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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.

(Turn Over)

(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 :   2×4=8

(a) Plasmids

(b) Kinetochore

(c) FAD

(d) Functions of nucleolus

3. Answer any *three* from the following :   5×3=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.

(Continued)

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

★ ★ ★