K20P 1076

Reg. No. : .....

Name : .....

III Semester M.Sc. Degree (CBSS – Reg./Suppl./Imp.) Examination, October 2020
(2014 Admission Onwards)
BOTANY
BOT 3E01 : Biotechnology and Bioinformatics

Time : 3 Hours Max. Marks : 60

***Instruction** : Draw diagrams **wherever** necessary.*

SECTION – A

1. a) What are the different methods involved in the isolation and culturing of protoplast ?

OR

b) Write an account on different types of suspension culture and synchronisation of cells. Add a note on its application.

2. a) Give an account on the construction of cDNA libraries. Add a note on its significances.

OR

b) Describe *Agrobacterium* mediated gene transfer technique along with its advantages and disadvantages. **(2×8=16)**

SECTION – B

Answer **any two**.

3. a) Define a database.
   b) What are structural databases ?
   c) Which are the major bioinformatic resources available and their applications ? **(1+2+3)**

4. a) What is organogenesis ?
   b) What are the types of organogenesis ?
   c) Write a note on factors affecting organogenesis. **(1+2+3)**

P.T.O.

5. a) What are cryoprotectants ?
   b) Explain slow freezing of tissues.
   c) What are the applications of cryopreservation ? **(1+2+3)**

(2×6=12)

SECTION – C

Answer **any six**.

6. Write a note on liposome mediated gene transfer.
7. Describe meristem culture.
8. Give an account on Bt cotton.
9. Write a note on molecular visualisation tools.
10. Give an account on gene bank.
11. Explain somaclonal variation.
12. How to predict a gene using bioinformatics ?
13. Describe anther culture. **(6×3=18)**

SECTION – D

Answer **any seven**.

14. Totipotency.
15. Cybrids.
16. Antisense RNA.
17. Clustal W.
18. Evan's blue.
19. Endosperm culture.
20. Primer 3.
21. PR-proteins.
22. Xylogenesis.
23. Gelrite. **(7×2=14)**