

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2017****Fifth Semester****Core Course 16—RECOMBINANT DNA TECHNOLOGY**

(For B.Sc. Biotechnology)

[2013 Admission onwards]

Time : Three Hours

Maximum Marks : 80

**Part A**

*Answer all questions.  
Each question carries 1 mark.*

1. What is T-DNA ?
2. What is a restriction map ?
3. What is a shuttle vector ?
4. Write about biolistics.
5. What is Klenow fragment ?
6. Name two marker genes.
7. What is lipofection ?
8. What is the importance of S1 nuclease ?
9. What is chromosome walking ?
10. What is the importance of heterologous probe ?

(10 × 1 = 10)

**Part B**

*Answer any eight questions.  
Each question carries 2 marks.*

11. Explain PCR.
12. Differentiate BAC and YAC.
13. Write about functioning of restriction endonucleases.
14. What is insertional inactivation ?
15. Differentiate RAPD and RFLP.
16. Write a note on pBR 322.
17. What is Gene therapy ?
18. Write about Human Genome Project.

Turn over

19. Write a note on Taq polymerase.
20. Mention different types of DNA polymerase enzyme.
21. Give an account of Bt cotton.
22. Write a note on alkaline phosphatase.

(8 × 2 = 16)

### Part C

*Answer any six questions.  
Each question carries 4 marks.*

23. Write an account on enzymes used in Genetic Engineering.
24. Explain molecular pharming.
25. What is cDNA ? Explain cloning of cDNA.
26. Explain southern blotting.
27. Describe various steps in genomic library construction.
28. Write an account of reporter genes.
29. Write a note on recombinant insulin.
30. Give an account of DNA sequencing.
31. Explain how a transgenic herbicide resistant plant can be produced.

(6 × 4 = 24)

### Part D

*Answer any two questions.  
Each question carries 15 marks.*

32. Give an account of vectorless gene transfer methods.
33. Explain genetic engineering. Write about applications of Genetic Engineering.
34. Write an account on commonly used vectors in Genetic Engineering. Mention merits and demerits.
35. Describe Agrobacterium mediated gene transfer and its applications.

(2 × 15 = 30)