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**V Semester B.Sc. Degree Examination, March - 2021**  
**BIOTECHNOLOGY**  
**Genetic Engineering and Environmental Biotechnology**  
**(CBCS Scheme)**  
**Paper : V**

**Time : 3 Hours**

**Maximum Marks : 70**

**Instructions to Candidates**

- 1) All the Sections are compulsory.
- 2) Draw neat labelled diagrams wherever necessary.

**SECTION - A**

**I. Write short notes on the following: (5×2=10)**

1. PUC 19.
2. Reverse transcriptase.
3. Transcription terminators.
4. Bacterial biofertilizer.
5. Sludge treatment.

**SECTION - B**

**II. Answer any Four of the following : (4×5=20)**

6. Explain casmid vector in gene cloning.
7. Write a note on southern blotting.
8. Enumerate the impact of conventional fuels on environment.
9. What is bioremediation ? Explain briefly.
10. Give an account of biopesticides.

**[P.T.O.]**



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**SECTION - C**

**II.** Answer any **Three** of the following. **(3×10=30)**

11. What are gene libraries? Explain CDNA cloning technique.
12. Explain  $\text{CaCl}_2$  mediated and microinjection methods of transformation techniques.
13. Explain in detail the steps involved in Agarosegel electrophoresis. Add a note on its application.
14. Describe the method of microbial conversion of sugar to alcohol and add a note on gasohol.
15. Explain the steps involved in municipal waste water treatment.

**SECTION - D**

**IV.** Answer the following in One word or a sentence each: **(10×1=10)**

16. What is the function of DNA ligase?
  17. Name the organism from which ECORI is isolated.
  18. What is the function of Alkaline phosphatase?
  19. Write any one application of genomic DNA library.
  20. What is autoradiography?
  21. Who developed PCR technique?
  22. Name any one methogenic bacterium.
  23. Name a vectorless method of gene transfer.
  24. Name any one microorganism used in biodegradation of cellulose.
  25. What is insitu bioremediation?
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