E 2991 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2022

Fifth Semester

Core Course 16—RECOMBINANT DNA TECHNOLOGY

(For B.Sc. Biotechnology)

(2013 to 2016 Admissions)

Time : Three Hours Maximum Marks : 80

Part A

Answer **all** *questions.*

Each question carries 1 *mark.*

1. Write about pUC.
2. What is electroporation?
3. Explain the use of molecular probe.
4. What is particle bombardment?
5. Write about terminal transferase.
6. Explain the importance of alkaline phosphatase.
7. Point out uses of S1 nuclease.
8. What is a thermocycler?
9. Name two reporter genes
10. Write about significance of YAC.

(10 × 1 = 10)

Part B

Answer any **eight** *of the following.*

Each question carries 2 *marks.*

11. Explain insertional inactivation.
12. Write a short note on shuttle vectors
13. Give a short note on Klenow fragment.
14. Differentiate RAPD and RFLP.

Turn over

15. Explain reverse transcription and its importance.
16. Write about colony hybridization.
17. Write about marker genes.
18. Explain southern blotting.
19. What is chromosome walking?
20. Explain the advantages and disadvantages of Microinjection.
21. Write a short note on Bt cotton.
22. Explain the importance of palindromic sequences in genetic engineering with example.

(8 × 2 = 16)

Part C

Answer any **six** *of the following.*
Each question carries 4 *marks.*

23. Explain gene therapy.
24. Describe the process and application of DNA sequencing.
25. Explain molecular pharming.
26. Write an account on short gun cloning.
27. Enlist and explain steps of Genetic Engineering.
28. Explain production of recombinant insulin.
29. Enumerate applications of Genetic Engineering.
30. Describe the construction of Genomic library.
31. Write a note on Human genome project.

(6 × 4 = 24)

Part D

Answer any **two** *of the following.*
Each question carries 15 *marks.*

32. Describe Agrobacterium mediated gene transfer. Explain the possibility of using this technique in monocots for gene transfer.
33. Write an account on gene cloning vectors.
34. Explain how transgenic plant with pest resistance can be created with example.
35. Write an account on applications of Genetic Engineering.

(2 × 15 = 30)