

**Sixth Semester B.Sc. Degree Examination, September 2020**

(CBCS Scheme)

**Botany**

**Paper VIII – MOLECULAR BIOLOGY, GENETIC ENGINEERING,  
BIOINFORMATICS AND BIOTECHNOLOGY**

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates :

- 1) Answer all Parts.
- 2) Draw diagrams wherever necessary.

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**PART – A**

I. Answer any **TEN** of the following : (10 × 2 = 20)

1. What is single cell protein? Give an example.
2. Mention any two applications of DNA fingerprinting.
3. Differentiate between Nucleotide and Nucleoside.
4. What is PCR? Mention its significance.
5. Differentiate between T-DNA and c-DNA.
6. Mention any two advantages of biomining.
7. What are biological databases? Mention its types.
8. Differentiate between sense and anti-sense strand.
9. What is Lac-operon? Who proposed it?
10. What is polindromic sequence? Mention its significance.
11. What are molecular sutures? Give an example.
12. What are transgenic plants? Give an example.

**PART - B**

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

**(6 × 5 = 30)**

13. RNA splicing
14. Insulin production
15. PIR
16. Restriction endonucleases
17. Southern blotting
18. Britten - Davidson's model
19. Bioremediation
20. Primary treatment of sewage water

**PART - C**

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

**(4 × 10 = 40)**

21. Explain Translation.
22. Explain the steps involved in r-DNA technology.
23. Describe the structure of B-DNA.
24. Explain Sanger's method of DNA sequencing.
25. Explain the production of ethyle alcohol.
26. Explain :
  - (a) Genomic library
  - (b) DDBJ