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

Accredited by NAAC with "A" Grade 2022-23



DEPARTMENT OF ZOOLOGY MINUTES OF BOARD OF STUDIES ODD SEMESTER 22-10-2022



Minutes of the meeting of Board of studies in Zoology for the Autonomous courses of AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru, held at 3:00 pm on 22-10-2022 in the Department of Zoology.

S.No	Name	Designation	signature
1.	Smt. D.A.Kiranmayee Head, Department of Zoology A.G&S.G.S Degree College Vuyyuru	Chair person	D.A.Kiranmayee
2	Smt. Dr.L.Suseela Bio Sciences & Bio technologyKrishna University Machilipatnam.	University Nominee	Dr.L.Suseela
3.	Sri Dr.M.Vijay kumar Head,Department of Zoology SRR & CVR Govt. Degree College, Vijayawada.	Subject Expert	<u>m.V.jos</u> Dr.M.Vijay kumar
4.	Sri Ch. Venkateswaralu, Head, Department of Zoology, P.B. Siddhartha College, Vijayawada.	Subject Expert	<u>Ch. Venkateswaralu,</u>
5.	Sri.B. Appala Naidu, Asst. Project Manager, RGCA Manikonda.	Industrialist	B. Appala Naidu,
6.	Smt. K. Padmaja, Lecturer in Zoology, A.G&S.G.S Degree College Vuyyuru-	Member	<u>k. puclunj</u> K. Padmaja,
7	Smt. Dr.V.Subhashini, Lecturer in Zoology, A.G & S.G.S Degree College Vuyyuru-	Member	<u>U.S.e.Uk.aslii</u> Dr.V.Subhashini
8	Sri.Ch.Chiranjeevi, P.hd –Research Scholar, Dept.of Botany & Microbiology, Acharya Nagarjuna University Guntur.	Student Represent	Ch.Chiranjeevi,

ZOOLOGY

Agenda for B.O.S Meeting.

1. To recommend the syllabi (Theory & Practical), Model question paper for I Semester of IB.Sc (B.Z.C) for the academic year 2022 - 2023.

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

3. To introduce Skill enhancement course the syllabi (Theory & Practical), Model question paper for VSemester of IIIB.Sc (B.Z.C) for the academic year 2022 - 2023.

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

5. Tointroduce LifeSkill Course – Health and Hygiene forII year students in this academic year 2022-23.

6. To introduce Value added course (Theory, Model question paper) for VSemester of III B.Sc(B.Z.C) for the academic year 2022 - 2023.

7. To recommend the teaching and evaluation methods to be followed under Autonomousstatus.

8. Any other matter.

D. A. Winmayee

Chairman.

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 I semester of I B.Sc. (B.Z.C) under Choice Based Credit System (CBCS) approved by the Academic Council of 2022 - 2023.

2. It is resolved to follow the changedsyllabi (Theory & Practical), model question paper & guide lines to be followed by the question papers under Choice Based Credit System (CBCS) setters of Zoology of III Semester of II B.Sc. (B.Z.C) for approval by the Academic Council of 2022 –2023. The new paper introduced is Cell Biology, Cellular Metabolism, Genetics, Organic Evolution and Animal Behaviour

3. It is resolved to implement the new syllabi & model papers under Choice Based Credit System (CBCS) of Zoology of V semester SEC – 6 (Sustainable Aquaculture Management) and SEC – 7A(Postharvest Technology of fish and Fisheries) of III B.Sc. (B.Z.C) approved by the Academic Council of 2022-2023.

4.It is resolved to continue thesame Blue prints of I, III, &V Semesters of B.Sc Zoology for the Academic year 2022-2023.

5. It is resolved to implement Life Skill Course for II-year students. of III SEM

6. It is resolved to implement Value added Course for III-year studentsof V SEM

7. It is resolved to continue the following teaching & evaluation methods for the year 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 ,IIIB.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, III B.SC.
- Out of maximum 100 marks in each paper for II B.Sc, 25 marks shall be allocated for internal assessment.
- ✤ Out of these 25 marks, 15 marks are allocated for announced tests (i.e. IA-1& IA-2). Two announced tests will be conducted and average of these two tests shall be deemed as the marks obtained by the student, 5marks allocated on assignment and reaming 5 marks seminar for III semester. There is no pass minimum for internal assessment for I, II, III B.Sc.

Semester – End Examination:

- The maximum mark for I&III (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, III, & V semester for I, II & III B.Sc.
- Discussed and recommended for organizing Value added course, Seminars, Guest lectures, Work Shops to upgrade the Knowledge of students, for the approval of the Academic Council.

D. A. (civunnayee \div

Chairman

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

		ALLUCATION OF C	<u>, KEDI 15</u>			
Yea r	Semester	Title	Teachi ng hours	Interna l marks	Externa l marks	Credit
		Animal Diversity – I				
	Ţ	Biology of Non-Chordates	4	25	75	03
Ι		Animal Diversity –Biology of Non-Chordates – Practical - I	2	10	40	02
II	III	Cell Biology, Cellular Metabolism, Genetics, Organic Evolution and Animal Behaviour	4	25	75	03
		Cell Biology, Cellular Metabolism, Genetics, Organic Evolution and Animal Behaviour Practical - III	2	10	40	02
	III	Health and Hygiene	2	10	40	02
	SEC-	SUSTAINABLE AQUACULTURE MANAGEMENT	3	30	70	03
III	6(A) V(501)	Practical – 501p SUSTAINABLE AQUACULTURE MANAGEMENT	3	25	25	02
	SEC-	POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES	3	30	70	03
	7(A) V(502)	Practical – 502p POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES	3	25	25	02
		6B LIVE STOCK MANAGEMENT-I (BIOLOGY OF DAIRY ANIMALS	3	30	70	3
		Practical paper-6B Biology of Dairy Animals	3	25	25	2
		7B LIVE STOCK MANAGEMENT -II (DAIRY PRODUCTION AND MANAGEMENT)	3	30	70	3
		Practical paper-7B Dairy products and management	3	25	25	2
		POULTRY MANAGEMENT- I (POULTRY FARMING)	3	30	70	3
		POULTRY MANAGEMENT- II (POULTRY PRODUCTION AND	3	25	25	2

