and UDP.	**12 Hours**
V	**Wireless TCP:** Classical improvement in WTCP. **The Application Layer:** *DNS*: The Domain Name System: The DNS Name Space, Resource Records, Name Servers. *Electronic Mail*: Architecture and Services, The User Agent, Message Formats, Message Transfer, Final Delivery. **The *World Wide Web***: Architecture Overview, Static Web Pages, Dynamic Web Pages**. *Streaming Audio and Video***: Digital Audio, Digital Video, Streaming Stored Media, Streaming Live Media, Real Time Conferencing.	**12 Hours**

Reference Text books:
1. Andrew S. Tanenbaum, ComputerNetworks, Sixth Edition, Pearson, 2021
2. Andrew S. Tanenbaum, ComputerNetworks, Fifth Edition, Pearson, 2011
3. James F.Kurose, Keith W Ross, Computer Networking, 3rd Edition, Pearson Edition
4. Michael A. Gallo, William M. Hancock, Data Communications and Networking, 4th Edition, TMH

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), Second Semester

Course Name: Computer Networks

Course Code: 22CS2T1

(w.e.f admitted batch 2022-23)

Time: 3 Hours   **Max Marks: 70**

SECTION-A

Answer ALL Questions. All Questions Carry Equal Marks.   (5×4=20Marks)

1. (a) What are the Uses of Computer Networks. (CO1,L1)

(or)

   (b) Write about ALOHA (CO1,L1)

2. (a) Explain about The Binary Exponential Backoff Algorithm. (CO3,L2)

(or)

   (b) Explain about Virtual LANs. (CO3,L2)

3. (a) What is Store and Forward Packet Switching. (CO2,L1)

(or)

   (b) What are the Features of IPV6. (CO2,L1)

4. (a) Explain about Berkeley Sockets. (CO3,L2)

(or)

   (b) Explain TCP Congestion Control. (CO3,L2)

5. (a) Explain about WTCP. (CO5,L5)

(or)

   (b) Explain about URLs. (CO5,L5)

SECTION-B

AnswerALLquestions. AllQuestionsCarryEqualMarks.(5×10=50Marks)

6. (a) Explain the OSI Reference Model with a neat diagram. (CO1,L2)

(or)

   (b) Explain Sliding Window Protocols. (CO1,L2)

7. (a) List the operations of Ethernet.(CO2,L4)

(or)

   (b) Analyze Bluetooth Architecture with Bluetooth Application. (CO2,L4)

8. (a) Model Shortest Path Routing Algorithm.(CO2,L3)

(or)

   (b) Select IP Addressing Techniques. (CO2,L3)

9. (a) Explain about Connection Establishment and Connection Release. (CO3,L5)

(or)

   (b) Explain about TCP. (CO3,L5)

10.(a) Discuss Domain Name System. (CO3,L6)

(or)

   (b) Discuss Electronic Mail System. (CO3,L6)

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	Data Structures		
Course Code	22CS2T2	Course Delivery Method	Class Room /
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:2020-21	Year of Offering:2021-22	Year of Revision:2021-22	Percentage of Revision: 0%

Course Description and Purpose:
Data Structures is a course that illustrates *Elementary Data Organization*, *Data Structure Operations*, and *Algorithms*, *Arrays*, *Matrices*, *String Processing*, *Stack*, *Queues*, *Linked List*, *Trees*, *Heap Sort*, *Multi-way Search Trees*, *B-Tree*, *B+-Trees*, *Graphs Algorithms*, *Elementary Graph Algorithms*, *Sorting* and *Searching Techniques*.

Course Objectives:
This course will help enable the students t o understand, learn and develop *Data Structure Operations and Algorithms*, *Arrays*, *Matrices*, *String Processing*, *Stack*, *Queues*, *Linked List*, *Trees*, *Heap Sort*, *Multi-way Search Trees*, *B-Tree*, *B+-Trees*, *Graphs Algorithms*, *Elementary Graph Algorithms*, *Sorting and Searching Techniques*.

Specific Objectives include:
▪ To understand *Data Structures*, *Data Structure Operations* and *Algorithms*, *Arrays*.
▪ To understand *String Processing, Stack, Queues and Linked List.*
▪ To learn the *Binary Tree, Binary Search Trees, AVL Trees, Heap*.
▪ To learn the *Multi-way Search Trees*, *B-Trees*, *B+-Trees*.
▪ To understand the *Graph Algorithms*, different *Sorting* and *Searching Techniques*.

Course Learning Outcomes:

At the end of this course the students should be able to:
CO1: Understand *Data Structures*, *Data Structure Operations and Algorithms*, *Arrays*.
CO2: Understand *String Processing, Stack, Queues and Linked List.*
CO3: Learn the Binary Tree, Binary Search Trees, AVL Trees, Heap.
CO4: Learn the *Multi-way Search Trees*, *B-Trees*, *B+-Trees*.
CO5: Understand the *Graph Algorithms*, different *Sorting* and *Searching Techniques*.

