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B.M.S. COLLEGE FOR WOMEN
BENGALURU – 560004

V SEMESTER END EXAMINATION – JAN/FEB - 2024

B.Sc. – BIOTECHNOLOGY - GENETIC ENGINEERING
(NEP Scheme 2021-22 Onwards)

Course Code: BT5DSC05

Duration: 2 ½ Hours

QP Code: 5032

Max. Marks: 60

PART-A

I. Answer any FOUR of the following.

(4X2=8)

1. What is Cosmid? Give an example.
2. What is CRISPR Cas9 technique?
3. Discuss on function of phosphatases.
4. Define Biopharming. Give an example.
5. Discuss on drawbacks of Bt Cotton.
6. Comment on the role of synthetic biology in genetic engineering.

PART-B

II. Answer any FOUR of the following.

(4X5=20)

7. What are restriction enzymes? Add a note on its classification.
8. Give a brief account on construction of cDNA library.
9. Illustrate the steps involved in Sanger's DNA sequencing.
10. Discuss on the ethical implications associated with genetic engineering.
11. Write short notes on Gene therapy in treating genetic disorders.
12. Explain the design and construction of artificial biological systems.

PART-C

III. Answer any FOUR of the following.

(8X4=32)

13. Outline the steps involved in isolation and purification of DNA.
14. Define blotting. Explain the principle, technique and applications of Southern blotting.
15. Explain the technique and applications of a) DNA Microinjection b) Electroporation.
16. Define DNA fingerprinting. Comment on its technique and applications.
17. Describe the role of genetic engineering in development of vaccines.
18. Explain the regulatory guidelines and safety consideration in genetic engineering research.
