63 (FY)SEM–1/MAJ/ZOOMAJ1014

2025

ZOOLOGY

(Major)

Paper : ZOOMAJ1014

(Cell Biology and Histology)

Full Marks : 50

Pass Marks : 20

Time : Two hours

The figures in the margin indicate full marks for the questions.

1. Answer the following MCQ type questions : ***(all compulsory)*** 1×5=5

   (i) Which of the following is not a characteristic of animal cells ?

   (a) Linear DNA

   (b) Membrane-bound organelles

   (c) Presence of plastid

   (d) Nucleus

(ii) Which stage of the cell cycle occurs immediately prior to mitosis ?

(a) S stage

(b) G_2 stage

(c) M stage

(d) G_1 stage

(iii) The cell organelle which is responsible for transporting, modifying and packaging protein and lipid is

(a) Endoplasmic reticulum

(b) Golgi complex

(c) RNA

(d) Ribosome

(iv) The main thinking part of the human brain is

(a) Cerebellum

(b) Hind brain

(c) Medulla oblongata

(d) Cerebrum

(v) The main function of a fixative is

(a) To stain tissue

(b) To harden tissue for section

(c) To remove water from the tissue

(d) To prevent autolysis and preserve tissue morphology.

2. Answer the following short questions : ***(any five)*** 2×5=10

(a) Define virus. Name *two* animal viruses.

(b) Write a short note on 'prokaryotic cell'.

(c) Write about the structure of epithelial tissue.

(d) What is M-phase in cell cycle ?

(e) What is signalling molecule ? Give example. 1+1=2

(f) Differentiate between chromatin and chromosome.

(g) Why is blood called a connective tissue ?

3. Answer the following questions : ***(any five)*** 5×5=25

(a) Discuss the regulation of the cell cycle by check points.

(b) Explain the role of Golgi complex in protein modification and secretion.

(c) Write short notes on microtubule with functions.

(d) Explain on connective tissue and its type.

(e) Write the structure and function of nervous tissue.

(f) Describe the history of liver with suitable diagram.

(g) What is staining ? Classify dyes based on t

heir mode of action with examples.

4. Answer the following question : 10

(a) Explain the unit and model of plasma membrane with suitable diagram.