K23U 0472

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, April 2023
(2019 and 2020 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. A Cellular process in which a differentiated cell loses its special form or function, or reverts to an earlier developmental stage
   a) Dedifferentiation
   b) Redifferentiation
   c) Differentiation
   d) None
2. Artificially encapsulated plant material for propagation
   a) Terminator seeds
   b) Synthetic seeds
   c) Dorminant seeds
   d) None
3. Excision and insertion of gene is called
   a) Gene therapy
   b) Biotechnology
   c) Genetic Engineering
   d) None
4. Golden rice is obtained by genetic engineering to biosynthesize
   a) Special vitamins
   b) Beta-carotene
   c) Harmones
   d) None

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PART – B

Short essay questions. Answer **any eight**. **(8×2=16)**

5. What is the benefits of biotechnology in Agriculture ?
6. What is Golden rice ? In what way it is different from normal rice ?
7. What is redifferentiation and differentiation ?
8. Explain PCR.
9. Mention the uses of Gel electrophoresis.
10. What is molecular DNA marker ?
11. Explain DNA finger printing.
12. Explain ENTREZ.
13. What is the role of *Agrobacterium* in Biotechnology ?
14. Mention the difference between cDNA library and genomic library.
15. Mention the principles of rDNA technology.
16. What is replica plating ?

PART – C

Essay questions. Answer **any four**. **(4×3=12)**

17. Mention the components of MS media.
18. Explain RAPD.
19. Explain Nucleotide sequence database.
20. Describe the role of biotechnology in crop improvement.
21. Write notes on terminator seeds.
22. Explain PBR 322.

PART – D

Long essay questions. Answer **any one**. **(1×8=8)**

23. Explain secondary metabolite production in bioreactors.
24. Explain BLAST in detail.
25. Describe the application of nanotechnology in life sciences.

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