Unit	Title	Lecture Hours
I	**Introduction and Overview:** Elementary Data Organization, Data Structures, Data Structure Operations, and Algorithms: Complexity, Time and Space Tradeoff Asymptotic Notations. Linear Arrays, Representation and Traversing Linear Arrays, Inserting and Deleting, Linear Search, Binary Search, Multidimensional Arrays, Pointer Arrays, Record Structures, Representation of records in memory, Parallel Arrays, Matrices, Sparse Matrices.	**12 Hours**
II	**String Processing:** Pattern Matching Algorithms. **Stacks:** Stacks, Array representation, Linked List representation, Evaluation of Arithmetic Expressions, Quick Sort, Recursion, Towers of Hanoi. **Queues:** Linked representation of Queues, Deques, Priority Queues. **Linked Lists:** Representation, Traversing, Searching, Memory Allocation: Garbage Collection,Insertion, Deletion, Header Linked Lists, Two Way Lists.	**12 Hours**
III	**Trees:** Binary Trees, Representing and Traversing Binary Trees, Traversal Algorithms using Stacks, Binary Search Trees, Searching, Insertion and Deletion in Binary Search Trees, AVL Search Trees, Insertion and Deletion in AVL Trees. **Heap:** Heap Sort, Huffman's Algorithms, General Trees.	**12 Hours**
IV	**Multi-way Search Trees:** M-Way Search Trees, Definition and Properties, Searching an M-Way Search Tree, B-Trees, Definition and Properties, Number of Elements in a B-Tree, Insertion into B-Tree, Deletion from a B-Tree, B+-Tree Definition, Searching a B+-Tree, Insertion into B+-Tree, Deletion from a B+-Tree.	**12 Hours**
V	**Graphs:** Graphs Algorithms, Elementary Graph Algorithms: Topological Sort, Single Source Shortest Path Algorithms:Dijkstra's, Bellman-Ford, All Pairs Shortest Paths : Floyd Warshall's Algorithm. **Sorting and Searching:** Insertion Sort, Selection Sort, Merging, Merge Sort, Radix Sort, Searching and Data Modification, Hashing.	**12 Hours**

Reference Textbooks:
1. Seymour Lipschutz, Data Structures, Mc Graw Hill (Schaums Outlines), Revised First Edition, 2014.
2. Seymour Lipschutz, Theory and Problems of Data Structures, Mc Graw Hill (Schaums Outlines), Paperback, 2017.
3. John R Hubbard, Second Edition, Data Structures with Java, Mc Graw Hill (Schaums Outlines), 2009.
4. Robert Lafore, Data Structures & Algorithms in Java, Second Edition, Pearson Education, 2017.
5. Fundamentals of Data Structures in C, Second Edition, Horowitz, Sahani, Anderson-freed, Universities Press, 1993.
6. Data Structures: A Pseudocode Approach, Richard F Gilberg, Behrouz A Forouzan, Cengage, 2004

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),
Second Semester
Course Name: Data Structures
Course Code: 22CS2T2
(w.e.f admitted batch 2022-23)

Time: 3 Hours   Max Marks: 70
SECTION-A
Answer ALL questions. All Questions Carry Equal Marks.   (5×4 = 20 Marks)

1.(a) Explain different *Data Structure Operations.* (CO1, L2)
                         (or)
  (b) Explain *Linear Array.*(CO1, L2)

2. (a) What is *Stack*? Explain its Operations. (CO2, L1)
                         (or)
  (b) Define *Linked List* and its operations. (CO2, L1)

3. (a) Explain *Binary Search Trees.* (CO3, L2)
                         (or)
  (b) Explain *General Trees.* (CO3, L2)

4. (a) Explain *M-Way Search Tree.* (CO4, L2)
                         (or)
  (b) Explain *searching an element* from *B+-Tree.* (CO4, L2)

5. (a) Explain *Topological Sort Algorithm.* (CO5, L2)
                         (or)
  (b) Explain *Bellman-Ford Algorithm.* (CO5, L2)

SECTION-B
Answer ALL questions. All Questions Carry Equal Marks.   (5×10 = 50 Marks)

6. (a) Explain Binary Search and Linear Search Algorithms with example. (CO1, L2)
                         (or)
  (b) Explain *Multidimensional Arrays in Java with example.* (CO1, L2)

7. (a) Explain *Towers of Hanoi Problem* implementation *with example.* (CO2, L5)
  (b) Explain Operations of *Queue* using *Linked List with example.* (CO2, L5)

8. (a) Discuss *AVL Search Trees operations* in detail. (CO3, L6)
                          (or)
  (b) Discuss about the insertion and deletion operations of Binary Search Trees with example. (CO3,L6)

9. (a) List *B-Tree operations* with examples. (CO4, L4)
                         (or)
  (b) List insertion and deletion operations of B+-Tree with examples. (CO4, L4)

10. (a) Utilize Merge Sort Algorithm to sort the elements 10, 45, 15, 56, 48, 23, 8, 17. Explain step by
       step procedure. (CO5, L3)
                          (or)
   (b) Make use of elements 23, 34, 12, 45, 14, 73, 21, 7 perform sort using Radix Sort. (CO5, L3)

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	Web Technologies		
Course Code	22CS2T3	Course Delivery Method	Class Room / Blended
Credits	4	CIA Marks	30
No. of Lecture Hours /	4	Semester End Exam	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:**2020-**	Year of Offering:2021-	Year of Revision:2021-	Percentage of Revision:

Course Description and Purpose:
Web Technologies (22CA2T3) is a course that illustrates about *WWW*, *HTML*, Write code in *JavaScript & DHTML*, *Designing of XML Files*, Install and use *Servlets* and *PHP*, *Programming in JSP*, *Establish Database Connectivity & Form Validations using C#*, *Basic knowledge of Node JS*, *Express & Spring Boot*, *Creating AJAX form validations*.

Course Objectives: The course will help the students to understand, learn and build *WWW*, *HTML*, *Write code in JavaScript & DHTML*, *Designing of XML Files*, *Install and use Servlets and PhP*, *Programming in JSP*, *Establish Database Connectivity & Form Validations using C#*, *Basic knowledge of Node JS*, *Express & Spring Boot*, *Creating AJAX form validations*.

Course Objectives:
▪ To understand the concepts of WWW including *Browser and HTTP Protocol* and various *HTML Tags* and use them to develop the user friendly web pages.
▪ To use the *JavaScript* and define the CSS with its types to develop the *Dynamic Web Pages*.
▪ Students will be able to and develop the *Modern Web Pages* using the *XML Elements* and Servlets with different layouts as per need of applications.
▪ Able to develop *Server Side Scripting* with PHP and JSP to generate the Web Pages dynamically using the Database Connectivity & C# Database Connectivity with Form Validations.
▪ Able to develop *Interactive Forms* for Web Applications using *Node JS*, *Express*, *Spring Boot & AJAX*.

