22P430 (Pages: 2) Name: .....

Reg.No: .....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2024

(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. Explain cDNA library.
2. Compare pBR322 and Phage lambda.
3. Assess the role of EST markers.
4. Assess the role of Microsatellite.
5. Explain enzymatic method.
6. Analyze the production of insulin through gene cloning.
7. Explain the significance of GMOs used against environmental Pollution.

(4 × 2 = 8 Weightage)

Part-B

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

8. Explain the structure of genes in prokaryotes.
9. Explain the methods of creating rDNA molecules.
10. Describe dot – blot technique and other blotting techniques in brief.
11. "RAPD is advanced than RFLP". Justify
12. Explain PAGE.
13. Describe the PCR procedure. Explain its advantages and limitations.
14. Describe briefly on the applications of nanotechnology in Medicine.

(4 × 3 = 12 Weightage)

Part-C

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

15. Explain the principle and procedure involved in Agrobacterium mediated genetic transformation of plants.

16. Explain how genetic engineering can be applied to crop improvement with special reference to transgenic plants.

17. Explain DNA fingerprinting. Explain the significance VNTR and minisatellite.

18. Mention the different approaches by which transgenes are introduced into patients during gene therapy. Discuss their advantages and disadvantages.

(2 × 5 = 10 Weightage)

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