

CELL BIOLOGY AND BIODIVERSITY - I

Semester-I

Time Allowed : 3 Hours]

[Maximum Marks : 50

Note : Attempt *two* question each from Section A and B, carrying 7½ marks each. Section C is compulsory and consists of 10 short answer type questions carrying 2 marks each.

Section - A

1. (a) Write down the various functions of the cell membrane. 3½
(b) What are the difference between Light and Electron microscopes ? 4
2. (a) Discuss the functions of Mitochondria. 2½
(b) Differentiate Smooth Endoplasmic Reticulum from Rough Endoplasmic Reticulum. 5
3. Draw a well labelled diagram of the life history of *Plasmodium vivax*. 7½
4. Classify any *three* of the following organisms upto orders with brief ecological note :
(a) Noctiluca. (b) Hyalonema.
(c) Trypanosoma. (d) Entamoeba
(e) Opalina. (f) Grantia. (2½×2=7½)

Section - B

5. Give an account of various types of Zooids found in Obelia colony. 7½
6. Explain the life history of *Fasciola hepatica*. 7½
7. Give an account of External characters of Earthworms. Discuss the economic importance of this animals. 7½
8. Write down the classification of any *five* of the following organisms upto orders :
(a) Hydra (f) Schistosoma
(b) Obelia (g) Dugesia
(c) Sertularia (h) Chestopterus
(d) Aurelia (i) Aphrodite
(e) Ascaris (j) Polynoe. (1½×5=7½)

Section - C (Compulsory)

9. Write short notes on the following :
(a) Exocytosis. (b) Binary fission in Amoeba.
(c) Passive Transport. (d) Osmosis.
(e) Differences between Male Ascaris and Female Ascaris.
(f) Excurrent canals in Obelia.
(g) Flame cells. (h) Osmoregulation
(i) Conjugations.
(j) Zoological names of the following organisms :
(a) Tape worm. (b) Jelly fish. (2×10=20)