MAR IVANIOS COLLEGE (AUTONOMOUS)
THIRUVANANTHAPURAM

Reg. No. :…… **Name :……**

Fifth Semester Career Related B.Sc. Degree Examination, November 2016
First Degree Programme under CBCSS
Vocational Course – VII: (for Botany and Biotechnology)
AUBB551: Recombinant DNA Technology

Time: **3** