

Zoology semester plans



SEMESTER PLAN

1	Name of the Course	B.Sc.
2	Subject	ZOOLOGY
3	Paper Name	SEM-I Animal Diversity - Invertebrates
4	Paper Code	BS104
5	Name of the Chapter / Topic	Invertebrates - 9 Phyla - Protozoa, Porifera, Coelenterate, Platyhelminthes, Nematohelminthes, Annelida, Arthropoda, Echinodermata, Mollusca
6	Learning Outcomes	Upon successful completion, students will be able to: → Understand and communicate the major evolutionary innovations in invertebrate groups. → Describe the functional significance of associated morphologies and behaviours. → Analyse invertebrates in lab and use taxonomic keys for identification.
7	Faculty Name	B. PRANAVI

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular Activities etc	No of Hours
Unit-1 Title	General Characters and Classification	Teaching Aids: Blackboard, Diagrams, flowchart.	
(A) PROTOZOA	Type study - Elphidium locomotion, Reproduction Protozoan Diseases	Slides - Microscopic Examination	07
(B) PORIFERA	General Characters and Classification	Blackboard, flowcharts	
	Type study - Sycon, Canal system in Sponges. Spicules, Locomotion.	Slides - Microscopic examination	07
	Reproduction & life cycle		

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular Activities etc	No of Hours
Unit-2 Title (A) Cnidaria	General Characters and Classification	Diagram, Questioning	
	Type study of Obelia Polymorphism in Siphonophora.	A.V.aids, Specimens	
	Coral & Coral reefs.		05
(B) PLATY HELMINTHES	General Characters and Classification	Flowcharts, Life cycles.	
	Type study of Schistosoma	A.V.aids - Slides.	03
(C) NEMATI- HELMIN- THES	General Characters and Classification	Types study.	
	Type study of Draecunculus.	Project on Helminthic diseases.	
	Parasitic Adaptations in Helminthes.	Health-awareness.	07.
Unit-3 Title (A) ANNELIDA	General Characters and Classification	Observation of Earthworm.	
	Type study of <i>Fluclenais granulosa</i>	Specimens, Diagrams.	07.
	Evolutionary significance of Coelome, Coelomates	A.V.aids.	
	Metamerism		
(B) ARTHO- PODA.	General Characters and Classification	Observation of Insects,	
	Type study of Prawns, Crustacean larvae.	Spiders, Slide observation	07
	Insect metamorphosis Peripatus structure.	A.V.aids	



SEMESTER PLAN

1	Name of the Course	B.sc [B2c and m2c].
2	Subject	Zoology.
3	Paper Name	Sem-II, Animal Diversity - Vertebrates
4	Paper Code	BS304.
5	Name of the Chapter / Topic	Hemichordata, Pisces, Amphibia, Reptiles, Aves mammalia.
6	Learning Outcomes	At the end of the course, students will be able to <ul style="list-style-type: none"> * Identify members of Animal Kingdom. * classify different vertebrates with based on their characters. * Knowledge of taxonomy and classify the organism into their phyla perches, subclan.
7	Faculty Name	Pushpalatha. Ane.

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular Activities etc	No of Hours
Unit-1 Title	* General characters and classification	* Testing previous knowledge. * explanation.	
A. Hemichordates	* Type study - Balanoglossus, External features, Reproduction * Phylogeny & Affinities of Balanoglossus.	* Questioning way class. * charts, Pictures.	05
B. urochordates.	* General character of urochordates. * metamorphosis.		
Cephalochordates	* Salient features and affinities of cephalochordates	* Observation of organism under microscope.	
Cyclostomates	* General characters of cyclostomates. * Comparison of Petromyzon and Myxine		11

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular Activities etc	No of Hours
Unit-2 Title	* General character of Pisces	* Explanation * Inquiry based learning	04
<u>A</u>	* classification of Pisces upto order level with eg.	* Presenting . PPT * Questioning way of learning	
Pisces	* Type study of Scoliodon	* observing under microscope	09
	* Types of scales & fins.		
<u>B</u>	* General character and classification of Amphibians.	* Descriptive and Demonstration method.	
Amphibia	Type study of Ranatigrina.	* Charts, Pictures, Posters.	
	* Parental care * neotony		
	* Paedogenesis.		
Unit-3 Title	* General character & classification	* presentation. * Testing previous knowledge.	
<u>A</u>	* Type study of calotes	* Explanation	
Reptilia	* Temporal fossae.	* Group discussion.	
	* Poisonous & nonpoisonous snakes.	* Av. aids.	09
<u>B</u>	* General character & classification	* Quiz	
Aves	* Columba livia type study.	* Diagram based explanation	
	* migration in Birds.	* charts.	
	* flight adaptations in Birds.	* Pictures.	10.

