

A-0014

Total Pages : 3

Roll No.

MSCBOT-506

M.Sc. BOTANY (MSCBOT)

(Cell Biology of Plants)

2nd Semester Examination, Session December 2024

Time : 2:00 Hrs.

Max. Marks : 70

Note :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

Section-A

(Long Answer Type Questions) 2×19=38

Note :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

1. Describe the structure and chemical nature of eukaryotic chromosome. What are special types of chromosomes ?
2. Write a detailed account on ultrastructure of plant cell with well labelled diagram and explain difference between plant and animal cell.
3. What are checkpoints in cell cycle ? Illustrate in detail using suitable examples.
4. Write down explanatory note on any *two* of the following :
 - (a) Plant vacuole.
 - (b) Synaptonemal complex.
 - (c) peroxisome.
5. What is the site of protein synthesis ? Describe the structure and function of the organelle, which is involved in protein synthesis.

Section–B

(Short Answer Type Questions) 4×8=32

Note :– Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. How would you justify that “mitochondria are semiautonomous in their existence” ?

2. Define the term granum, thylakoid, chromoplast and leucoplast.
3. Write short notes on any *two* of the following :
 - (a) Mitotic spindle.
 - (b) Plasmodesmata.
 - (c) Functions of Endoplasmic reticulum.
4. Describe the Fluid mosaic model of plasma membrane with well labelled diagram.
5. Discuss the role of Lysosomes in digestion of macromolecules.
6. Explain the structure and functions of the Golgi apparatus.
7. Differentiate between any two of the following :
 - (a) Prophase I and prophase II of meiosis.
 - (b) Chromatid and chromosomes.
 - (c) Primary cell wall and secondary cell wall.
8. Write an account on the plant receptors involving in signaling pathway.
