



K24U 0017

Reg. No. :

Name :

Sixth Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, April 2024
(2019 to 2021 Admissions)
CORE COURSE IN BOTANY/PLANT SCIENCE
6B12BOT/PLS : Biotechnology and Bioinformatics

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams wherever necessary.

PART – A

Objective type questions. Answer **all**.

(4×1=4)

1. PIR stands for
a) Protein Information Resource
b) Protein Information Reader
c) Plasmid Information Repository
d) Protein Inducing Reaction
2. Virus free plants are obtained through
a) Leaf explant culture
b) Meristem culture
c) Organ culture
d) Callus culture
3. In CRISPR – Cas 9, Cas 9 is a
a) Vector
b) Restriction endonuclease
c) Ligase enzyme
d) Cloning vector
4. RGCB is located in
a) Hyderabad
b) Thiruvananthapuram
c) Nagpur
d) New Delhi

PART – B

Short essay questions. Answer **any eight**.

(8×2=16)

5. Briefly explain the significance of cDNA library
6. What is anther culture and write its significance.

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7. Explain the significance of endosperm and embryoculture.
8. What are GM crops ? Give examples.
9. What are the applications of DNA fingerprinting ?
10. Write short notes on tissue engineering.
11. Explain the sterilization practices adopted for explant and chemicals in tissue culture.
12. What are bioreactors ?
13. What is Northern blotting ?
14. What is RT-PCR ? What is the importance of it ?
15. Write short notes on PDB.
16. What is ENTREZ ?

PART – C

Essay questions. Answer **any four**.

(4×3=12)

17. Explain Sangers method of DNA sequencing.
18. Describe various steps in rDNA technology.
19. Explain RFLP and its applications.
20. Describe on proteomics and genomics
21. Explain the role of BAC and YAC in rDNA technology.
22. Explain on GM crops and their significance.

PART – D

Long essay questions. Answer **any one**.

(1×8=8)

23. Explain the applications of nano biotechnology in various fields.
24. Explain the sequence alignment tools in bioinformatics.
25. Explain agrobacterium mediated gene transfer and its applications in crop improvement.