23P430 (Pages: 2) Name : .....

Reg. No : .....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2025

(CBCSS-PG)

(Regular/Supplementary/Improvement)

CC19P BOT4 E02 - GENETIC ENGINEERING

(Botany)

(2019 Admission onwards)

Time: 3 Hours Maximum: 30 Weightage

Part-A

Answer any ***four*** questions. Each question carries 2 weightage.

1. Distinguish the role of Restriction enzymes.
2. Generalize the use of Southern blotting.
3. Justify the role of Microsatellite and Minisatellite in Genetic engineering.
4. Explain transgenic organism.
5. Explain the role of Taq polymerase in genetic engineering.
6. Explain VNTR
7. Discuss on RNA nanotechnology.

(4 × 2 = 8 Weightage)

Part-B

Answer any ***four*** questions. Each question carries 3 weightage.

8. Explain the structure of genes in prokaryotes.
9. Discuss Genetic code and codons.
10. Explain restriction mapping.
11. Assess the significance of molecular markers. Expand RAPD and RFLP.
12. Assess the the procedure of AFLP.
13. Analyze how vaccines are produced by rDNA technology.
14. List the non- viral approaches of gene Therapy.

(4 × 3 = 12 Weightage)

Part-C

Answer any ***two*** questions. Each question carries 5 weightage.

15. Describe in detail Vector depended and independent method gene transfer.

16. Explain the chemical method of DNA sequencing and also mention other methods.

17. Explain Electrophoresis and predict its applications in Biology.

18. Explain with the help of suitable examples how genetic engineering is useful for bioremediation of various environmental pollutions.

(2 × 5 = 10 Weightage)

****