



RAN-2303080403030003

M.Sc. (Sem.-III) Examination October - 2025

Botany : Bot - 3003 Plant Tissue Culture

Time: 3 Hours]

[Total Marks: 70

સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) All questions are compulsory.
- (3) Figures to the right indicate full marks.
- (4) Draw neat and labelled diagram wherever necessary.

Seat No.:

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Student's Signature

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| Q.1. | Describe (Any two) | 16 |
| | <ol style="list-style-type: none"> a. Factors affecting vascular tissue differentiation. b. Arrangement for aseptic manipulation in plant tissue culture laboratory. c. Importance and application of growth chamber. | |
| Q.2. | Describe (Any two) | 18 |
| | <ol style="list-style-type: none"> a. Application of auxins and cytokinins in tissue culture. b. Physical and chemical methods for sterilization of culture media. c. Significance of stock preparation, pH and buffer for media preparation. | |
| Q.3. | Describe (Any two) | 18 |
| | <ol style="list-style-type: none"> a. Steps involved in micropropagation. b. Give an account on production of homozygous diploids through ovule culture. c. Discuss the application of haploid culture. | |
| Q.4. | Describe (Any two) | 18 |
| | <ol style="list-style-type: none"> a. Batch / continuous culture technique. b. Explain the concept of Germplasm Conservation discussing the importance of plant tissue culture in <i>ex-situ</i> conservation. c. Explain the phenomenon and importance of somaclonal variations. | |