MANGEMENT

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 Non – Chordates

Semester: - I

Course Code	ZOOT11A	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%

<u>AIM</u>

• To know the biodiversity of invertebrates

LEARNING OBJECTIVES

• To understand the structural organization of animals from Protozoa to Hemichordate

• To understand the evolutionary relationship of different phyla from Protozoa to Hemichordate

• To understand the specific phenomena exhibited by different groups of invertebrates from Protozoa to Hemichordate

• To understand the taxonomic position and affinities of certain groups of invertebrates AsConnecting links

• To study the life cycles, and pathogenicity of certain

<u>PREREQUISITE</u>

• Knowledge of invertebrates acquired in Intermediate

COURSE OUTCOMES

By the end of the course students will be able to

CO 1 Gain knowledge in the fundamental concepts underlying the structural complexity in the organization of invertebrates.

CO 2 Understand biology and pathogenicity of parasites and their adaptations analyse remedial and preventive measures and promote the same in public domain.

CO 3 Appreciate and evaluate the economic, commercial, medicinal and culture

importance of invertebrates and their larval stages in relation to phylogeny CO 4 Describe the significance of connecting links in understanding the concept of evolution

CO 5 Explain the significance of specific phenomena in different group's of invertebrates in relation to their adaptability for survival

CO 6 Comprehend the systems biology of individual phyla with a specific type study and understand the origin and evolutionary relationship of differentphyla and appreciate the uniqueness of individual phyla.

Syllabus Course Details

Unit	Learning Units	Lecture Hours
	PROTOZOA AND PORIFERA	
	Introduction to Non-chordates – Origin of metazoans	
	Type study: <i>Polystomella</i> (structure and life cycle)	13
т	Locomotion in protozoans	
1	Nutrition in protozoans	
	Type study: <i>Sycon</i> (Structure, histology and skeleton)	
	Canal system in sponges	
-	CNIDARIA AND CTENOPHORA	
	Type study: <i>Obelia</i> . (Structure – polyp and medusa and life cycle)	10
II	Polymorphism in cnidarians.	
	Corals and coral reefs	
	Ctenophora (structure and affinities)	
	HELMINTHES AND ANNELIDA	
	Type study: Fasciola hepatica (Structure, reproduction, life cycle	
	and pathogenicity)	17
	Parasitic adaptations in helminthes	
III	Type study: Ascarislumbricoides(Structure, reproduction, life cycle	
	and pathogenicity)	
	Type study: <i>Hirudineria</i> (Structure, circulatory, excretory and	
	reproductive systems)	
	Coelom and coelomoducts in annelids	
	ARTHROPODA AND MOLLUSCA	
	Structural affinities of Onycophora	14
	Type study: <i>Macrobrachiumrosenbergii</i> (Structure, appendages and	
	Respiratory system)	
IV	Economic importance of insects (Beneficial – Lac insect, honey	
1 4	bee, <i>Bombyxmori</i> and Lady bird; Harmful – house fly, mosquito,	
	locustand bedbug)	
	Metamorphosis in insects	
	Study of Pearl Oyster and Pearl Formation	
	Torsion in gastropods	
	ECHINODERMATA AND HEMICHORDATA	_
V	Water-vascular system	6
	Echinoderm larvae	
	Balanoglossus- Structure and affinities	

TEXTBOOKS

1. R.L. Kotpal, Modern Text Book of Zoology - Invertebrates.

2. P.S. Dhami and J.K. Dhami Invertebrate Zoology.

<u>SUGGESTED READINGS</u>

1. L.H. Hyman, '*The Invertebrates' Vol I, II and V.* – M.C. Graw Hill Company Ltd.

2. Ruppert, Fox and Barnes, *Invertebrate Zoology - A Functional Evolutionary Approach* - Thomas Publishers.Indian Edition.

3. E.L. Jordan and P.S. Verma' *Invertebrate Zoology*'S. Chand and Company.

- 4. R.D. Barnes 'Invertebrate Zoology' by: W.B. Saunders CO., 1986.
- 5. Barrington. E.J.W. 'Invertebrate Structure and Function' by ELBS.

6. Sedgwick. A. 'A Student Text Book of Zoology' Vol-I, II and III – Central Book Depot, Allahabad.

7. Parker.T.J. & Haswell 'A Text Book of Zoology' by, W.A., Mac Millan Co.London.

CO-CURRICULAR ACTIVITIES

- Preparation of chart/model of *Elphidium*life cycle
- Visit to Zoology museum or Coral island as part of Zoological tour
- Charts on life cycle of Obelia, polymorphism, sponge spicules
- Clay models of canal system in sponges
- Preparation of charts on life cycles of FasciolaandAscaris
- Visit to adopted village and conducting awareness campaign on diseases, to people as part of Social Responsibility.
- Plaster-of-Paris or Thermocol model of Peripatus

• Construction of a vermicompost in each college, manufacture of manure by students and donating to local farmers

- Models of compound eye, bee hive and terminarium (termitaria) by students
- Visit to apiculture centre and short-term training as part of apprenticeship programme of the govt. of Andhra Pradesh
- Chart on pearl forming layers using clay or Thermocol
- Visit to a pearl culture rearing industry/institute
- Live model of water vascular system
- Phylogeny chart on echinoderm larvae and their evolutionary significance

• Preparation of charts depicting the feeding mechanism, 3 coeloms, tornaria larva etc., of *Balanoglossus*

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

I SEMESTER END EXAMINATIONS

PAPER – I MODEL PAPERCours Code: ZOOT11A Title of the paper: Animal Diversity Biology of Non – Chordates	
Time: 3 Hours	Max. Marks: 70
Answer ALL the following questions 5X14=70m	
 a) .Explain the different types of nutrition in protozoans. 10M b)Describe the structure of Polystomella 4M OR 	CO5, L2 CO 1, L1
c).Explain the different types of canal system in sponges 10Md) List out the different types of cells in sponges 4M	CO5, L2 CO1, L1
 2. a) Evaluate the process of metagenesis in the life cycle of <i>Obelia</i>. 10M (b) .Describe<i>Obelia</i> medusa 4M CO1, L1 	CO1, L5
 c) Evaluate how ctenophores differ structurally from cnidarians. 10M d) Describe Corals and coral reefs 4M CO1, L1 	CO1, L5
 3 (a) Describe the life cycle of <i>Ascarislumbricoides</i>. 10M (b) Explain the significance of coelom in annelids 4M OR 	CO2, L2 CO2, L2
c) Describe the reproductive system of <i>Hirudinaria</i>.d)Explain the Flame cells in <i>Fasciola hepatica</i> 4M	CO2, L2 CO3, L2
 4. a) Enumerate the economic importance of insects 10M b) Explain the process of pearl formation and its significance 4M OR 	CO3, L1 CO5, L2
c). Describe torsion in gastropods as significant in larval development 10	M
d).Structural affinities of Onycophora4M	CO4, L4
5.a) Analyze the functional suitability of water vascular system in echinodernb) Explain bipinnaria larva in relation to phylogeny 4MOR	ns10M CO5, L4 CO3 ,L2
c).Examine the structural affinities of <i>Balanoglossus</i> .10M d). <i>Peripatus</i> is a connecting link. Analyze4M	CO4, L4 CO4,L4

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

PRACTICAL- I (At the end of I Semester)

Title of the paper: Animal Diversity Biology of Non – Chordates

No of Hours: 30	Credits: 02
WEF: 2021-2022Course Code: ZOO P11A	

LEARNING OUTCOMES:

By the end of the course students will be able to

- 1. Understand the general characters and classification from Protozoa to Hemichordata
- 2. Understand the importance of preservation of museum specimens
- 3. Identify animals based on special identifying characters
- 4. Understand different organ systems through demo or virtual dissections
- 5. Maintain a neat, labeled record of identified museum specimens
- 6. Exhibit the hidden creative talent

COURSE OUTCOMES

CO1 To identify the characteristics and systematic position of protozoans and poriferans PO1, PO2, PO5, PO6, PO7, PSO1

CO2 To identify the characteristics and systematic position of Cnidarians and Helmenthes.PO1, PO2, PO5, PO6, PO7, PSO1

CO3 To identify the characteristics and systematic position of Annelids, Arthropodans and Molluscans. PO1, PO2, PO5, PO6, PO7, PSO1

CO4 To identify the characteristics and systematic position of Echinoderms and hemichordates. PO1, PO2, PO5, PO6, PO7, PSO1

CO5 To understand the various systems of Prawn by Dissecting and Mounting its appendages.PO1, PO2, PO5, PO6, PO7, PSO1

Syllabus Course Details

Unit	Learning Units
	General characters and classification of the following phyla and sub-phyla up to
Syllabus	classes withsuitable examples: Protozoa, Porifera, Cnidaria, Platyhelminthes,
	Nematoda, Annelida, Arthropoda, Mollusca, Echinodermata and Hemichordata.
	SDOTTEDS
	SPOTTERS Porífera: Eusponaia Sponailla Sycon
	Cnidaria: Physalia Velella Aurelia Gorgonia Pennatula
	Annelida: Narais Hataronarais Anhrodita Hirudinaria
	Arthropoda: Scylla Macrobrachium Scolopendra Sacculina Limulus
Ι	Scorpion Perinatus
	Mollusca: Chiton Murex Unio Sepia Loligo Octopus Nautilus
	Echinodermata: Asterias Ophiothrix Echinus Clypeaster Cucumaria
	Antedon
	Hemichordata: <i>Balanoglossus</i>
	<u>SLIDES</u>
	Protozoa: Elphidium, Paramoecium, Paramoecium - Binary fission and
	conjugation, Vorticella, Entamoebahistolytica, Plasmodium vivax
	Porifera: T.S and L.S. of Sycon, spicules, gemmule
	Cnidaria: Obeliacolony and medusa,
	Platyhelminthes: Planaria, Fasciola hepatica, Fasciolalarval forms
т	(Miracidium, Redia, Cercaria) Echinococcus granulosus, Taeniasolium
11	Nematoda: Ascarislumbricoides (male and female), Ancylostomaduodenale
	(male and female), Dracunculus, Wuchereria
	Annelida: Trochophore larva
	Arthropoda: Mouthparts of housefly, butter fly, male and female Anopheles and
	Culex, Crustacean larvae (nauplius, mysis, zoea)
	Mollusca: Glochidium larva
	Echinodermata: Bipinnarialarva
	Hemichordata: Tornaria larva
	DEMONSTRATION OF DISSECTIONS
	1. Flawii. Nervous system Mounting of statocyst
III	Mounting of appendages
	2 Mounting of Insect mouth parts
	• Animal Album to be submitted at the time of practical examination
	• Laboratory Record Book to be submitted at the time of practical examination
Suggester	A Manuals
1. Practic	al Zoology- Invertebrates S.S.Lal
2. Practic	al Zoology - Invertebrates P.S.Verma
3. Practic	al Zoology K.P.Kurl

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 - I Title of the paper: Animal	Course Code: ZOO P11A Diversity Biology of Non – Chordates		
Time: 3hrs.	Ν	Iax. Marks 40N	I
 List out the general ch Identify and draw a ne CO 4 L3 Identification: Diagram: Labeling: 	haracters of Phylum CO1 L1 a eat labeled diagram of nervous system/ap 1 M 4 M 2 M	3 M pendages of p	rawn.7M
2. Prepare a neat mount CO4 L3 Mounting: Diagram: Labeling:	of statocyst/ mouth parts of cockroach. 2 M 1 M 2 M	5 M	
 3. Identify, draw a labele CO3 L2 A. Protozoa & Porifera B. Cnidaria& Platyhelm C. Nematoda& Annelida D. Arthropoda E. Mollusca, Ecinoderm 	ed diagram, classify and write notes on A inthes a ata&Hemichordata	A, B, C, D and 5 X 3 = 15 M	E
Identification: 1 M Diagram: ¹ / ₂ M Classification: ¹ / ₂ M Comments: 1 M			
4. Practical Record Bool	x CO5 L3	5 M	
5. VIVA CO6 L5			5M

Total Marks :- 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: Cell Biology, Cellular Metabolism, Genetics, Organic Evolution and Animal Behaviour Semester: - III

Course Code	ZOOT31A	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:100%

COURSE OUTCOMES:

CO1	To understand the basic unit of the living organisms and to differentiate the
	organisms by their cell structure. Describe fine structure and function of
	plasma membrane and different cell organelles of eukaryotic cell.
CO2	To understand the history of origin of branch of genetics, gain knowledge on
	heredity, interaction of genes, various types of inheritance patterns existing
	in animals
CO3	Acquiring in-depth knowledge on various of aspects of genetics involved in
	sex determination, human karyotyping and mutations of chromosomes
	resulting in various disorders
CO4	Understand the central dogma of molecular biology and flow of genetic
	information from DNA to proteins.
CO5	Understand the principles and forces of evolution of life on earth, the process
	of evolution of new species and apply the same to develop new and advanced
	varieties of animals for the benefit of the society

Syllabus Course Details

Unit	Learning Units	Lecture Hours
Ι	Cell Biology : Electron microscopic structureofanimalcell. Structure and functions of Golgi complex, Endoplasmic Reticulum AndLiposome's Structure and functions of Ribosome's and Mitochondria Structure and functions of Chromosomes (Polygene and Lamp brush chromosomes) Structure and functions of Nucleus and its components	14
II	CELLULAR METABOLISM Bio molecules Carbohydrates - Classification of carbohydrates; Structure of glucose Proteins - Classification of proteins; General properties of amino acids Lipids - Classification of lipids 1 Hour Carbohydrate metabolism – Glycogen metabolism, Gluconeogenesis Protein metabolism-Transamination, Deamination and Urea Cycle	11
III	GENETICS Gene interactions (lethal genes, Epistasis & Pleiotropy) DNA damage and repair Human karyotyping and amniocentesis Autosomal and allosomal disorders (Klinefelter syndrome, Turner Syndrome,Down syndrome, Phenylketonuria, Alkaptonuria & Sickle cell anaemia)	11
IV	ORGANIC EVOLUTIONModern synthetic theory of evolutionVariationsIsolating mechanismsTypes of natural selection (directional, stabilizing & disruptive)Artificial selectionSpeciation – allopatry and sympatry.Microevolution vs. Macroevolution (Example: Darwin finches)	10
V	ANIMAL BEHAVIOUR Ethology and its branches. Concepts of Ethology (motivation, fixed action patterns, releasers, learning) Biological clocks Biological rhythms (Circadian, Circalunar and Circannular) Sexual behavior in animals (Intra sexual selection & Inter sexual selection) Coloration & Mimicry	14

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

 Semester III.w.e.f. 2022-2023

 (Model question paper)

 Title of the paper:Cell Biology, Cellular Metabolism, Genetics, Organic Evolution and Animal Behaviour

 Code – ZOOT31A

 Time: 3hrs.
 max.marks: 75

<u>Section – A</u>

 $4 \times 5 = 20.$

Answer any <u>four</u> questions. Each question carries <u>five</u> marks. Draw neat labeled diagrams wherever necessary.

Draw neat labeled diagrams wherever necessary.

SECTION –A

Answer and **FIVE** of the following

- 1. General properties of amino acids CO2, L2
- 2. Explain Urea Cycle CO2, L2
- 3. Klinefelter syndrome **CO3**, **L2**
- 4. Epistasis CO3, L2
- 5. Industrial melanismCO4, L2
- 6. Allopatry and sympatryCO4, L1
- 7. Classical conditioning **CO5**, **L2**
- 8. Circadian rhythms CO5, L2

SECTION – B

Answer any FIVE of the following

5X10=50 Marks

5x5=25 Marks

9. Write electron microscopic structure of animalcell **CO1, L6** OR

Explain the structure and functions of polytene and lamp brush chromosomes. CO1, L2

10. What are Carbohydrates? Write the classification of Carbohydrates. **CO2, L6** OR

Write an essay on Protein Metabolism. CO2, L6

11. Give an account on Gene Interactions. CO3, L2

OR

Narrate an essay on autosomal and allosomal disorders. CO3, L2

- 12. Write an essay on Isolating mechanisms. CO4, L6
- OR

Explain modern synthetic theory of evolution. CO4, L2

13. Elucidate the biological rhythms in animals. .CO5, L1

OR

Give an account of the types of mimicry in animals. CO5, L6

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

.Title:-Cell Biology, Cellular Metabolism, Genetics, Organic Evolution and Animal Behaviour. Code: ZOOP31A Credits:- (02) MAX.MARKS: 40 2hrs/week)

SYLLABUS

Learning Objectives:

- Acquainting and skill enhancement in the usage of laboratory microscope
- Hands-on experience of different phases of cell division by experimentation
- Develop skills on human karyotyping and identification of chromosomal disorders
- To apply the basic concept of inheritance for applied research
- To get familiar with phylogeny ad geological history of origin & evolution of animals.

I. CellBiology

- 1. Preparation of temporaryslides of Mitotic divisions with onion root tips
- 2. Observation of various stages of Mitosisand Meiosis using permanent slides
- 3. Mountingofsalivarygland chromosomes of Chironomous

II. Cellular Metabolism

- 1. Estimation of total proteins in given solutions by Biurette method.
- 2. Estimation of total carbohydrate byTrinder's method.

III. Genetics

A, B, O blood typing. Problems based on Blood grouping.

Karyotyping of human chromosomes [Human karyotype figure on paper should be cut in to different sets of chromosomes and students are asked to arrange them in an order and comment on the ideogram]

Identification of genetic syndromes given on charts.

Pedigree Analysis

IV. Evolution

- 1. Study of fossil evidences
- 2. Study of homology and analogy from suitable specimens and pictures
- 3. Phylogeny of horse with pictures
- 4. Darwin finches (pictures)

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

PAPER – III

Title: Cell Biology, Cellular Metabolism, Genetics, Organic Evolution and Animal Behaviour

w.e.f.2022-23.

Time:3hrs *Model Question paper (External)*Max.Marks: 40 M. Paper Code: ZOOP31A

Describe ABO blood typing. Identify the given sample.CO3,L27M
 Procedure 04

 Slide Preparation 02
 Result 01

- 2. In Holstein cattle the spotting of the coat is due to a recessive gene while a solidcoloured coat isdominant. What types of offspring might be produced by a cross between two spotted animals? Show how you reach your conclusion. The gene P is responsible for coat pattern. **CO3,L45M**
- 3. Identify, draw a labelled diagram and write a comment upon A, B, C, D and E. **5** X **3=15M**

CO1, CO2, CO3, CO4, CO5, L1

- A. Down syndrome
- B. Parental care in *Hippocampus*
- C. Protective colouration in Octopus
- D. Bee hive
- E. Cedaroid
- Identification 1
- Diagram 1
- Characters 1

4. Field Note book	03M
5. Viva	05M
6. RECORD	05M

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:SUSTAINABLE AQUACULTURE MANAGEMENT Semester: - V

Course Code	ZOO-501	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:100%

LearningOutcomes: -Students at the successful completion of this course will be able to

CO1:Evaluate the present status of aquaculture at the Global level and Nationallevel

CO2:Classify different types of ponds used inaquaculture

CO3:Demonstrate induced breeding ofcarps

CO4:Acquire critical knowledge on commercial importance ofshrimps

CO5:Identify fin and shell fishdiseases

Syllabus Course Details

Unit	Learning Units	Lecture Hours
Ι	Present status of Aquaculture – Global and National scenario, Major cultivable species for aquaculture: freshwater, brackish water andmarine. Traditional, extensive, modified extensive, semi-intensive and intensive cultures of fish and shrimp. Design and construction of fish and shrimp farms.	15
II	 Functional classification of ponds – head pond, hatchery, nurseryponds. Functional classification of ponds -rearing, production, stocking and quarantineponds. Need of fertilizer and manure application in cultureponds. Physio-chemical conditions of soil and water optimum for culture (Temperature, depth, turbidity, light, water, PH, BOD, CO2 andnutrients) 	15
III	Induced breeding infishes Culture of Indian major carps:Pre-stocking management (Dewatering,drying, ploughing/desilting; Predators, weeds and algal blooms and their control, Liming andfertilization) Culture of Indian major carps - Stockingmanagement Culture of Indian major carps - post-stockingmanagement	10
IV	Commercial importance of shrimp &prawn <i>Macrobrachiumrosenbergii</i> - biology, seedproduction. Culture of <i>L. vannamei</i> – hatchery technology and culturepractices Mixed culture of fish andprawns.	10
V	Viral diseases of Fin Fish & shellfish Fungal diseases of Fin & Shellfish Bacterial diseases of Finfish & Shellfish Prophylaxis inaquaculture	10

A.G& S.G.S.DEGREECOLLEGE OF ARTS & SCIENCE, VUYYURU – 521165, KRISHNA Dt., A.P. (AUTONOMOUS) SEMESTER V (Model Question paper)

SEMESTER-V (Model Question paper)

Paper Title: SUSTAINABLE AQUACULTURE MANAGEMENT Paper Code: ZOO 501C Time: 3 hrs. Max. Marks: 70 w.e.f.- 2022-2023

<u> Part – A</u>

Answer **any FOUR** questions out of eight in Part - A. Each question carries five marks. 4X5=20

<u>Part – A</u>

1 .Traditional culture

2Semi-intensive

3.Head pond

4.stockingponds.

5.Predators

6.Liming

7. Macrobrachiumrosenbergii

8. Bacterial diseases of Finfish

<u> Part – B</u>

Answer **any FIVE** questions out of eight in Part - B .Each question carries Ten marks. 5X10=50

9. Write an essay on Cultivable species for aquaculture from fresh water brackish water

Marinewater.?

- 10. Write an essay on Design and construction of fish form?
- 11. Explain about Rearing pond?.
- 12. Write about water quality and soil characteristics suitable for fish culture?.
- 13. Give an account of Induced breeding infishes?
- 14. Write in detail about the post-stockingmanagement.
- 15. Write an essay on.Seedproduction?
- 16. Discuss about the Bacterial diseases of Finfish and shell fish?

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

Time: 3 hrs

SEMESTER-V

Guide lines to the paper setter
Paper Title:SUSTAINABLE AQUACULTURE MANAGEMENT Paper Code: ZOO -501C
Max.Marks:70m.

Note: 1. Answer<u>any FOUR</u> questions out of eight in Part-A. Each question carries five marks. 4X 5 = 20M.

2. Answer any **<u>FIVE</u>** questions out of eight in Part-B. Each question carries 10 marks. $5 \times 10 = 50M$.

	PART	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
5 Marks Questions	Α	2	2	2	1	1
10 Marks Questions	В	2	2	2	1	1
Weightage		30	30	30	15	15

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

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

- I. References:
- 1. Pillay TVR &M.A.Dill, 1979. Advances in Aquaculture. Fishing News Books Ltd.,London
- Stickney RR 1979. Principles of Warm Water Aquaculture. John Wiley & SonsInc.1981
- 3. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsivier Scientific PublishingCompany.
- 4. Bose AN et.al. 1991. Costal Aquaculture Engineering. Oxford &IBH Publishing Company Pvt.Ltd.

Web Links:

- 1. <u>http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/</u><u>x6708e/x6708e06.htm</u>
- 2. <u>http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf</u>
- 3. <u>https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control- fishery/871</u>

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: ZOO- 501PMAX.MARKS: 50M (2hrs/week)Credits: 02

(30 hrs) Sustainable Aquaculture Management

PRACTICAL SYLLABUS

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

- ✤ · Identify the characaters of Fresh water cultivable species
- ◆ · Etimatephysico chemical characateristics of water used for aquaculture
- \bullet · Examine the diseases of fin and shell fish
- ✤ Suggest measures to prevent diseases in aquaculture

Practical (Laboratory) Syllabus:

1. Fresh water Cultivable species any (Fin & Shell Fish Specimens – Observation of morphological characters by observation and drawings)-5

2. Brackish water cultivable species (Fin &Shell fish- Specimens- Observation of Morphological Character by observing drawing) -5

3.Hands on training on the use of kits for determination of water quality in aquaculture (DO,

Salinity, pH, Turbidity- Testing kits to be used for the estimation of various parameters/ Standard procedure can be demonstrated for the same)

4. Demonstration of Hypophysation (Procedure of hypophysation to be demonstrated in the

Practicallab with any edible fish as model)

5. Viral diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of viral pathogens in fin/ shell fish – one edible specimen can be used for observation of same in the laboratory)

6.Bacterial diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)

7. Fungal diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)

VI. Lab References

- 1. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsevier Scientific Publishing Company
- 2.<u>http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6708e</u> /x6708e06.htm
- 3. http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf
- 4. <u>https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control fishery/871</u>

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. 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 laboratory/field fornotlessthan15 hours on Breeding- Induced breeding in carps -hatchery technology of *L. Vennami*-Farming techniques- disease diagnostic techniques—concepts –Demonstration @ any aqua laboratory .
 - 2. For Student: Students shall (individually) visit a Hatchery/Farm/ Aqua diagnostic centerand make careful observations of the process method and implements- protocols and report on thesame in 10 pages hand written Fieldwork/Project work Report.

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 acknowledgements5. (IE).Unit tests.

b) Suggested Co-Curricular Activities

- 1. Preparation of Model/Charts of Cultivable species of fin fish shell fish
- 2. Preparation of Model/Chart of Ideal fish Pond- with the standards prescribed.
- 3. Observation of aquaculture activities in their area (Observation of any activity related to aquaculture in the vicinity of the college/village)

4. Preparation of Model – charts of Fin /Shell fish Diseases with eco-friendly material.

5. Assignments, Group discussion, Seminar, Quiz, Collection of Material, Video preparation etc., Invited lecture

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

Guide lines for the practical Examiner

W.e.f.2022-2023 Class: III B.Z.C Paper Title: Paper: Sustainable Aquaculture ManagementCode: ZOO-501P Credits:(02)Max.Marks: 25 M. 1. Spotters: Identify, draw neat labeled diagram and comment on 5X2=10 m A, B, C,D & E 2. Estimation of Dissolved Oxygen in given water sample 5m 3.. Procedure of hypophysation4 m 4. Commenton identification and study of Bacterial, viral and fungal diseases in edible fishes 3X2=6m A.B & C Total --25M A. G.& S.G. SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165 **ZOOLOGY PRACTICAL -V** (INTERNAL) w.e.f. 2022-2023. (2hrs/week). Sustainable Aquaculture Management Code: ZOO-501P. Max.marks:25M. Time: 3hrs.

