

SEMESTER I/II

ASSOCIATED CORE (AC): ZOOLOGY (THEORY)

Credit – 3

Lectures – 45 Hours

Full Marks = 75 [End Semester = **60**] + [Internal Examination = **15** (Written Examination = **10** + Class Performance & Attendance = **05**)]

Pass Marks = [End Semester = **24**] [Internal Examination = **06**]

Instructions:

- In all **9 questions** to be set, there shall be two groups – **Group A and Group B**.
- **Group A** is compulsory, which shall contain **three** questions.
- **Question no. 1** will be a very short answer type consisting of **six questions** of **1 mark** each in the form of MCQ/Fill in the blanks/True or False etc.
- **Questions nos 2 & 3** will be of short-answer type, carrying **3 marks** each.
- **Group B** will contain **6 subjective/descriptive** questions* out of which the examinees are required to answer **any 4** carrying **12 marks** each.

***Question no. 9** will be short answer type. There will be **four options** of which **any two** are to be answered, each carrying equal marks covering the whole syllabus.

THEORY

Unit	Topic	No. of Periods
1	Diversity of the Animal World	
1.1	Character and Classification of Animals kingdom	01
1.2	Non-Chordate: Characters & Classification up to order	03
1.2.1	Protozoa, Porifera, Coelenterata,	
1.2.2	Annelida & Arthropoda	
1.2.3	Mollusca & Echinodermata	
1.3	Chordate:	02
1.3.1	Fish, Amphibia & Reptile	
1.3.2	Aves and Mammalia	
2	Human Physiology, Developmental Biology & Endocrinology	
2.1	Digestion System:	02
2.1.1	Structure of the Alimentary Canal &	
2.1.2	Digestion of food	
2.2	Respiratory System:	02
2.2.1	Organs of the respiratory system	

Unit	Topic	No. of Periods
2.2.2	Transport of Gases	
2.3	Circulatory System:	02
2.3.1	Blood & its composition	
2.3.2	Structure of Heart & Double Circulation	
2.4	Excretory System:	02
2.4.1	Structure of the kidney & Nephron	
2.4.2	Urine Formation	
2.5	Nervous System:	02
2.5.1	Central Nervous System	
2.5.2	Structure of Neuron	
2.6	Reproduction and Development Biology:	03
2.6.1	Male Reproductive Organ,	
2.6.2	Female Reproductive Organ,	
2.6.3	Gametogenesis,	
2.6.4	Fertilization,	
2.7	Endocrinology: Endocrine glands	03
2.7.1	Pituitary & Thyroid,	
2.7.2	Pancreas & Adrenal,	
3	Cell Biology, Biochemistry and Genetics	
3.1	Cell & Cell Membrane:	01
3.1.1	Prokaryotic and Eukaryotic Cell,	
3.1.2	Plasma membrane Models	
3.2	Cell Organelle: Structure and Function	04
3.2.1	Mitochondria,	
3.2.2	Endoplasmic Reticulum & Golgi body	
3.2.3	Lysosome & Ribosome	
3.2.4	Nucleus & Chromosome	
3.3	Cell Division: Mitosis and Meiosis	01

Unit	Topic	No. of Periods
3.4	Biochemistry:	03
3.4.1	Carbohydrate,	
3.4.2	Protein,	
3.4.3	Lipid	
3.5	Genetics:	04
3.5.1	Mendel's Law of Inheritance,	
3.5.2	Sex Determination,	
3.5.3	Structure of DNA and RNA	
3.5.4		
4	Ecology, Animal Behaviour and Evolution	
4.1	Ecology:	04
4.1.1	Ecosystem & its type,	
4.1.2	Food Chain, Food Web and Ecological Pyramids,	
4.1.3	Ecological Succession,	
4.1.4	Pollution & its type	
4.3	Evolution:	03
4.3.1	Lamarckism & Darwinism	
4.3.2	Homologou and	
	Total	45

Semester I/II

ASSOCIATED CORE (AC): ZOOLOGY (PRACTICAL)

Credit – 1

Lectures – 30 Hours

Full Marks = 25 [End Semester = 25] [There is no internal examination in practical]

Pass Marks = [End Semester = 10]

Time: 3 Hours

SN	Practical	Marks
----	-----------	-------

1	Cell Biology Experiment	4
2	Biochemistry /Physiology Experiment	3
3	Comment on Analogous/ Homologous	3
4	Spotting (Museum specimen): a. Non-Chordate (2) b. Chordate (1)	2x3 = 6
5	Class Record	4
6	Viva-Voce & Project / Model	5
	Total Marks	25

Suggested Practical

1. Preparation of temporary stained squash of onion root tips to study various stages of mitosis and Grasshopper testes to study stages of Meiosis.
2. Demonstration of blood pressure by Sphygmomanometer.
3. Study of permanent slides of Cell Division
4. Preparation of Blood smear . Associate
5. Study of Homologous and Analogous organ (wings of birds and insects, forelimbs of bat and rabbit).
6. **Study of available museum specimens**

Non-chordates: *Sycon, Physalia, Metridium, Fasciola, Taenia solium, Nereis, Aphrodite, Pheretima, Pila, Unio, Sepia, Octopus, Millipedes, Centipedes, Palaemon, Asterias, Echinus.*

Chordate: *Labeo rohita, Hippocampus, Clarias batrachus, Hyla, Bufo (Toad), Rana (Frog), Naja naja, Bungarus (Krait), Crocodylus, Python, Columba livia, Psittacula (Parrot), Passer (House Sparrow), Prototheria Models of Duck-Billed Platypus, Pteropus (Megachiroptera), Manis (Pangolin), Funambulus (squirrel), Rattus rattus (rat).*