Course Outcomes:
On successful completion of this course, the students:
CO1: Able to understand the concepts of WWW including *Browser* and *HTTP Protocol* and various *HTML Tags* and use them to develop the user friendly web pages.
CO2: Able to use the *JavaScript* and define the CSS with its types to develop the *Dynamic Web Pages*.
CO3: Students will be able to develop the *Modern Web Pages* using the *XML Elements* and Servlets with different layouts as per need of applications.
CO4: Able to develop *Server Side Scripting* with PHP and JSP to generate the Web Pages dynamically using the Database Connectivity C# Database Connectivity with Form Validations.
CO5: Able to develop *Interactive Forms* for Web Applications using *Node JS, Express*, *Spring Boot & AJAX*.

Uni t	Learning Units	LectureHours
I	**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. **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.	**12 Hours**
II	**Java Script:** Introduction to Scripting, Control Statements I, Control Statements II, Functions, Arrays, Objects, Document Object Model, Events. **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.	**12 Hours**
III	**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, XML DTD: Internal DTD, External DTD, The Buildings blocks of XML Documents, **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, **DTD Attributes**: Declaring Attributes, Default Attribute Value, Implied attribute, required attribute, fixed attribute value, enumerated attribute values, DTD Entries, DTD Validation, XSL, XSL Transformation, XML NameSpaces, XML Schema. Servlets: Introduction, Advantages of Servlets over CGI, Installing Servlets, The Servlet Life Cycle, Servlets API, A Simple Servlet, Handling HTTP Get Requests, Handling HTTP Post Requests, Cookies, Session Tracking, Multi Tier Applications using Database Connectivity, Servlets Chaining.	**12 Hours**
IV	**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. **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. **Database Connectivity & Form Validations using C#:** Database Connectivity using C#.Net, Form Validations (Name Validation, Integer Validation, Floating Point Validation, Email Validation, Combo Box Validation). **Spring Boot:** Introduction to Spring Boot, Spring Initializer, Maven, Gradel, Class Path Dependencies Creating Executable Jar File.	**12 Hours**
V	**Getting Started with Node:** Getting Node, Using the Terminal, Editors, npm, A Simple Webserver with Node (Hello World, Event Driven Programming, Routing, Serving Static Resource). **Saving Time with Express:** Scaffolding, Initial Steps (Views and Layouts, Static Files and Views, Dynamic Content in Views). **Form Handling:** Sending Client Data to Server, HTML Forms. Encoding, Approaches in Form Handling, Form Handling with Express, Handling AJAX Forms-File Uploads, jQuery File Upload.	**12 Hours**

Reference Books:
1. N.P.Gopalan, J.Akilandeswari, Web Technologies - A Developer's Perspective, PHI(2008)
2. Harvey M.Deitel and Paul L. Deitel, Internet and World Wide WebHow To Program, Prentice Hall, 5th Edition.
3. Ethan Brown, Web Development with Node & Express, O'Reilly, First Edition, 2014.

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), Second Semester

Course Name: Web Technologies

Course Code: 22CA2T3

(w.e.f admitted batch 2022-23)

Time: 3 Hours   **Max Marks: 70**

SECTION-A

Answer ALL questions. All Questions Carry Equal Marks.   (5×4 = 20 Marks)

1.(a) What are *protocols* used in accessing the internet? (CO1, L1)

(or)

  (b) What are the differences between *Inline* & *Block Elements*? (CO2, L1)

2. (a) What is *DOM*? Explain it. (CO2, L1)

(or)

  (b) What is advantage of using *External Style Sheets*? (CO2,L1)

3. (a) What is *XML Document Validation*? Explain in detail. (CO3,L1)

(or)

  (b) What is *Servlet*? Explain in detail. (CO3,L1)

4. (a) List C# function to validate *Name of the User*. (CO4,L1)

(or)

  (b) List the components of *JSP*. (CO4,L2)

5. (a) State various *services of Web Browser*. (CO5,L5)

(or)

  (b) What are the features of *JQuery*? Explain it (CO5,L5)

SECTION-B

Answer ALL questions. All Questions Carry Equal Marks.   (5×10 = 50 Marks)

6. (a) Explain services of *Internet* and *Web Browser*. (CO1, L2)

(or)

  (b) Explain *Client-Server Architecture and Frame and its attributes with example program*. (CO1,L2)

7. (a) List *JavaScript variables and characteristics of Array objects*. (CO2, L4)

(or)

  (b) Examine building an *External Style Sheet*. Explain advantages and disadvantages of *External Style Sheets* with an example. (CO2, L4)

8. (a) Develop *TDC*, *DTD* with building blocks of *DTD* . (CO3,L3)

(or)

   (b) Develop *Life Cycle of Servlets*. Write the session tracker that tracks the number of access and last access of data of a particular web page. (CO3,L3)

9. (a) Discuss (i) *String Processing* (ii) *Regular Expressions* (iii*) Cookies*. (CO4, L6)

(or)

   (b) Discuss *Components of JSP* and *write a JSP Program to accept username and password From a user and validate them*. (CO4, L6)

10. (a) Explain *Class Path Dependencies*.   (CO5,L5)

(or)

   (b) Explain how to upload Files using *jQuery* with example program. (CO5, L5)

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.

(An Autonomous College in the jurisdiction of Krishna University)
M.Sc., (ComputerScience)Programme - II Semester

Course	Software Engineering		
Course Code	22CS2E1	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-	Year of Revision:2021-22	Percentage of Revision:

Course Description and Purpose:
Software Engineering (22CS2E1) is a course that illustrates Process Models, Agile Development, Core Principles, Requirements Modeling, Data Modeling, Software Quality Assurance, Software Testing Strategies, Testing Conventional Applications, Project Management Concepts, Process and Project Metrics, Formal Modeling and Verification and Estimation for Software Project.

