

Paper / Subject Code: BOD101 / Botany - Plant Tissue Culture

BOD101

Total No. of Printed Pages:1

B.Sc. (CBCS) (Semester -V)
EXAMINATION NOVEMBER 2022
Botany
Plant Tissue Culture

[Duration : 2 Hours]

[Total Marks : 60]

Instructions:

- 1) All questions are compulsory.
- 2) Figure to the right indicate maximum marks assigned to the question.
- 3) Draw appropriate labelled diagram wherever necessary.

Q.1 Answer any three of the following.

12

- i) What are the different types of media on the basis of composition and consistency?
- ii) Briefly discuss history of plant tissue culture.
- iii) What is organogenesis? Comment on the role of plant growth regulators in organogenesis.
- iv) List the applications of somatic hybridization.
- v) Mention the ideal condition required for incubation of cultures.

Q.2 Answer any three of the following.

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- a) What is root culture? State the applications of root culture.
- b) List the applications of meristem culture.
- c) What are the different methods for determining cell viability in suspension culture?
- d) Write the tests used to determine viability of isolated protoplast.
- e) Give the important role played by plant tissue culture in conserving forest trees.

Q.3 A) Give an outline of a plant tissue culture laboratory.

6

OR

A) Give an account of sterilization and inoculation of explant.

6

B) What is somaclonal variation? Discuss genetic type of variation.

6

Q.4 A) Briefly describe the various stages involved in micro-propagation.

6

OR

A) Describe the principle and protocol of anther culture.

6

B) Explain the growth pattern of single cells in a batch culture with the help of graph.

6

Q.5 A) What is somatic hybridization? Add a note on chemo-fusion.

6

OR

A) Explain the mechanism of protoplast fusion.

6

B) Write a short note on cryopreservation.

6