

[4]

Or

Explain the regulation of RNA editing in chloroplast.

Unit-III

3. What do you understand by Apoptosis ?
Describe its mechanism in detail.

Or

Describe the structure of Nucleus and explain nucleosome organisation also.

Unit-IV

4. Give an account on Golgi apparatus and its functions.

Or

What do you understand by term cytoskeleton ?
What are its components ? Explain the structure of microtubule and its roll in chromosome movements.

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Roll No.

I Semester Examination, January 2022

M.Sc.

BOTANY

Paper I
(Cytology)

Time : 3 Hours]

[Max. Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 Sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.*

SECTION A

1×8=8

(Objective Type/Multiple Type Questions)

State true or false :

1. Na^+ K^+ ATPase export 2Na^+ ions out side the cell and import of 3K^+ ions in side the cell.
2. The cell wall is mainly composed of hemicellulose and lignin.
3. Oxidative phosphorylation is the most important function of mitochondria.

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4. Photosynthetic carbon reduction cycle is called dark reaction.
5. BCl_2 protein is a true inhibitor of cell death.
6. Prokaryotic ribosome contains 16S rRNA.
7. Lysosome is also known as suicidal bag of the cell.
8. Cilia and Flagella have a characteristic arrangement of 7 + 2 microtubule.

SECTION B

6×4=24

(Short Answer Type Questions)

Note : Answer the following questions in **250** words.

Unit-I

1. Write note on ultrastructure and functions of cell wall.

Or

What is meant by a “Lipid Bilayer” ? Describe the fluid mosaic model.

Unit-II

2. Write note on vacuole.

Or

What is Thylakoid ? Describe molecular organisation of thylakoid.

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Unit-III

3. Write note on Retinoblastoma and E_2F protein.

Or

Describe the ultrastructure of Ribosome.

Unit-IV

4. Explain the structure and function of Lysosome.

Or

Write note on confocal microscopy.

SECTION C

12×4=48

(Long Answer Type Questions)

Note : Answer the following questions in **500** words.

Unit-I

1. What are the specialized cells found in plants ? Describe any *three* types of specialised cells with suitable diagrams.

Or

Describe the chemical composition and mode of transport of plasma membrane.

Unit-II

2. Describe the structure and biogenesis of Mitochondria.

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P.T.O.