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Total Pages : 3

Roll No.

MSCBOT-506

Cell Biology of Plants

M.Sc. Botany (MSCBOT)

2nd Semester Examination, 2023 (June)

Time : 2 Hours]

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 answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A

(Long Answer Type Questions)

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.

(2×19=38)

- 1.** Describe ultrastructure of plant cell with suitable diagram. What is the difference between plant and animal cell ?

2. (a) Discuss the significance of mitosis and meiosis in the life cycle of an organism.
(b) Mention any three point at which mitosis differ from meiosis.
3. Describe the structure, biogenesis and functions of ribosomes.
4. Explain the structure of chloroplast and write its functions in the cell.
5. Discuss the structure and chemical nature of chromosomes. What are special types of chromosomes?

SECTION-B

(Short Answer Type Questions)

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. (4×8=32)

1. Write a short note on cell signaling.
2. Write down about the active transport mechanism performed by the nuclear envelope.
3. Write short note on any *two* :
 - (a) Anaphase movements.
 - (b) Functions of endoplasmic reticulum.
 - (c) Biogenesis of mitochondria.

4. Differentiate between any *two* :
 - (a) Prokaryotic and eukaryotic cells.
 - (b) Biogenesis and abiogenesis.
 - (c) Heterochromatin and euchromatin.

 5. Discuss the role of calcium calmodulin cascade in signal transduction of plants.

 6. Describe the structure and functions of plant cell wall.

 7. Mitochondria called as "power house of the cell". Why?

 8. What is senescence ? Discuss cause and effect of senescence briefly.
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