1.	Attendance	 5M.
2.	Record	 10M.
3.	Assignments	 -10M.

Total ----- 25M.

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

NAAC reaccredited at 'A 'level Autonomous –ISO 9001-2015 Certified Title of the Paper:**POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES** Semester: - V

Course Code	ZOO-502	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: 100%

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 Course Details

Unit	Learning Units	Lecture Hours
Ι	 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 freshwater 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, <i>Codex Aliment Arius</i> .	12

A.G& S.G.S.DEGREECOLLEGE OF ARTS & SCIENCE, VUYYURU – 521165, KRISHNA Dt.,A.P. (AUTONOMOUS) SEMESTER-V (Model Question paper)

Paper Title: POSTHARVEST TECHNOLOGY OF FISH AND FISHERIESw.e.f.- 2022-2023Paper Code: ZOO 502Time: 3 hrs. Max.Marks:70 m.

<u>Part – A</u>

Answer **any FOUR** questions out of eight in Part - A. Each question carries five marks. 4X5=20

<u>Part – A</u>

1.Post mortem changes

2 Cleaning,

3.Sun drying,

4.Canning,

5.Chitosan

6.Pre-processing control,

7. Good Manufacturing Practices

8. Codex Aliment Arius.

<u> Part – B</u>

Answer **any FIVE** questions out of eight in Part - B .Each question carries Ten marks. 5X10=50

09. Give a detailed account on handling of fresh fish and storage fish

10. Describe the processes principles of preservation

- 11. Explain Traditional methods of fish drying
- 12. Explain any four fish products?
- 13. Describe any four fish by products?
- 14. Give a detailed note on sanitation in processing plant.
- 15. Describe the process of quality control in processing plants
- 16. Write about National and International standards for quality control. ?

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

SEMESTER-V

Time: 3 hrs

Guide lines to the paper setter Paper Title:POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES Max.Marks:70m

Paper Code: ZOO -502

Note: 1. Answer<u>any FOUR</u> questions out of eight in Part-A. Each question carries five marks.4X 5 = 20M.

2. Answer any **<u>FIVE</u>** questions out of eight in Part-B. Each question carries 10 marks. $5 \times 10 = 50M$.

	PART	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
5 Marks Questions	Α	2	2	1	1	2
10 Marks Questions	В	2	1	2	2	1
Weightage		30	20	25	25	20

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

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

III. References:

1. Santharam R, N Sukumaran and P Natarajan 1987. A manual of aquaculture, Oxford-IBH, NewDelhi

2. Lakshmi Prasad's, Fish Processing Technology 2012, Arjun Publishing House 3. Dr Sunitha Rai, Fish Processing Technology, 2015, Random Publications 4. Safety and Quality Issues in Fish Processing (Woodhead Publishing Series in Food Science, Technology and Nutrition)by H A Bremner

5. K.A Mahanthy, Innovations in Fishing and Fish Processing Technologies, January 2021 Web Resources:

1. http://ecoursesonline.iasri.res.in/mod/page/view.php?id=145743

2. <u>https://ecourses.icar.gov.in/e-Leaarningdownload3_new.aspx?Degree_Id=03</u>

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU-521165, KRISHNA Dt.,A.P. (AUTONOMOUS) <u>PRACTICAL - V</u> w.e.f. 2022-2023.Code: ZOO- 502PMAX.MARKS: 50. (2hrs/week)POSTHARVEST TECHNOLOGY OF FISH AND FISHERIESCredits: 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.

PracticalSyllabus:

- 1. Evaluationoffish/fisheryproductsfororganoleptic, chemicalandmicrobial quality.
- 2. Preparation of dried, cured and fermented fish
- 3. Examinationofsalt, protein, moisture indried/cured products
- 4. Examinationofspoilage ofdried/curedfishproductsmarinades,pickles, sauce.
- 5. Preparationofisinglass, collagen andchitosanfromshrimpandcrabshell.
- 6. Developingflowchartsandexercisesinidentificationofhazards-preparationof Hazardanalysisworksheet

7. Correctiveactionprocedures inprocessingoffish-flowchart-worksheetpreparation. 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,

b) Suggested Co-Curricular Activities

- 1. Observation of fish/shrimp processing plants visit web sites of processing companies and record the details of that Unit
- 2. Interaction with local fishermen to know the method of preservation and details with the available traditional technology

3. Collection of web resources on the Quality assurance, quality control measures in Aqua Industriescross checking the standards during the visit to any processing units. 4. Assignments, Seminar, Group discussion. Quiz, Collection of Material, Invited lecture, Video preparation etc.,

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

Guide lines for the practical Examiner

W.e.f.2022-2023

Class: III B.Z.C Paper Title: Paper: <i>POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES</i> Code: 2 Credits:(02)Max.Marks: 25 M.		
 Evaluation of fish/fishery products for organoleptic and microbial qual Preparation of dried and fermented fish Examination of salt in dried fish products Examination of spoilage of cured fish pickles . Preparation of isinglass shrimp and crab shell. 	lity. 6m 4m 5m 5m 5m 5m	

Total -- 25M

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

(INTERNAL) w.e.f. 2022-2023.

(2hrs/week).

Title:-**POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES** Code: ZOO-502P.

Max.marks:25M. Time: 3hrs.

1.	Attendance	5M.
2.	Record	10M.
3.	Assignments	10M.

Total ----- 25M.

