

A-1226

Total Pages : 3

Roll No.

MBOT-609

M.Sc. Botany (MSCBOT)

Biotechnology

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.

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(1)

P.T.O.

1. What is micropropagation ? Outline the steps involved in micropropagation and also discuss its applications and limitations.
2. Discuss the various methods used for induction of haploid along with merits and demerits.
3. Give a detailed account on methods of *in-vitro* conservation of germplasm.
4. Describe the different methods of fusion of protoplasts for production of somatic hybrids.
5. What is a transgenic plant ? Discuss its achievements and advantages with suitable examples.

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. What is totipotency ? Give a brief note on application of totipotency.
2. Write short notes on any *two* of the following :
 - (a) WIPO
 - (b) Genome
 - (c) Benefits of DNA sequencing

3. Give a brief note on the methods of protoplast isolation.
4. Describe the following (any *two*) :
 - (a) Production of synthetic seeds and their applications
 - (b) Biosafety
 - (c) CBD
5. Write a short note on role of anther, pollen and ovule cultures in crop improvement
6. Write brief notes on the following :
 - (a) Cybrids
 - (b) Bt-Cotten
 - (c) *Bacillus thuringiensis*
 - (d) NBPGR
7. Write a short note on cryopreservation facilities in India.
8. Explain the following :
 - (a) Genetic engineering techniques
 - (b) Achievements of somatic hybridization
