

**CELL BIOLOGY AND BIODIVERSITY - I - A**  
(Re-appear April - 2013)

**Time Allowed : Three Hours**

**Maximum Marks : 75**

**Note :** The candidates are required to attempt *one* questions each from Sections A, B, C and D carrying 15 marks each and the entire Section E consisting of 10 short answer type questions carrying 1½ marks each.

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|--------------------|---|---|
| <b>Section : A</b> |   |   |
| 1.                 | (a) Explain the principle of Electron Microscope.   |   |
|                    | (b) Discuss the polymorphism in Lysosomes. Give its functions                             | 7,8                                     |
| 2.                 | (a) Describe the Ultrastructure and functions of Golgi Complex.                           |   |
|                    | (b) Tabulate the difference between SER and RER.  | 10,5                                    |
| <b>Section : B</b> |   |   |
| 3.                 | Write notes on :  |   |
|                    | (a) Life cycle of <i>Plasmodium</i> in mosquito   | (b) Binary fission in <i>Paramecium</i> |
|                    | (c) <i>Obelia</i> medusa.   | 5,5,5                                   |
| 4.                 | Describe canal system in <i>Sycon</i> .   | 15                                      |
| <b>Section : D</b> |   |   |
| 5.                 | (a) Describe circulatory system of earthworm in anterior thirteen segments.               |   |
|                    | (b) Draw T.S. of male <i>Ascaris</i> .  | 10,5                                    |
| 6.                 | Give an account of Reproductive System of <i>Taenia</i> .                                 | 15                                      |
| <b>Section : E</b> |   |   |
| 7.                 | Classify upto order with brief ecological note and economic importance of the following : |   |
|                    | (a) <i>Giardia</i>  | (b) <i>Hyalonema</i>                    |
|                    | (c) <i>Favia</i>  | (d) <i>Wucheretia</i>                   |
|                    | (e) <i>Pontobdella</i> .  | 3×5=15                                  |
| 8.                 | Write salient features of Phylum :  |   |
|                    | (a) <i>Porifera</i>   | (b) <i>Annelida</i> .                   |
|                    |   | 7½,7½                                   |
| <b>Section : D</b> |   |   |
| 9.                 | Write the short notes on the following :  |   |
|                    | (i) Explain terms : Dialysis, Osmosis and Exocytosis.                                     |   |
|                    | (ii) What is Bioluminescence? Name a Bioluminescent Protozoan.                            |   |
|                    | (iii) What is Kinetin?  |   |
|                    | (iv) Write a note on flame cell.  |   |
|                    | (v) What is the significance of hermaphroditism to Earthworm?                             |   |
|                    | (vi) What are Phasmsids?  |   |
|                    | (vii) Write a short note on advancement of medusa over polyp.                             |   |
|                    | (viii) What are nucleosomes?  |   |
|                    | (ix) What is 'food cup' of <i>Amoeba</i> ?  |   |
|                    | (x) Write a note on Metacercaria larva.   | 10×1½=15                                |