Course Objectives: The course will help the students to understand, learn and build Process Models, Agile Models, Core Principles, Requirement Models, Data Models, Software Quality Assurance Procedures, Software Testing Strategies, Strategies to Test Conventional Applications, Project Management Concepts, Process and Project Metrics, Formal Modeling and Verification and Models to estimate Software Projects.

Specific objectives include:
- *To understand various Software Engineering Methods, Practices, Process Models and Agile Development Strategies.*
- To understand and apply *Core Principles*, *Requirements & Modeling* Concepts.
- To understand and apply different *Software Testing Approaches* and various aspects of *Software Quality Assurance*.
- To understand and apply *Process & Project Management* Concepts.
- To understand and apply *Software Estimates for Projects* & apply *Formal Methods Modeling*.

Course Learning Outcomes:
Upon successful completion of the course, the student will be able to:
CO1: Understand various *Software Engineering Methods*, *Practices*, *Process Models* and *Agile Development Strategies.*
CO2: Understand and apply *Core Principles*, *Requirements & Modeling* Concepts.
CO3: Understand and apply different *Software Testing Approaches* and various aspects of *Software Quality Assurance*.
CO4: Understand and apply *Process & Project Management* Concepts.
CO5: Understand and apply *Software Estimates for Projects* & apply *Formal Methods Modeling*.

SYLLABUS

Unit	Learning Units	Lecture Hours
I	**Software and Software Engineering:** The Nature of Software: Defining Software, Software Application Domains, Legacy Software, The Unique Nature of Web Apps, Software Engineering, The Software Process, Software Engineering Practices: The Essence of Practice, General Principles, Software Myths. **Process Models:** A Generic Process Model: Defining a Framework Activity, Identifying a Task Set, Process Patterns, Process Assessment and Improvement, Prescriptive Process Models: The Waterfall Model, Incremental Process Models, Evolutionary Process Models, Concurrent Models, A Final Word on Evolutionary Processes, Specialized Process Models: Component-Based Development, The Formal Methods Model, Aspect-Oriented Software Development, The Unified Process: A Brief History, Phases of the Unified Process, Personal and Team Process Models: Personal Software Process (PSP), Team Software Process (TSP). **Agile Development**: What Is Agility, Agility and the Cost of Change, What Is an Agile Process: Agility Principles, The Politics of Agile Development, Human Factors, Extreme Programming (XP): XP Values, The XP Process, Industrial XP, The XP Debate, Other Agile Process Models: Adaptive Software Development (ASD), Scrum, Dynamic Systems Development Method (DSDM), Crystal, Feature Driven Development (FDD), Lean Software Development (LSD), Agile Modeling (AM), AgileUnified Process (AUP).	12 Hours
II	**Principles that Guide Practice: Core Principles:** Principles That Guide Process, Principles That Guide Practice, Principles That Guide Each Framework Activity: Communication Principles, Planning Principles, Modeling Principles, Construction Principles, Deployment Principles. **Requirements Modeling: Scenarios, Information, and Analysis Classes:** Requirements Analysis: Overall Objectives and Philosophy, Analysis Rules of Thumb, Domain Analysis, Requirements Modeling Approaches, Scenario-Based Modeling: Creating a Preliminary Use Case, Refining a Preliminary Use Case, Writing a Formal Use Case, UML Models That Supplement the Use Case: Developing an Activity Diagram, Swim lane Diagrams. **Data Modeling Concepts:** Data Objects, Data Attributes, Relationships, Class-Based Modeling: Identifying Analysis Classes, Specifying Attributes, Defining Operations, Class-Responsibility- Collaborator (CRC) Modeling, Associations and Dependencies, Analysis Packages.	12 Hours
III	**Software Quality Assurance:** Background Issues, Elements of Software Quality Assurance, SQA Tasks, Goals, and Metrics: SQA Tasks, Goals, Attributes, and Metrics, Formal Approaches to SQA, Statistical Software Quality Assurance: A Generic Example, Six Sigma for Software Engineering, Software Reliability : Measures of Reliability and Availability, Software Safety, The ISO 9000 Quality Standards, The SQA Plan. **Software Testing Strategies:** A Strategic Approach to Software Testing : Verification and Validation, Organizing for Software Testing, Software Testing Strategy-The Big Picture, Criteria for Completion of Testing, Strategic Issues, Test Strategies for Conventional Software: Unit Testing, Integration Testing, Test Strategies for Object-Oriented Software: Unit Testing in the OO Context, Integration Testing in the OO Context, Test Strategies for Web Apps, Validation Testing: Validation-Test Criteria, Configuration Review, Alpha and Beta Testing, System Testing: Recovery Testing, Security Testing, Stress Testing, Performance Testing, Deployment Testing, The Art of Debugging: The Debugging Process, Psychological Considerations, Debugging Strategies, Correcting the Error **Testing Conventional Applications:** Software Testing Fundamentals, Internal and External Views of Testing, White-Box Testing, Basis Path Testing: Flow Graph Notation, Independent Program Paths, Deriving Test Cases, Graph Matrices, Control Structure Testing: Condition Testing, Data Flow Testing, Loop Testing, Black-Box Testing: Graph-Based Testing Methods, Equivalence Partitioning, Boundary Value Analysis, Orthogonal Array Testing.	12 Hours

