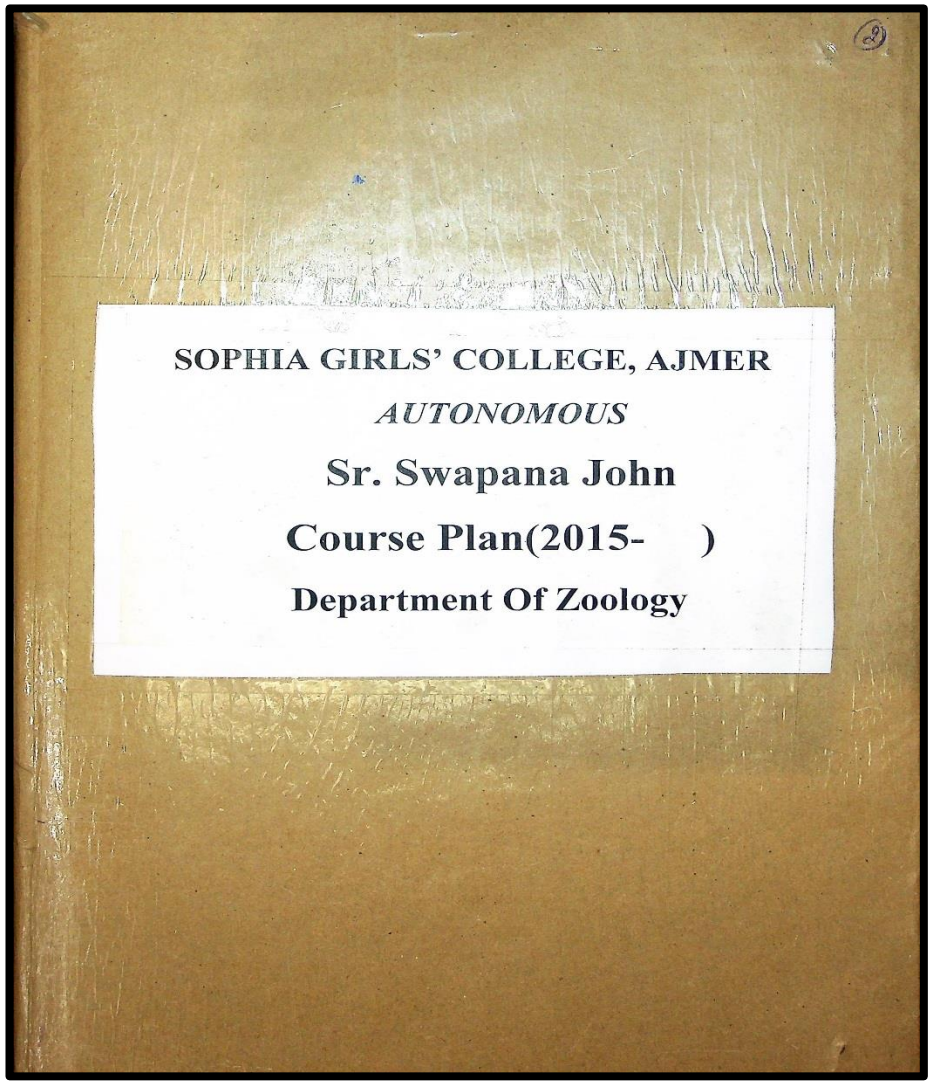
SOPHIA GIRLS' COLLEGE (AUTONOMOUS), AJMER



COURSE PLAN

U.G Programs

2021-22

SOPHIA GIRLS' COLLEGE, AJMER (*AUTONOMOUS*) 2021-22.

