



Reg. No. :

Name :



K19P 1076

**III Semester M.Sc. Degree (CBSS-Reg./ Suppl./Imp.)
Examination, October - 2019
(2014 Admission Onwards)**

Botany

BOT 3E01: BIOTECHNOLOGY AND BIOINFORMATICS

Time : 3 Hours

Max. Marks : 60

Instructions: Draw Diagrams wherever necessary.

SECTION - A

(2x8=16)

1. a) What are the different methods involved in the isolation of somaclonal variation? Add a note on applications of somaclonal variation.

(OR)

- b) Give an account on cryopreservation of plant tissues and its application.
2. a) Write an account on virus resistant transgenic plants and its applications.

(OR)

- b) Give an account on the construction of genomic libraries. Add a note on its significances.

SECTION - B

(Answer any **Two**)

(2x6=12)

3. a) What is Swiss PROT?
b) Write a note on multiple sequence alignment.
c) How to predict genes using bioinformatics?

(1+2+3)

4. a) What is a continuous culture?
b) What are the types of continuous culture?
c) What are the methods of growth measurements used in continuous culture.

(1+2+3)

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(2)



5. a) What is somatic hybridisation?
- b) What are the applications of somatic hybridisation?
- c) Explain the limitations of somatic hybridisation. (1+2+3)

SECTION - C

(Answer any **Six**)

(6x3=18)

6. Describe organ culture.
7. Write a note on chemical sterilisation of explant
8. Write a note on cytoplasmic male sterility.
9. How bioinformatics tools are useful in the study of proteins?
10. What are the different types of gelling agents used in plant tissue culture?
11. Write a note on edible vaccines.
12. What are the significances of molecular visualisation tools in biology?
13. Write a note on endosperm culture.

SECTION - D

(Answer any **Seven**)

(7x2=14)

14. Meristemoids
 15. cDNA
 16. Calcofluor white
 17. NCBI
 18. Nurse culture
 19. Terminator gene
 20. Sequence alignment
 21. *B. thuringiensis*
 22. Liposomes
 23. Redifferentiation
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