A-865

Total Pages : 3 **Roll No. ----------**

MBOT-601

Cell Biology and Genetics

M.Sc. Botany (MSCBOT)

3rd Semester Examination 2024 (June)

Time: 2:00 hrs Max. Marks: 35

Note : This paper is of Thirty Five (35) marks divided into Two (02) Section A and B. Attempt the questions contained in these sections according to the detailed given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

P.T.O.

Section-A (Long-Answer-Type Questions)

Note : Section 'A' contains Five (05) long-answer-type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

[2x9½=19]

Q.1. Discuss the different models of membrane structure, chemical composition and functions of plasma membrane.

Q.2. What are chromosomes? Describe the morphology and chemical composition of chromosomes in detail.

Q.3. Write a detailed note on the genetic recombination in bacteria with suitable diagrams.

Q.4. "Mendel's law of dominance as a fundamental inherent property of the gene is no longer valid for all cases" justify the statement with at least two suitable example.

Q.5. What do you understand by chromosomal aberrations? Discuss the numerical aberrations in detail.

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.

[4x4=16]

Q.1. Write the principle and working mechanism of fluorescence microscope.

Q.2. What is plasmodesmata? Discuss its significance in plant cell.

Q.3. Describe the nucleosome model of DNA folding.

Q.4. Write about the physical mutagenes.

Q.5. What is mismatch repair? Why it is necessary in cell?

Q.6. Discus the various reasons for programmed cell death.

Q.7. Describe the Lampbrush chromosomes.

Q.8. Briefly describe the genetic code.

****