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

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

Title of the Paper:<u>Health and Hygiene</u> Semester: - III

Course Code	LSCZOOT01	Course Delivery Method	Class Room/Blended Mode - Both
Credits	2	CIA Marks	00
No. of Lecture Hours/ Week	10	Semester End Exam Marks	50
Total Number of Lecture Hours		Total Marks	50
Year of Introduction :	Year of Offering 2022-2023	Year of Revision – 2021-23	Percentage of Revision: 0%

LIFE SKILL COURSE Course code: LSCZOOTO1	2022-2023	BA, B. Com (G), B.Com e- commerce,B.Com-Computers, A.B.C.,& B.Z.C
---	-----------	---

Learning Outcomes:

- To provide knowledge on different health indicators and types of hygienemethods
- To impart knowledge on different health care programmes taken up byIndia
- To make student understand the latest concepts of health such as HIA, EIA, SIA and SEA
- To enable student with disaster mitigationstrategies
- To create awareness on community health and hygiene
- To enrich knowledge on communicable and non-communicable diseases and their control
- To aware the student on the importance of food, social strategies, mental status and physical activities onhealth
- To introduce different community-based mobile apps on health to student and thereby to the community

Course Outcomes: On completion of this course, the students will be able to understand -

- What is a healthydiet
- How can we use available information to optimize ourdiet?
- Can nutrition be used for a healthylife?
- Is there a one-size-fits-all "good" diet or should we individualize our dietarygoals?
- Disaster management and responsiveness of public in pandemic and epidemic diseases
- Assess the impact of policies on health and hygiene Health measures to consider
- While travelling
- Awareness in public through digital media viz., mobileapps

Sv]	labus
$\sim j^{-1}$	

Course Details

Unit	Learning Units		
	Ι	BasicsofNutritionNutrition – definition, importance, Good nutrition and mal nutrition; BalancedDiet:Basics of MealPlanningCarbohydrates –functions, dietary sources, effects ofdeficiency.Lipids –functions, dietary sources, effects ofdeficiency.Proteins –functions, dietary sources, effects ofdeficiency.Brief account of Vitamins- functions, food sources, effects of deficiency;Macro and micro minerals –functions, effects of deficiency; food sources of Calcium,Potassium and Sodium; food sources of Iron, Iodine andZincImportance of water– functions, sources, requirement and effects ofdeficiency.	10
П	 <u>Health</u> Health - Determinants of health, Key Health Indicators, Environment health & Public health; Health-Education: Principles andStrategies Health Policy & Health Organizations: Health Indicators and National Health Policy of Govt. of India-2017; Functioning of various nutrition and health organizations in India viz., NIN (National Institution of Nutrition), FNB (Food and Nutrition Board), ICMR (Indian Council of Medical Research), IDA (Indian Dietetics Association),WHO-India, UNICEF-India National Health Mission: National Rural Health Mission (NRHM) Framework, National Urban Health Mission (NUHM)Framework Women & Child Health Care Schemes: Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+); Janani Shishu Suraksha Karyakaram (JSSK); Rashtriya Bal SwasthyaKaryakram(RBSK); India Newborn Action Plan (INAP); AdolecentHeatlh-Rashtriya Kishor SwasthyaKaryakram(RKSK) Disaster Management – Containment, Control and Prevention of Epidemics and Pandemics – Acts, Guidelines and Role of Government andPublic. 	10	
III	 <u>Hvgiene</u> Hygiene – Definition; Personal, Community, Medical and Culinary hygiene; WASH (WAter, Sanitation and Hygiene)programme Rural Community Health: Village health sanitation & Nutritional committee (Roles & Responsibilities); About Accredited Social Health Activist (ASHA); Village Health Nutrition Day, Rogi KalyanSamitis Community & Personal Hygiene: Environmental Sanitation and Sanitation in Public places Public Awareness through Digital Media - An Introduction to Mobile Apps of Government of India: NHP, Swasth Bharat, No More Tension, Pradhan Mantri SurakshitMantritva Abhiyan (PM Suman Yojana), My Hospital (Meraaspataal), India fights Dengue, JSK Helpline, Ayushman Bhava, Arogya Setu, Covid19AP 	10	

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

Semester –III

w.e.f. 2022-2023Time: 90 mins

(Model question paper)

<u>Title of the paper:Health and HygieneCode – LSCZOOT01</u> <u>max.marks: 40</u>

Section – A

Answer any <u>four</u> questions. Each question carries <u>five</u> marks. $2 \times 5 = 10$.

- 1. Balanced Diet
- 2. Vitamins
- 3. ICMR
- 4. Village Health Nutrition Day

<u>Section – B</u>

Answer any three questions. Each question carries Ten marks. $3 \times 10 = 30$

5. Define Nutrition and write it's importance?

6. What are Carbohydrates, write itsfunctions, dietary sources, effects ofdeficiency.

7. Define Health Explain the Determinants of health. ?

8. Write an essay on National Institution of Nutrition (NIN)?

9. Write an essay onCommunity & Personal Hygiene?

10. Give an accountPradhanMantri SurakshitMantritva Abhiyan (PM Suman Yojana)?

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

SEMESTER-III SKILL DEVELOPMENT COURSE

Guide lines to the paper setter Max.Marks:40

Time: $1^{1/2}$ hrs

Paper Title: Health and Hygiene Code – LSCZOOT01-.

Note: 1. Answer <u>any four</u> questions out of eight in Part-A. Each question carries five marks.2X 5 = 10M.

2. Answer any three questions out of five in Part-B. Each question carries 10 marks.3 X 10 = 30M.

	PART	Unit –I	Unit – II	Unit-III
5 Marks Questions	А	2	1	1
10 Marks Questions	В	2	2	2
Weightage		30	35	25

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

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