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular Activities etc	No of Hours
Unit-4 Title <u>mammals</u> <u>-lis</u>	✓ General characters and classification of mammals.	* Descriptive ✓ Demonstration method	
	* Type study of Rabbit	* Silleroogative based learning model	
	* Definition in mammals.	✓ charts.	16
	* Aquatic adaptations in mammals.	* pictures [Theory and practical]	74
		- Internal Exam [2 Exam]	2+2=4
		- Practical Exam	03
		- Revision	09
Unit-5 Title		Total ⇒	<u>90hrs</u>



TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

Name of the College : TSWRDCW, Mancherla

SEMESTER- 3- PLAN

Name of the Course	B.Sc MZC
Subject	Zoology
Paper Name	Animal Physiology and Animal Behaviour
Paper Code	Paper 3
Learning Outcomes	At the end of the Course students will be able to: Understand the Principles and concepts in physiology Define the key terms associated with all the systems. Develop laboratory skills Identify the behaviour in taxa. Effectively communicate the findings related to their observation in Practical.
Faculty Name	Dr.S.Purnima

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular, Extra-curricular Activities etc.,	No. of Hours
1.	Enzymes,Digestion,Excretion, Homeostasis and Osmoregulation	Explanation and Group discussion, demonstration and Presentation, FLIP Teaching,Inquiry based Learning, charts,video,Pictures,Memories,Write up,quiz.	24 hrs

Unit- Title 2	Respiration,Circulation	Twin pair sharing ,Presentation, Mind maps,Peer Teaching,Problem solving,referring Journals, video,PowerPoint, Articles,write up.	22hrs
	s		
Unit- Title 3	Muscle Contraction,Nerve impulse, Endocrine glands	Explanation, demonstration, Presentation, relating examples to medical research, FLIP Teaching, Projects,assignment oriented Aids,Referring to related research articles on internet.	25 hrs
Unit Title 4.	Animal Behaviour, Learning and Memory,socialbehaviour,communication ,Biological Rhythms	Presentation, Role modeling,concept mapping, brain storming, assignment	19hrs
			Total 90 hrs

Swag
09/8/23



TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

Name of the College T.S.W.R.D.C.(W), Mancherial

SEMESTER PLAN

Names of the Course	B.Sc. (BZC & MZC)
Subject	ZOOLOGY
Paper Name - IV	CELL & MOLECULAR BIOLOGY, GENETICS & EMBRYOLOGY.
Paper Code	BS404.
Learning Outcomes	<p>At the end of the course, students will be able to:</p> <ul style="list-style-type: none"> → Learn the cell organelles, chromosomes and important definitions like, Transcription, Translation Heredity etc. → Identify the stages of cell division through demonstration.
Faculty Name	B. PRANAVI

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular, Extra-curricular Activities etc.,	No. of Hours
Unit -1 Title	Ultra Structure of Animal Cell.	→ Testing previous knowledge.	
CELL BIOLOGY	Structure & functions of Plasma membrane, proteins	→ Explanation through plasma membrane charts / Diagrams.	
	Structure and functions of the Cell Organelles (Nucleus, E.R, G.C, lysosomes) etc.)	→ A.V. methods.	
	Chromosome structure	→ Group discussion	
	Cell division, Cell Cycle.	→ Practising & Observing the dgms.	
		→ Notes preparation	15+3.

15- Theory
3- practicals

MOLECULAR BIOLOGY	Unit-2 Title	DNA, RNA structures & types.	Pre-Reading Class.	
		DNA Replication, Protein Synthesis, Transcription.	Basic Explanation A.V. Methods.	
		Translation. Gene Expression - Genetic Code	Inquiry based teaching Charts.	
		Operon Concept. Molecular Biology Techniques	Lab Methods or Practicals	
		Polymerase Chain Reaction Electrophoresis.		15+3.
Unit-3 Title		Mendel Laws of Inheritance New Mendelian Inheritance	Testing previous knowledge. Pre-reading.	
		Linkage & Crossing Over Sex Determination and		
		Sex linked Inheritance Chromosomal mutations,	Explanation Charts	
		Gene Mutations Translocation, Aneuploidy	Circular teaching	
		and polyploidy. Induced versus spontaneous	A.V. Methods.	
		mutations. INBORN ERRORS OF METABOLISM.	Quiz. Diagrams.	
				15+3

