Total No. of printed pages = 3

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 : 2×4=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 : 5×3=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 axonome. 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. 10

Or

What are the characteristic features of a cell membrane ? Describe the permeability and chemical composition of a cell membrane. 4+6=10