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**GN-280**

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V Semester B.Sc. Examination, December - 2019

(CBCS) (F+R)

**BIOTECHNOLOGY - V**

**Genetic Engineering and Environmental Biotechnology**

Time : 3 Hours

Max. Marks : 70

**Instruction :** Draw a neat labelled diagrams wherever **necessary**.

**SECTION - A**

**I.** Write short notes on the following :

**5x2=10**

1. RNase H
2. Colony hybridization
3. Pyrolysis
4. Petrocrops
5. Phytoremediation

**SECTION - B**

**II.** Answer **any four** of the following :

**4x5=20**

6. Write a note on plasmid and cosmid.
7. Explain mechanism of action of restriction enzymes.
8. Give an account on microbial hydrogen production.
9. Explain Sanger's method of nucleic acid sequencing.
10. How are GMO's environmentally significant ? Justify.

**SECTION - C**

**III.** Answer **any three** of the following :

**3x10=30**

11. Explain the steps involved in 'invitro construction of recombinant DNA'.
12. Discuss any three transformation techniques used to introduce rDNA into host organisms.
13. What is southern blotting ? With a neat labelled diagram write the procedure and applications of southern blotting.
14. Describe Bioremediation of soil and water contaminated with oil spills.
15. Write a note on :
  - (a) Biofertilizers
  - (b) Nitrogen fixation

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SECTION - D

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IV. Answer the following in a sentence or a word each :

10x1=10

- 16. Expand TEMED
- 17. Reverse transcriptase.
- 18. In-situ bioremediation
- 19. Azatobacter
- 20. Palandromic sequence
- 21. Polynucleotide kinase
- 22. Name any one marker gene
- 23. Gasification
- 24. Expand VAM-
- 25. Biofilm

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05-20

05-20

P.T.O.