

K-379

Total Pages : 3

Roll No.

MBOT-609

Biotechnology

M.Sc. Botany (MSCBOT)

4th Semester Examination, 2023 (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. 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)

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.

(2×9½=19)

1. What is Cryopreservation? How is it helpful in Plant tissue culture?
2. How does Biotechnological tools and approaches can be used for human welfare?
3. What is Protoplast culture? Describe different steps involved in this process.
4. What is Pollen and Anther culture? Describe the steps involved in it.
5. Write short notes on :
 - (a) Bt-cotton
 - (b) Somatic Hybridization.

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 is IPR? What are its uses?
2. Write short notes ovule culture.

3. Differentiate between direct and indirect organogenesis.
 4. What are transgenic plants? Explain their benefits.
 5. Write short notes on *Agrobacterium* mediated genetic transformation.
 6. What is genomics and proteomics.
 7. How does cryopreservation can be used for germplasm storage?
 8. Write short notes on :
 - (a) Ti plasmid
 - (b) *In-vitro* morphogenesis.
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