IV	**Project Management Concepts:** The Management Spectrum: The People, The Product, The Process, The Project, People: The Stakeholders, Team Leaders, The Software Team, Agile Teams, Coordination and Communication Issues, The Product: Software Scope, Problem Decomposition, The Process: Melding the Product and the Process, Process Decomposition, The Project, The W5HH Principles. **Process and Project Metrics:** Metrics in the Process and Project Domains: Process Metrics and Software Process Improvement, Project Metrics, Software Measurement, Size-Oriented Metrics, Function-Oriented Metrics, Reconciling LOC and FP Metrics, Object-Oriented Metrics, Use-Case– Oriented Metrics, Web App Project Metrics, Metrics for Software Quality: Measuring Quality, Defect Removal Efficiency.	**12 Hours**
V	**Formal Modeling And Verification:** The Cleanroom Strategy, Functional Specification: Black-Box Specification, State-Box Specification, Clear-Box Specification, Cleanroom Design: Design Refinement, Design Verification, Cleanroom Testing: Statistical Use Testing, Certification, Formal Methods Concepts, Applying Mathematical Notation for Formal Specification, Formal Specification Languages: Object Constraint Language (OCL), The Z Specification Language. **Estimation for Software Projects:** Resources: Human Resources, Reusable Software Resources, Environmental Resources, Software Project Estimation, Decomposition Techniques: Software Sizing, Problem-Based Estimation, An Example of LOC-Based Estimation, An Example of FP-Based Estimation, Empirical Estimation Models: The Structure of Estimation Models, The COCOMO II Model, The Software Equation, Estimation for Object-Oriented Projects.	**12 Hours**

Case Studies:
- Draw example for Process Pattern when requirements are uncertain.
- Draw UML use case diagram for Safehome Security Function.
- Draw UML Activity Diagram for Access camera surveillance via the Internet - display camera views function.
- Draw UML Swimlane Diagram for Access camera surveillance via the Internet - display camera views function.
- Draw UML Class Diagram for Floor Plan.
- Draw UML Package for specifying Environment, Characters of the Game and Rules of the Game.
- Draw Level 1 DFD for Safehome Security Function
- Draw State diagram for Safehome Security Function
- Draw Sequence Diagram (partial) for the Safehome Security Function
- A UML Deployment Diagram for Safehome Security Function.
- Draw   Flow   Graph for Flow Chart and find the Cyclomatic Complexity.
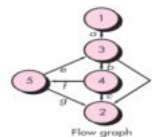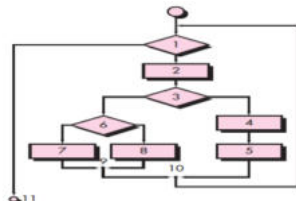
- Draw the Graph Matrix for the Flow Graph
- Draw Generalization diagram by specifying Structural Constraint.
- Specify sample (a) Project Metrics (b) Product Metrics
- Specify (i) Decision Table (ii) Decision Tree in Block Box Testing
- Draw the Block Diagram for Block Handler and also specify the logic using Object Constraint Language (OCL)
1. No block will be marked as both unused and used.
2. All the sets of blocks held in the queue will be subsets of the collection of currently used blocks
3. No elements of the queue will contain the same block numbers.
4. The collection of used blocks and blocks that are unused will be the total collection of blocks that make up files.
5. The collection of unused blocks will have no duplicate block numbers.
6. The collection of used blocks will have no duplicate block numbers.
7. Using Z Specification Language describes the state of the block handler and the data invariant:

Reference Text Books:
1. Roger S Pressman, Software Engineering - A Practitioner's Approach, Ninth Edition, McGraw - Hill, A Business Unit of The McGraw-Hill Companies, Inc., 2020.
2. Roger S Pressman, Software Engineering - A Practitioner's Approach, Seventh Edition, McGraw - Hill, A Business Unit of The McGraw-Hill Companies, Inc., 2010.
3. Sommerville, Software Engineering, 7th Edition, Pearson Education, 2004.
4. S.A.Kelkar, Software Engineering - AConcise Study, PHI, January 2007.
5. Waman, Software Engineering, TMH, June 2004.
6. AH Behforooz and Frederick J.Hudson, Software Engineering Fundamentals, Oxford, 2008.

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), Second Semester

Course Name: Software Engineering

Course Code: 22CS2E1

(w.e.f admitted batch 2022-23)

Time: 3 Hours   **Max Marks: 70**

SECTION-A

Answer ALL questions. All Questions Carry Equal Marks.   (5×4 = 20 Marks)

1. (a) What are various aspects of is *PSP* and *TSP*? (CO1, L1)

(or)

   (b) What is *SCRUM*? Explain it in detail. (CO2, L1)

2. (a) What are the phases of *Extreme Programming (XP)*? (CO2, L1)

(or)

   (b) What is *Class-Based Modeling*? Explain it by writing Class Diagram (CO2,L1)

3. (a) What is *Software Reliability*? Explain in detail. (CO3,L1)

(or)

   (b) What is *Alpha* and *Beta* Testing? Explain in detail. (CO3,L1)

4. (a) List W5HH Principles. (CO4,L1)

(or)

   (b) What is *Use Case Diagram*? Demonstrate with example. (CO4,L2)

5. (a) State various *resources* of Information System. (CO5,L5)

(or)

   (b) What is *Software Sizing*? Explain it (CO5,L5)

SECTION-B

Answer ALL questions. All Questions Carry Equal Marks.   (5×10 = 50 Marks)

6. (a) Explain various types of *Software Myths*. (CO1, L2)

(or)

   (b) Explain *Incremental Process Models*. (CO1,L2)

7. (a) List *(i) Planning Principles (ii) Modeling Principles.* (CO2, L4)

(or)

   (b) Examine various aspects of *Scenario-Based Modeling.* (CO2, L4)

8. (a) Develop various test strategies to test *Conventional Software.* (CO3,L3)

(or)

   (b) Develop various strategies for *White Box Testing.* (CO3,L3)

9. (a) Discuss the *Management Spectrum* in detail.   (CO4, L6)

(or)

   (b) Discuss *(i) Size-Oriented Metrics (ii) Function-Oriented Metrics* in detail. (CO4, L6)

   10. (a) Explain *Functional Specification* of *Cleanroom Strategy*. (CO5,L5)

(or)

   (b) Explain *(i) The COCOMO II Model (ii) The Software Equation* of EmpiricalEstimation Models.