Unit-4 Title DEVELOPMENTAL BIOLOGY	Gametogenesis, Fertilization	Inquiry based teaching ,	
	Types of Eggs;	Observation through Microscopes	
	Types of Cleavages;	↓ Slides .	
	Development of frog upto gastrulation	Diagram based explanation . Flip teaching method ,	
	Formation of primary germ layers .	Pi claus . Charts .	
	Formation of foetal membrane in Chick Embryo and their functions .	Models -A.V. Method Ppt - presentation	
	Types and functions of placenta in Mammals . Regeneration - Types . Regeneration in Tubellarians and Lizards .		
			<u>15+3</u>
Unit-5 Title		Total Classes.	<u>72 hours</u>
		Internal Exams (2+2)	<u>4 hrs</u>
		Practical Exams (2+2)	<u>4 hrs.</u>
		Revision	10 hrs .
		Total no: of Classes :	<u>90 hrs</u>
Total Hours :			<u>90</u>

verified

Surya
45/02/23



TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

Name of the College : TSWRDCW, Mancherla

SEMESTER II- PLAN

Name of the Course	B.Sc Mzc Semester 5
Subject	Zoology
Paper Name	Immunology and Animal Biotechnology
Paper Code	Paper 5 , BS603
Learning Outcomes	At the end of the course students would be able to: Define central Immunological principles and concepts. Out line key mechanisms of types of Immunity. Understand the role of MHC in Organ transplantation. Able to summarize the applications of stem cells.
Faculty Name	Dr.S.Purnima

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular, Extra-curricular Activities etc.,	No. of Hours
1	Basic concepts of Immunology, cells of immune system, Primary and Secondary lymphoid organs, Types of Immunity, Antigens and Antibody types, Monoclonal antibodies	Explanation, Testing previous knowledge by questioning, Group discussion, demonstration, video, PowerPoint, quiz, test, projects, Presentation	23 hrs

Unit- Title 2	Major histo compatibility complex, Cytokines, Complement, Humoral and cell mediated Immunity, Types of Hypersensitivity Auto Immunity, importance of Vaccines	Demonstration, Explanation, Peer Teaching, FLIP Teaching, Discussion, charts, Articles, Journals, video, Edusat, Write up, Assignment	25hrs
Unit- Title	Scope of Biotechnology, Animal cloning, vectors, Methods of cloning, Animal cell culture, Applications of cell culture	Mind maps, Flow chart, Group discussion, Presentation, video, group presentation on the latest advances on the topic.	23hrs

Unit Title 4	Recombinant DNA technology, transgenesis, methods of Transgenesis, Production of transgenic animals, adaptations of transgenic animals, stem cell types, applications and r-DNA technology steps with applications.	FLIP teaching, brain storming, Twin pair sharing, Explanation, PowerPoint, chain writing, Memories, video	19 hrs
			Total 90hrs
Total Hours :			

lsu
09/8/23



TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

Name of the College Mancherla

SEMESTER PLAN

Names of the Course	Zoology. B.Z.C III yr. VI Sem
Subject	Zoology.
Paper Name	Ecology, Zoogeography and evolution.
Paper Code	Paper - 6.
Learning Outcomes	At the end of the course, students will be able to. * Identify the Basics of ecology and evolution. * classify different types of ecosystems. * Knowledge of zoogeography - regions.
Faculty Name	Pushpalatha. An.

Unit	Topics	Teaching Pedagogy, Teaching Aids, Curricular, Extra-curricular Activities etc.,	No. of Hours
Unit -1 Title Ecology -I	Ecosystem structure and functions: Types of Ecosystem.	* Testing Previous knowledge * Explanation.	04
	Biogeochemical - cycles.	* Questioning way. class.	04
	* Energy flow, food chain, food web in ecosystem.	* charts * Pictures.	04
	Animal Associations.	* video's.	04.

Ecology - II.	Unit-2 Title	Concept of species	* Explanation.	05
		Population dynamics and Growth Curves.	* Inquiry based learning.	
		Community structure and dynamics and Ecobgial	* Presentation.	05
		Ecological Adaptations.	* Questioning way of learning.	
		Environmental Pollution -	* Descriptive and Demonstration method.	05
		Effect and control measures of Air, water	* Pictures.	
		wildlife conservation.	* Explanation.	
		Endangered species.	* Quizes.	08
Zoogeography.	Unit-3 Title	Zoogeographical regions.	* Testing previous knowledge.	
		Their climatic and faunal peculiarities.	* group discussion.	
		wallace line.	* A.v. aids.	10
		Discontinuous distribution.	* Quiz	
		Continental Drift	* Diagram based explanation	
		Biodiversity	* Charts.	
		Hotspots of Biodiversity	* Pictures.	09.

Unit-4 Title	Theories of evolution	* Descriptive type	
	Lamarckism		
	Neo-lamarckism	* Demonstration method	04
	Darwinism theory.		
	Evidences of Evolution	* Interogative based learning.	
	forces of evolution	* Presentation	04
	mutation, geneflow		
	genetic drift, natural selection Hardyweinberg law.	* A.v aids.	
Evolution - I	Isolation - Pre mating.	* Quiz.	04
	postmating isolating mechanisms.	* Explanation.	
	Speciation.	* Questioning way class.	
	methods of speciation	* video's.	04.
Unit-5 Title		theory and Practical →	74.
		→ Internal Exam [2 exams]	2+2=4
		→ Practical Exam	03
		→ Revision	09
		Total ⇒	90hrs
Total Hours :			

Prising

Swag.