

2016

ZOOLOGY

(Major)

Paper : 3'2

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Write True or False :

1×7=7

- (a) The volume of a cell is fairly constant for a particular cell type and is independent of the size of the organism.
- (b) Microtubules consist primarily of the tubulin protein.
- (c) Euchromatin is the well-dispersed form of chromatin which takes lighter stain.
- (d) Active transport moves the substances across the plasma membrane against their concentration gradients using energy.

- (e) Malfunctioning of lysosomes often results in various pathological disorders affecting the life of the cell or an individual.
- (f) Ribosomes are devoid of DNA.
- (g) F_1 particle of mitochondria is the site of oxidative phosphorylation.

2. Write short notes on the following : $2 \times 4 = 8$

- (a) Plasmids
- (b) Kinetochore
- (c) FAD
- (d) Functions of nucleolus

3. Answer any *three* from the following : $5 \times 3 = 15$

- (a) Write the functional significance of centriole.
- (b) Write the chemical properties of protoplasm.
- (c) Describe the structure of salivary gland chromosome.
- (d) Write briefly on exocytosis and endocytosis with examples.
- (e) Write the structure of a prokaryotic cell.

(3)

4. (a) Describe the ultrastructure of Golgi bodies with suitable diagram. Mention the functions of Golgi bodies.

7+3=10

Or

Describe the ultrastructures and functions of ribosomes and lysosomes.

5+5=10

- (b) Describe the structure, chemical composition and functions of the eukaryotic chromosome.

4+3+3=10

Or

Describe the structure of plasma membrane. State different types of modification of plasma membrane. Write briefly the functions of plasma membrane.

5+3+2=10

- (c) What do you understand by cell cycle? Give an account of the salient features of various phases of cell cycle.

2+8=10

Or

What is cytoskeleton? Name its various components and their functions. Mention how they are involved in a variety of cell movements.

2+2+2+4=10

★ ★ ★