(CO5, L5)

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	Data Structures Lab		
Course Code	22CS2L1	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: **2023**	Year of Offering:22-23	Year of Revision:2021-22	Percentage of Revision: 0%

Course Description and Purpose:

Data Structures Lab (22CS2L1) is a course that illustrates concepts of *Stacks*, *Queues,* and *Tree Traversals*, *Singly Linked Lists*, *Doubly Linked Lists*, *Circular Linked Lists*, *Binary Search Tree*, *Binary Search Tree Traversals*, *Sparse Matrix and DFS & BFS Algorithm*, *Searching & Sorting Algorithms*, *AVL-Trees and B-Trees* and its operations and implementations.

Course Objectives:

This course will help enable the students to understand learn, apply/ implement the concepts of *Stacks*, *Queues*, and *Tree Traversals*, *Singly Linked Lists*, *Doubly Linked Lists*, *Circular Linked Lists*, *Binary Search Tree*, *Binary Search Tree Traversals*, *Sparse Matrix* and *DFS & BFS Algorithm*, *Searching & Sorting Algorithms*, *AVL-Trees* and *B-Trees*.

Specific Objectives include:
- To understand the concepts of Stacks, Queues, and Tree Traversals.
- To apply the operations of Singly Linked Lists, Doubly Linked Lists, Circular Linked Lists and Operations on Stacks and Queues.
- To apply operations on Binary Search Tree, Binary Search Tree Traversals, Sparse Matrix and DFS & BFS Algorithm.
- To implement Searching & Sorting Algorithms.
- To implement AVL-Trees and B-Trees.

Course Learning Outcomes:

Upon successful completion of the course, the student will be able to:

CO1: Understand the concepts of *Stacks*, *Queues*, and *Tree Traversals*.

CO2: Apply the operations of *Singly Linked Lists*, *Doubly Linked Lists*, *Circular Linked Lists* and *Operations on Stacks and Queues*.

CO3: Apply operations on *Binary Search Tree*, *Binary Search Tree Traversals*, *Sparse Matrix and DFS & BFS Algorithm*.

CO4: Implement *Searching & Sorting Algorithms*.

CO5: Implement *AVL-Trees* and *B-Trees*.

CYCLE 1

1. Write a Java Program to create a class called Stack and implement Stack Operations. (CO1,L1)
2. Write a Java Program to create a class called Queue and implement Stack Operations. (CO1,L1)
3. Write a Java Program to convert the Infix to Postfix Expression. (CO1,L1)
4. Write a Java Program to evaluate Postfix Expression. (CO1,L1)
5. Write a Java Program to obtain the Binary Number for a given Decimal Number. (CO1,L1)

CYCLE 2

1. Write a Java Class to implement the operations of a Singly Linked List. (CO2,L1)
2. Write a Java Class to implement the operations of a Doubly Linked List. (CO2,L1)
3. Write a Java Class to implement the operations of a Circular Linked List. (CO2,L1)
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 (CO2,L1)

5. Write a java program for performing various operations on Stack using Linked List. (CO2,L1)
6. Write a java program for performing various operations on Queue using Linked List. (CO2,L1)

CYCLE 3
1. Write a Java Program to implement operations on Binary Trees Using Recursive and Non- Recursive Methods. (CO3,L1)
2. Write a Java Program to perform Binary Search Tree Traversal. (CO3,L1)
3. Write a Java Program to implement Sparse Matrix. (CO3,L1)
4. Write a Java Program to implement DFS Algorithm. (CO3,L1)
5. Write a Java Program to implement BFS Algorithm. (CO3,L1)

CYCLE 4
1. Write a Java Program to implement the following sorting techniques:
   a. Bubble Sort   b. Merge Sort.   c. Quick Sort.   d. Heap Sort. (CO4,L1)
2. Write a Java Program to implement Quick Sort of given elements. (CO4,L1)
3. Write a Java Program to implement the Following search techniques:
   a. Linear Search   b. Binary Search   (CO4,L1)

CYCLE 5
1. Write a Java Program to implement various operations on AVL Trees. (CO5,L1)
2. Write a Java Program to perform the following operations: a) Insertion into a B-Tree b) Searching
    in a B-Tree (CO5,L1)
3. Write a Java Program to implementation of recursive and non-recursive functions to Binary Tree
    Traversals (CO5,L1)
4. Write a Java Program to implement all the functions of Dictionary (ADT) using Hashing. (CO5,L1)

Note: The list of experiments is not limited to the above list. If the existing laboratory experiments completed

in advance, the additional laboratory programs can added , and to be executed in the laboratory.

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 - IISemester

Course	Web Technologies Lab		
Course Code	22CS2L2	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: **2023**	Year of Offering:22-23	Year of Revision:2021-22	Percentage of Revision: 0%

Course Description and Purpose:

Web Technologies Lab (22CS2L2) is a course that illustrates concepts of *HTML, Java Script, DHTML, XML, PHP, JSP, Angular JS, Svelet and Git.*

Course Objectives:

This course will help enable the students to understand, learn, design *Static and Dynamic WebPages, Create XML Style Sheets, write PHP programs for data retrieval, write JSP Applications* for *Client-Server Communication, can create Directives*, *Events*, *Data Binding* and *Database Connectivity* using *Angular JS* and *Bindings & Events using Svelte* and *Version Controlling using Git*.

Specific Objectives include:
- To build functional web applications using *HTML*.
- To create *Dynamic Web Pages* using *Java Script* and *DHTML*.
- To create *Style Sheets with XML* and write *PHP Programs for Data Retrieval*.
- To create *JSP Applications* for *Client-Server Communication*.
- To create *Directives*, *Events*, *Data Binding* and *Database Connectivity* using *Angular JS* and *Bindings & Events using Svelte* and *Version Controlling using Git*.

Course Outcomes:

Upon successful completion of the course, the student will be able to:

CO1: Build functional web applications using *HTML*.
CO2: Create *Dynamic Web Pages* using *Java Script* and *DHTML*.
CO3: Create *Style Sheets with XML* and write *PHP Programs for Data Retrieval*.
CO4: Create *JSP Applications* for *Client-Server Communication*.
CO5: Create *Directives*, *Events*, *Data Binding* and *Database Connectivity* using *Angular JS* and *Bindings & Events using Svelte* and *Version Controlling using Git*.

