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3 (Sem 3) ZOO M2

2015

ZOOLOGY
(Major)

Paper : 3.2

Full Marks – 60

Time – Three hours

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

1. Write true or false : 1×7=7
- (a) Cell theory was first coined by Von Mohl.
 - (b) The size of the cells of multicellular organisms ranges between 80–100 μm .
 - (c) The nuclear region of prokaryotic cells is called nucleus.
 - (d) Liposomes are small spherical bodies whose surface is formed by a bilayer of protein molecules.

[Turn over

(e) Histones are fat soluble proteins which are rich in amino acids, glycine and valine.

(f) Mitochondria are not found in liver cells.

(g) *Escherichia coli* is a gram +ve symbiotic bacillus of colon of human beings and other vertebrates.

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

(a) Bacteriophage

(b) Factors which control the shape of the cells

(c) Role of centromere

(d) Cytokinesis.

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

(a) Physical properties of protoplasm

(b) Cell cycle

(c) Biogenesis of Ribosomes

(d) Main functions of Golgi bodies

(e) Glycolysis.

4. (a) Describe the ultrastructure, types and functions of endoplasmic reticulum. $3+1+6=10$

Or

What are lysosomes ? Give the ultrastructure of lysosomes and their functional significance.

$1+3+6=10$

- (b) Differentiate between cilia and flagella. Describe the structure of the axoneme.

$6+4=10$

Or

State the differences between the lampbrush and salivary gland chromosome. Write the structural and functional significance of the salivary gland chromosome. $7+3=10$

- (c) Describe the function of mitochondria with special reference to electron transport system.

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Or

What are the characteristic features of a cell membrane ? Describe the permeability and chemical composition of a cell membrane.

$4+6=10$