



K21P 0965

Reg. No. :

Name :

III Semester M.Sc. Degree (CBSS – Reg./Suppl./Imp.)

Examination, October 2021

(2018 Admission Onwards)

BOTANY

BOT3E01 : Biotechnology and Bioinformatics

Time : 3 Hours

Max. Marks : 60

Instruction : Draw diagrams wherever necessary.

SECTION – A

1. a) Explain the production of secondary metabolites using tissue culture techniques and factors affecting it. Add a note on its significance and limitations.

OR

- b) Give a detailed account on somatic hybridisation and selection of hybrids.
2. a) What are the different methods of direct DNA transfer technique ? Add a note on advantages and disadvantages of each method.

OR

- b) Give an account on generation of insect resistant transgenic plants with the help of a suitable example. (2×8=16)

SECTION – B

(Answer any two)

3. a) What is PDB ?
b) Describe sequence databases.
c) What are the applications of databases in biology ? (1+2+3)
4. a) What are somatic embryos ?
b) Explain the types of somatic embryogenesis.
c) Give an account on the factors responsible for the induction of somatic embryos. (1+2+3)

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5. a) What is haploid culture ?
b) Describe the methods to obtain haploid plantlets.
c) Give an account on advantages and limitations of haploid culture. (1+2+3)
(2×6=12)

SECTION – C
(Answer any six)

6. Give an account on significance of micropropagation.
7. Write a note on reporter genes.
8. Give an account on significances of somaclonal variation in plant breeding.
9. Describe in vitro conservation.
10. Write a note on antisense RNA technology.
11. Give an account on genomic library.
12. Write a note on SNP databases.
13. Describe restriction mapping tools. (6×3=18)

SECTION – D
(Answer any seven)

14. Meristem culture.
15. FDA.
16. Friable callus.
17. Ribosome inactivating protein.
18. Gene prediction.
19. Vitrification.
20. Calcium aginate.
21. Vector NTI.
22. *Agrobacterium rhizogenes*.
23. Biodegradable plastic. (7×2=14)