

CSM – 71/18

Zoology

Paper – II

Time : 3 hours

Full Marks : 300

The figures in the right-hand margin indicate marks.

Candidates should attempt Q. No. 1 from Section – A and Q. No. 5 from Section – B which are compulsory and three of the remaining questions, selecting at least one from each Section.

SECTION – A

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1. Differentiate any three of the following :

20×3 = 60

- (a) Normal and cancer cells
- (b) Transcription and translation
- (c) Darwinism and Lamarckism
- (d) RAPD and RFLP

2. Describe, in detail, the ultrastructure of mitochondria with neatly labelled diagrams, and explain their salient functions. 60

3. Elucidate the role of mutation and isolation in evolution with suitable examples. 60
4. Write short notes on the following : 15×4 = 60
- (a) Cell cycle
 - (b) Genes and diseases
 - (c) Principles of classification
 - (d) Transgenic animals.

SECTION – B

5. Write notes any three of the following :

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- (a) Laws of thermodynamics and their application in biology
 - (b) Muscle proteins and their physico-chemical properties
 - (c) Role of stem cells in differentiation
 - (d) Mode of action of antibiotics
6. Explain, in detail, about the events of ECG in relation to cardiac cycle, draw diagrams wherever applicable. 60
7. Describe, in detail, about the types of immunoglobulins, with emphasis on immune reactions against specific antigens. 60

8. Write notes on the following : $15 \times 4 = 60$

- (a) Structure of internal ear and functional significance of "Organ of Corti".
- (b) What are free radicals ? Explain the role of free radicals in ageing.
- (c) Electron transport system
- (d) Hormonal control of Insect metamorphism

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