

ZOOLOGY MODEL PAPER FOR III SEMESTER

ZOOLOGY - PAPER - III CELL BIOLOGY, GENETICS, MOLECULAR BIOLOGY AND EVOLUTION

Time : 3 hrs

Max. Marks : 75

I Answer any FIVE of the following:

5x5=25

Draw neat labelled diagrams wherever necessary.

1. Eukaryotic cell
2. Lysosomes
3. Multiple alleles
4. Genic balance
5. Genomics
6. DNA replication
7. Translation
8. Hardy – Weinberg equilibrium

II Answer any FIVE of the following:

5x10 = 50

Draw labeled diagrams wherever necessary.

- 9a)** Explain the electron microscopic structure of animal cell.
Or
b) Write an essay on the structure and functions of mitochondria.
- 10a)** Explain in detail about the gene interactions with suitable examples.
Or
b) Give a detailed account of sex - linked inheritance.
- 11a)** What are gene mutations? Explain different types of gene mutations.
Or
b) Describe in detail about the chromosomal disorders.
- 12a)** Explain the mechanism of gene expression in prokaryotes.
Or
b) Describe the process of transcription in prokaryotes.
- 13a)** Write an essay on theories of evolution.
Or
b) Define speciation and describe the modes of speciation.

ZOOLOGY MODEL PAPER FOR SEMESTER IV
ZOOLOGY - PAPER - IV ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND
EMBRYOLOGY

Time : 3 hrs

Max. Marks : 75

I. Answer any FIVE of the following.
Draw neat labelled diagrams wherever necessary.

5x5 = 25

1. Pulmonary ventilation
2. Cardiac cycle
3. Origin and propagation of action potential.
4. Pituitary gland
5. Structure of glucose
6. ETC
7. Types of cleavages
8. Gastrulation

II. Answer any FIVE of the following.
Draw neat labelled diagrams wherever necessary.

5x10 = 50

- 9a) Describe the structure and mechanism of functioning of mammalian heart.
Or
b) Describe the urine formation and counter current mechanisms.
- 10a) Write an essay on muscle contraction mechanism.
Or
b) Give a detailed account of hormonal control of mammalian reproduction.
- 11a) Write an essay on classification of proteins.
Or
b) Write an essay on classification of enzymes and mechanism of action.
- 12a) Explain the various steps involved in β - oxidation of palmitic acid.
Or
b) Explain protein metabolism.
- 13a) Write an essay on the process of fertilization.
Or
b) Give a detailed account of gametogenesis in embryology.