QP CODE: 25014056

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Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) SPECIAL REAPPEARANCE EXAMINATIONS, FEBRUARY 2025

Fifth Semester

B.Sc Botany and Biotechnology Model III Double Main

CORE COURSE - BO5CRT22 - METHODS IN RECOMBINANT DNA TECHNOLOGY

2022 Admission Only

B39C4E89

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. What is EtBr?
2. Name two commercial kits for genomic DNA isolation.
3. List out the components of alkaline lysis solution I.
4. Write a note on the principle of electrophoresis.
5. What is hybridization?
6. Name the enzyme used in linking the DNA segments together.
7. How ʎ-exonuclease differs from exonuclease III?
8. What is shot gun cloning?
9. What are GFP genes?
10. List out various transfection methods for gene transfer in eukaryotes.
11. Name the method which allows introduction of foreign gene by exposing cells to high voltage electric pulse.
12. How recombinant DNA technology can be cleared in social issues?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Write in detail mode of action and importance of RNase T1.

14. How was RNA isolated using guanidium hot phenol method?

15. Write on working of electro gel elution.

16. Describe different labelling procedures used in probe labelling.

17. Write down the essential features of a cloning vector.

18. Explain the structure of PAC vector.

19. Name the tools of recombinant DNA technology. Write a note on restriction enzymes .

20. Write a note on transgenic organisms and their applications.

21. Explain the mice model in gene knock out.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Comment on mode of action of RNase A and RNase T1.

23. Explain any two methods for labelling DNA probes?

24. How are gene transfer techniques classified? Explain.

25. How recombinant DNA technology can be applied for human benefits? Explain.

(2×10=20)