

**Code No. : 01/104**

(D) Give a detailed account on peroxysome. 12

**Or**

Describe concept and technique of in situ hybridization.

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Roll No. ....

Total No. of Section : 4

Total No. of Printed Pages : 4

**Code No. : 01/104**

**I Semester Examination, 2019-20**

**M.Sc.**

**BOTANY**

**Paper I**

[ Cell Biology ]

Time : Three Hours ]

[ Maximum Marks : 80

*Note : Part A and B of each question in each unit consists of Very Short Answer Type Questions which are to be answered in one or two sentences. Part C (Short Answer Type) of each question will be answered in 200-250 words. Part D (Long Answer Type) of each question should be answered within word limit 400-450.*

**Unit – I**

1. (A) What elements are foundation of cells ? 2
- (B) What is phospholipid ? 2
- (C) Write about the Transmembrane protein. 4

**Or**

Write note on membrane receptors.

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- (D) What is meant by active transport of molecules ? Discuss ATP driven  $\text{Na}^+$ ,  $\text{K}^+$  pump. 12

Or

What do you mean by specialised plant cell types ? Describe various type of specialised cell with suitable diagrams.

Unit – II

2. (A) What are three parts of chloroplast ? 2  
(B) What is the functions of Tonoplast ? 2  
(C) Write note on Vacuole. 4

Or

Give an brief account on mitochondrial genome.

- (D) Discuss the mechanism involved in transport of protein from cytosol to different region of mitochondria. 12

Or

What do you understand by polyribosome ? Give an account on ultrastructure of ribosome.

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Unit – III

3. (A) What trigger apaptosis ? 2  
(B) The ..... is a structure where ribosomes are formed and the site where....is transcribed. 2  
(C) Write note on  $\text{E}_2\text{F}$  protein. 4

Or

Explain Nuclear complex.

- (D) Describe the structure and function of nucleolus with particular of emphasis on ribosome biogenesis ? 12

Or

Discuss the role of  $\text{cdk}^s$  and cyclin in cell division with the help of examples.

Unit – IV

4. (A) Why lysosome is called lytic body ? 2  
(B) Write three types of cytoskeleton. 2  
(C) Write note on Endoplasmic Reticulum. 4

Or

Write note on Flow Cytometry.

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P. T. O.