HTML:
1. Write HTML code to provide intra document linking. (CO1, L1)
2. Write HTML code to provide inter document linking. (CO1, L2)
3. Write a program to implement the three types of lists. (CO1, L1)
4. Create a HTML page using frames. (CO1, L6)
5. Write a program to embed college picture into your web page and write a short note on your college using paragraph tag. (CO1, L1)
6. With a suitable example, depict how we can align text using a table tag as follows. (CO1, L3)
7. Write a program to create the time table as follows: (CO1, L1)
8. Create a Registration form that interacts with the user. Collect *Login Name*, *Password*, *Date of Birth*, *Sex*, *Address*, *Qualification* and display a "Thanks for Registering" message when the user submits the form. (CO1, L6)

JAVA SCRIPT:
9. Write a script to compare two strings using String object. (CO2, L1)
10. Write a script to generate random numbers within 1 to 10 and display the numbers in a table. (CO2, L1)

11. Write a Java Script to update the information into the array, in the "onClick" event of the button "Update". (CO2, L1)
12. Create a web page for a shopping mall that allows the user to tick off his purchases and obtain the bill with the total being added up simultaneously. (CO2, L3)
13. Write a script to find the duplicate elements of an array. (CO2, L1)
14. Write a script which generates a different greeting each time the script is executed. (CO2, L1)
15. Write a javascript to check the number is Armstrong number or not by getting the number from textbox and the result is displayed in a alert dialog box. (CO2, L1)
16. Using functions write a java script code that accepts user name and password from user,Check their correctness and display appropriate alert messages. (CO2, L1)

DHTML:
17. Create an inline style sheet.Illustrate the use of an embedded style sheet. (CO2, L6)
18. Create an external style sheet to illustrate the "Font" elements. (CO2, L6)
19. Write a program to switch on and off light using onClick event. (CO2, L1)
20. Illustrate different types of filters (atleast six) on a sample text. (CO2, L2)
21. Write a program to illustrate tabular data control for data binding. (CO2, L1)

XML:
22. Create a small XML file designed to contain information about student performance on a module. Each student has a name , a roll number, a subject mark and an exam mark. (CO3, L6)
23. Create a internal DTD file. (CO3, L6)
24. Create an external DTD file. (CO3, L6)
25. Create a XSLT stylesheet to display the student data as an HTML table. (CO3, L6)

PHP:
26. Calculate the factorial of a given number using PHP declarations and expressions. (CO3,
27. Write a PHP program that interacts with the user. Collect first name lastname and date of birth and displays that information back to the user. (CO3, L1)

JSP:
28. Write a program to implement JSP directives.(CO4, L1)
29. Write a JSP program for session tracking.(CO4, L1)

ANGULAR JS:
30. Create Registration and Login Forms with Validations using JScript Query. (CO5, L6)
31. Implement the following in Angular JS (CO5, L5)
    (a) Angular JS Data Binding
    (b) Angular JS Directives and Events
    (c) Using Angular JS to fetch Data from MySql

SVELTE: Illustrate the following (CO5, L2)
32. Reactivity using SVELTE.
33. Bindings using SVELTE.
34. Transitions using SVELTE.

Git: Illustrate the following (CO5, L2)
Version Control Using Git.
Note: The list of experiments is not limited to the above list. If the existing laboratory experiments completed

in advance, the additional laboratory programs can added , and to be executed in the laboratory.

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 ANALYTICS		
Course Code	20CS4E3	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:
- 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 Jaspersoft. (CO5)

Unit	Learning Units	Lecture Hours
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:** NoSQL, Hadoop, Why Hadoop?, Why not RDBMS?, RDBMS versus Hadoop, Hadoop Overview, HDFS, Processing Data with Hadoop, Interacting with Hadoop Ecosystem.	14
IV	**Introduction to MongoDB:** What is MongoDB?, Why MongoDB?, Terms used in RDBMS and MongoDB, Data types in MongoDB, MongoDB query language. **Introduction to Mapreduce programming:** Introduction, Mapper, Reducer,Combiner, Partitioner, Searching, Sorting and Compression.	10
V	**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 Fucntions, Parameter Substitution, Word Count Example using Pig. **JasperReport using Jaspersoft:** Introduction to Jasper Reports, Connecting to MongoDB NoSql Database.	14

Prescribed Text Book:
1. Seema Acharya and Subhashini Chellappan, Big Data and Analytics, Wiley India Pvt. Ltd., 2016

Title: BIG DATA ANALYTICS

Time: 3Hours   Max.Marks:70

SECTION-A

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.

SECTION-B

Answer Five Questions Choosing One Question from Each Unit.
All Questions Carry Equal Marks.   **(5×10=50Marks)**

2.A) Explain different Types of digital data: Unstructured, Semi-structured and Structured..

(Or)
B) Explain Need and Challenges in Big Data Environment?

3.A) What is Business Intelligence? List different business Intelligence applications with a suitable example?
(or)
B) Explain Classification of Analytics with suitable example..

4.A) Describe characteristics of a NoSQL database.?

(or)
B) Explain the types of NoSQL Data Stores in detail.

5. a) Explain Hadoop architecture and its components with proper Diagram?

(or)
  b) Explain the essentials of Hadoop Ecosystem.?

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-521165
(An Autonomous College in the jurisdiction of Krishna University
M.Sc.(Computer Science) Programme - IV Semester

Course	BIG DATA ANALYTICS LAB		
Course Code	20CS4L1	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%

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 MongoDB.

