

ZOOLOGY PAPER-I

[Bio-diversity & Cell Biology-I (ZOO-101)]

Time Allowed : Three Hours

Maximum Marks : 36

Note : Attempt five questions in all, including Q. No. 1 which is compulsory and one question from each Unit I-IV.

1. Explain briefly :

- (a) Lobopodia
- (b) Kappa particles
- (c) Tricho cyst
- (d) Coral reefs
- (e) Primary host
- (f) Exocytosis
- (g) Compound Microscope
- (h) Binary fission

8 × 1 = 8

Unit-I

2. Write notes on :

- (a) Osmoregulation in *Amoeba*
- (b) Reproduction in *Paramecium*

4 + 3 = 7

3. Discuss the life cycle of *Plasmodium Vivax* in man.

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Unit-II

4. Discuss the canal system in Sycon (Scypha).
5. Write notes on :
 - (a) Locomotion in *Hydra*
 - (b) Medusa in *Obelia*

Unit-III

6. Explain the model which best explains the structure and functions of Plasma Membrane.
7. (a) What is the purpose of fixation ? Name some common fixatives.
(b) Give differences between SEM and TEM.

Unit-IV

8. Give the detailed structure of Golgi Complex and discuss the role it plays in the cell.
9. (a) What is the role of mitochondria in cell respiration ?
(b) Differentiate between RER & SER.

ZOOLOGY PAPER-II

[Bio-diversity and Cell Biology-II (ZOO-102)]

Time Allowed : Three Hours

Maximum Marks : 36

- Note : (i) Attempt five questions in all.
(ii) Question No. 1 is compulsory.
(iii) Select one question from each Unit.
(iv) Illustrate your answer with suitable diagrams.

1. Give /Define brief explanations of the following :

- (a) Scolex
- (b) Mehlis's gland
- (c) Protandry
- (d) Heterochromatin
- (e) Pineal spicule
- (f) Hexacanth
- (g) Gravid Proglottid
- (h) Benign Tumour

Unit-I

2. Give a detailed account of Life History of Fasciola.
3. (a) Describe the morphological adaptations of Helminthes.
(b) Explain the sense organs of Ascaris.

Unit-II

4. Explain the different types of Nephridia of Pheretima. 7
5. (a) Draw well labelled diagram of T.S. Pheretima through Typhlosolar region. 4
- (b) Classify upto order with ecological note and economic importance (if any) of any *two* of the following :
- (i) Eunice
 - (ii) Tubifex
 - (iii) Pontobdella
- 1½ each

Unit-III

6. (a) Explain Polymorphism in Lysosome. 5
- (b) What is the role of Autolysis ? 2
7. (a) Differentiate between Prokaryotic and Eukaryotic Ribosomes. 4
- (b) Write a note on centriolar satellite complex. 3

Unit-IV

8. (a) Describe the structure and functions of Nucleolus. 4
- (b) Explain the types of Cancer. 3
9. (a) Differentiate between B cells and T cells. 4
- (b) How do the B cells respond to Antigens ? 3