B.Sc. I (SEMESTER I) Odd Sem **ZOOLOGY (PAPER I)**
(ZOO-101)

(Invertebrates: Classification and special features)

Max. Marks :75 (50Ext; 25 Int) Min. Marks: 30(20 Ext;10 Int) Credit: 04

COURSE PLAN

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I September	UNIT I **Invertebrate classification**: salient features of various phyla and their classification upto Classes: Protozoa,Porifera,Colenterata,Aschelminthes,Platyhelminthes,Annelida,Arthropoda,Mollusca, Echinodermata. **General principles of taxonomy** - concept of	1.Basis of Classification.	PPT, Google Classroom, OBS, Screencastify	1.classify Invertebrate phyla demonstrating its characters upto class	*Knowledge Based* -What is Five Kingdom Classification? -Illustrate five characters of the phylum Porifera. *Understanding*	Knowledge--60 Understanding-30 Higher Order-10

	the Five Kingdom scheme.			2.Concept on Parazoa, Metazoa.	*Based* -Compare parazoa, metazoa -Classify the phylum Coelenterata and compare its classes giving example? *Higher Order Thinking Skills Based* -Justify the fact that special character follows the general character with reference to the various level of organization	
	Concept of Protozoa, Parazoa, Metazoa, Eumetazoa and levels of organization.	1. concept of Parazoa, metazoa and Eumetazoa	Google meet lecture Google Quiz, Demonstration			
	Basis of classification of non-chordata: Symmetry, coelom, segmentation and embryogeny.	Levels of organization in increasing order of complexity	Video, Guest lecture on zoom, Mindmap and Infographics			
October	UNIT II **Protozoa**: Reproduction and Mode of locomotion:Cilia, Flagella and pseudopodia.	Asexual and sexual mode	OBS, Screen castify	3.Develop an idea of the special adaptation in Invertebrates		
	Porifera: Spicules: calcareous, silicious. Canal system: Ascon, Sycon and Leucon	Development of Spicules and canal system	Mind maps, Infographics Test			

	Coelenterata: Polymorphism, Corals and Coral reefs Platyhelminthes: Parasitic adaptations: Morphological and Physiological **Aschelminthes:** Life cycle with reference to Ascaris and its Economic Importance	Polymorphism and adaptations	Prezi, Canva presentation Videos		? -Critically Evaluate the concepts of Coelom giving example?	
Novemb er	UNIT III **Annelida:** Reproduction with reference to Earthworm. Locomotion:Setae and Parapodia **Arthropoda:** Metamorphosis:Ametabo lous,Hemimetabolousand Holometabolous Social organization in termites and Bees :Life Cycle.Caste System and	Special features in each phylum	OBS, Google meet, Group discussion	Compare and analyze the different special features present in different phylum		

	its Economic Importance					
December	**Mollusca:** Foot and shells, Torsion with reference to *Pila* **Echinodermata:** Water vascular system and its function	Concept of torsion in *Pila* and locomotion in Echinoderms	PPT, Demonstration on water vascular system			
January/ February: Revision, Practical and End Semester Examination(As per Gov. Norms)						

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SOPHIA GIRLS' COLLEGE, AJMER (*AUTONOMOUS*) 2021-22.

B.Sc. I (SEMESTER I) Odd Sem **ZOOLOGY (PAPER II)**

(ZOO-102)

(Structure And Function Of Invertebrates)

Max. Marks :75 (50Ext; 25 Int) Min. Marks: 30(20 Ext;10 Int) Credit: 04

COURSE PLAN

SEM I Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM I September	1 **Skeleton:** Endoskeleton (spicules of *Sycon)*	1.Basic concept of skeleton	PPT, Chart, Pictures, G.D Google Classroom	1. Describe the basic structures of the different invertebrate phyla. 2. To understand the functioning of the	*Knowledge Based* -What is Mixotrophic Nutrition ? -Illustrate the development of Spicules	Knowledge--60 Understanding -30 Higher Order-10
	2 **Food, Feeding, Digestive** structures and Digestion: Autotrophic *(Euglena),* heterotrophic- through food vacuole *(Paramecium)* and in	2. concept of nutrition and types	Demonstration, PPT, Guest lecture		*Understanding Based* -Compare Endoskeleton and	