10. CRUD (Create, Read, Update and Delete) operations in MongoDB.

11. Implementation of Aggregate and Map Reduce function in MongoDB.

12. Creating New Workbooks, Opening Existing Workbooks in Tableau.

13. Prepare Bar Chart, Line / Area Chart, Pie Charts in Tableau.

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	20CS4T3	Course Delivery Method	Class Room / Blended
Credits	4	CIA Marks	30
No. of Lecture Hours /	4	Semester End Exam Marks	70
Total Number of Lecture Hours	60	Total Marks	100
Year of Introduction:2020-	Year of Offering:2021-	Year of Revision:2021-22	Percentage of Revision:

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. ApplyingconceptsofThreads,ProcessSynchronization&CUPScheduling.(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	**Introduction**- Association, Supervised Learning – Classification – Regression, Unsupervised Learning, Reinforcement Learning.	12
II	**Decision Tree** - Divide and Conquer - Classification Trees (ID3, CART, C4.5) - Best Split - Regression Trees - Pruning Trees - Rule Extraction from Trees - Learning Rules - Multivariate Trees, Naive Bayes Classifier. **Neural networks** - Perceptron - Training a Perceptron: Regression - Learning Boolean AND – XOR - Multilayer Perceptrons – Backpropagation - Multiple Hidden Layers - and support vector machines.	10
III	**Clustering** - Semiparametric Density Estimation- Mixture Densities - Classes vs. Clusters - k-Means Clustering - Expectation-Maximization (EM) - Hierarchical Clustering - Agglomerative Clustering. **Dimensionality Reduction** - Feature Selection vs Extraction - Subset Selection - Principal Components Analysis (PCA) - Factor Analysis - Multidimensional Scaling - Linear Discriminant Analysis - Fisher's Linear Discriminant - Isomap, kernel methods.	14
IV	**Parametric learning** - Maximum Likelihood Estimation - Gaussian (Normal) Distribution - Bias and Variance - Bayes' Estimator - Parametric Classification - Regression - Linear Regression - Polynomial Regression - Bayesian Model Selection, **Nonparametric learning** - Density Estimation - Kernel Estimator - k-Nearest Neighbour Estimator.	10

V	**Reinforcement learning** – Introduction - Single State: K-armed Bandit - Model-Based Learning - Value Iteration - Policy Iteration - Temporal Difference Learning - Exploration Strategies - Deterministic Rewards and Actions - Nondeterministic Rewards and Actions - Q-learning - Sarsa - Eligibility Traces - The Tiger Problem **Combining Multiple Learners –** Rationale – Voting - Fixed Combination Rules Error-Correcting Output Codes – Bagging – AdaBoost - Mixture of Experts Stacking - Fine-Tuning an Ensemble – Cascading - Combining Multiple Sources.	14

Prescribed Text Book

	Author	Title	Publisher
1	Ethem Alpaydın	Introduction to Machine Learning, Second Edition	The MIT Press Cambridge, Massachusetts London, England.

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
Title: ARTIFICIAL INTELLIGENCE WITH MACHINE LEARNING

Time: 3Hours   Max.Marks:70
SECTION-A
2. Answer ALL questions   **(10x2 = 20 Marks)**
   a) Define Artificial Intelligence (AI).
   b) Define Rational Agent
   c) Define Architecture.
   d) Define Information Gathering..
   e) What is order Logic?
   f) Define Forwed Chaining.
   g) What is autonomy?
   h) Define Classical Planning
   i) What is supervised Learning?
   j) Define Mental Objects.

SECTION-B
Answer Five Questions Choosing One Question from Each Unit.
All Questions Carry Equal Marks.   **(5×10=50Marks)**

2a)What is AI? Discuss the Heuristic Search Techniques for solving problems.(BTL1)
                    (or)
b) Discuss Problem Solving Agents with Examples. (BTL6)

3a)Explain the Syntax and Semantics of First Order Logic.(BTL2)
                    (or)
b)Demonstrate the concept of resolution with an example.(BTL2)

4a)Explain how to design algorithms for Planning as State Space Search. (BTL2)
                    (or)
b)Discuss Onto logical Engineering in Knowledge Representation.(BTL6)

5a)Describe Learning Decision Trees and Evaluating and Choosing Best Hypothesis.(BTL2)
                    (or)
b) Explain Policy Search and Applications of Reinforcement Learning.(BTL2)

6a)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	20CS4E1	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:

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. ApplyingconceptsofThreads,ProcessSynchronization&CUPScheduling.(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	**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. **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 Intex x86 Processor	12
II	**Cloud Computing Services:** Infrastructure as a Service – Platform as a Service Language and Pass – Software as a Service – Database as a Service. **Open Source Cloud Implementation and Administration:** Open-source Eucalyptus Cloud Architecture – Open-source Openstack Cloud Architecture.	10
III	**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. **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).	14

IV	**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 In adequat 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 . **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 .	10
V	**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 Cloud Applications : What Not to do - Static code analysis for cloud applications – Developing Synchronous and Asynchronous Cloud Applications . **Mobile Cloud Computing :** Definition of Mobile Cloud Computing – Architecture of Mobile Cloud Computing – Benefits of Mobile Cloud Computing Mobile Cloud Computing Challenges.	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
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)
    2.a) Explain virtualization mechanisms
           (Or)
     b) Write about peer-to-peer network families?

    3.a) Explain cloud computing Services?
           (or)
     b) Explain open-source Eucalyptus Cloud Architecture.

    4. a) Explain NOSQL system.?

           (or)
    b) Explain fundamental requirements for Cloud Application Architecture.

    5. a) Explain Authentication management in the cloud?

           (or)
    b) What is utility computing? Explain utility model for cloud web services.?

    6.a) Explain how to manage a Cloud Application?

           (or)
    b) Write about Mobile Cloud Computing Challenges

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	20CS4P1	2020-21

Total No of Hours for Teaching – Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
60 Hours	**Theory**	**Practical**	**3 Hours**	**CIA**	**SEE**	**4**
	4	**-**		**30**	**70**	

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 **other than Computer Related Course** (4 **Credits Equivalent**) from MOOC's platforms like NPTEL, SWAYAM etc.
- The Student is excepted 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.