

A-1219

Total Pages : 3

Roll No.

MBOT-601

M.Sc. Botany (MSCBOT)

Cell Biology and Genetics

Examination February, 2026

Time : 2:00 Hrs.

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. *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) (2×9½=19)

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.

A-1219

(1)

P.T.O.

1. Write an essay on Plasma membrane.
2. Draw a well labelled diagram of typical light microscope. Also discuss its main parts, working mechanism and uses in detail.
3. Explain Watson - Crick Model of DNA. Write a note on DNA replication.
4. What is cell cycle ? Explain the mechanism of cell cycle control and their checkpoints in detail.
- 5- What are chromosomal aberrations ? Discuss its types in detail.

Section–B

(Short Answer Type Questions) (4×4=16)

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.

1. Discuss briefly the structure of mitochondria with the help of labelled diagram.
2. Differentiate between Incomplete Dominance and Co-dominance.

3. What do you understand by heterochromatin ?
4. Describe various causes of gene mutation.
5. Describe briefly the process of transcription and translation.
6. What do you understand by dihybrid cross ?
7. Describe the process of conjugation in bacteria.
8. Write a short note on Lampbrush chromosome.
