21P432 (Pages: 2) Name: .....

Reg.No: .....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2023

(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 the promoter region in prokaryotes.
2. Analyze the role of Restriction endonuclease
3. Explain Gene gun method.
4. Assess the role of Minisatellite as molecular marker.
5. Explain PAGE.
6. Explain Nested PCR.
7. Explain superbug in environment cleanup programs.

(4 × 2 = 8 Weightage)

Part-B

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

8. Explain the characteristics of genetic code and codons.
9. Explain the methods of creating rDNA molecules.
10. Explain the application of Western blotting
11. Assess the role of EST markers.
12. Explain Maxam – Gilbert method of DNA sequencing.
13. Examine the role of gene cloning in the field of growth hormone production
14. Mention the different approaches by which transgenes are introduced into patients during gene Therapy and add a note on its advantages and limitations

(4 × 3 = 12 Weightage)

Part-C

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

15. " A Molecular marker is DNA sequence in the genome which can be located and identified" Justify with sutable examples.
16. Discuss the significance of genetically modified organisms in various aspects.
17. Explain the process of DNA fingerprinting. What are its applications, especially in crime investigations?
18. “Nanotechnology is an emerging field in medicine with lots of Promise” Explain this statement.

(2 × 5 = 10 Weightage)

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