	hydroid and medusoid zooids (*Obelia),* parasitic, (*Taenia, Hirudinaria),* predatory(*Palaemon,).*			g of the various systems	Exoskeleton - Compare the various types of nutrition	
OCTOBER	**3 Respiration:** anaerobic (Fasciola), parapodia (Nereis), Aquatic general body surface (Pheretima), trachea (Insect), gills (Pila), aerial, pulmonary sac (Pila), dermal branchiae (Asterias)	Evolution in the mode of respiration	, Charts, Microscopic Slides, quizes	3. To analyze the evolution of systems from lower to higher phyla	*Higher Order Thinking Skills Based* - Justify euglena as plant and animal based on its feeding habits	
	4 Nervous System: Sensory and nerve cells (*Obelia);* brain ring and longitudinal nerves (*Fasciola).* brain and ventral nerve cord (*Palaemon),* nervous system of *Pila*	Development in the complexity of brain and nervous system	Diagrams, Charts, Test, GD			
	5 Sense Organs: Simple eyes and nuchal organs (Nereis), Tactile olfactory organs and compound eye (Palaemon) and statocyst and osphradium (Pila).	Various sense organs present in invertebrates	Diagrams, Models, ppt, Class test		-Critically Evaluate the concepts of Cyclosis in Paramecium	

ER ECEMBE R	UNIT III **5.**Circulation: Cyclosis (*Paramecium),* diffusion (*Sycon, Taenia),* open circulatory system (*Palaemon),* closed circulatory system (*Nereis).* **6.**Excretion: General body surface (Paramecium), protonephridial system and flame cells (Fasciola), nephridia (Earthworm), malpighian tubules (insect), organ of Bojanus (Pila). **7.**Reproduction: Asexual (Paramecium, Sycon), alternation of generation (Obelia), sexual (Fasciola, Neries)	reproduction	powerpoint presentation Quiz on quizzezz, revision		-Critically evaluate the functions of Nuchal organ and statocysts - Compare and analyze the different asexual mode of reproduction present in paramecium	

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SOPHIA GIRL'S COLLEGE, AJMER (*AUTONOMOUS*) 2021-22

B.Sc. III (SEMESTER V) Odd Sem
(ZOO-502)

ZOOLOGY (PAPER II)

(Biochemistry and Ethology)

Max. Marks :75 (50Ext; 25 Int) Min. Marks: 30(20 Ext;10 Int) Credit: 03

COURSE PLAN

SEM IV Month	UNIT/TOPIC	Concepts/facts	Teaching Pedagogy	Learning Outcomes	Questions	Marks Weightage (%)
SEM IV September	1. Introduction and history of Ethology. (Karl Von Frisch, K. Lorenz, N. Tinbergen). 2. Concepts of Ethology: fixed action pattern, sign stimulus, innate releasing mechanism, motivation, imprinting and learning. 3. Methods of studying	1. Brief History into animal behaviour 2.terminologies and its concepts	PPT, Lecture on google meet, live examples, National Geographic Channel	To help students understand animal strategies and interactions and the importance	*Knowledge Based* -Explain the imprinting -Illustrate evolution of studying brain behaviour	Knowledge--60 Understanding-30 Higher Order-10

	behaviour: Neuroanatomical neurophysiological, neurochemical techniques.			of behaviour for survival	*Understanding Based* -Analyse and compare the social behaviour in monkeys and deers -Justify the action of pheromones in animals *Higher Order Thinking Skills Based* -Critically Evaluate the the breakdown of glucose in the presence and absence of oxygen	
October	4. Territory and Home range- Role of pheromones. 5. Social behaviour: Characteristics and advantages with special reference to deer and monkey.	1. concept of pheromones and communication via it	Assignments Quiz, Ppt, Google Classroom			
November	Carbohydrates **Lipids**-its structure and function	Understanding the most primitive cycle- Glycolysis Beta oxidation and its	Demonstration through powerpoint presentation, Google meet, Videos fom Havard University Google classroom,	To understand the basic integral component of biochemistry		S. Swapana

	Proteins: its structure and function	Basic idea on primary, secondary and tertiary protein	OBS		- Analyze the importance of citric acid with respect to ATP produced.	
December	**Enzymes:** its types and factors affecting them Revision	Concept of activation energy	Videos from Harvard University Assignments			
January/ February: Revision, Practical and End Semester Examination (As per Gov. Norms)						

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