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Total Pages : 3

Roll No.

MBOT-601

Cell Biology and Genetics

M.Sc. Botany (MSCBOT)-20

3rd Semester Examination, 2022 (Dec.)

Time : 2 Hours]

[Max. Marks : 35

Note : This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION-A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nine and Half ($9\frac{1}{2}$) marks each. Learners are required to answer any Two (02) questions only.
($2 \times 9\frac{1}{2} = 19$)

- 1.** Draw a well labelled diagram of Transmission Electron Microscope (TEM). Also discuss its types, working mechanism and uses in detail.

2. Write a detailed note on plasma membrane, its chemical composition and different models proposed on the structure of plasma membrane.
3. Describe the morphology of chromosomes in detail with the help of suitable diagram.
4. What is cell cycle? Explain the mechanism of cell cycle control and their checkpoints in detail.
5. What do you understand by DNA damage? Write a detail essay on DNA repairing.

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. What do you understand by magnification and resolution of microscope?
2. Write the functions of endoplasmic reticulum in a cell.
3. Discuss the nucleosome model of DNA folding.

4. Write a short note on salivary gland chromosome.
 5. Briefly explain the programmed cell death.
 6. What is sex linkage?
 7. What is Frame-shift mutation?
 8. Describe the incomplete dominance with examples.
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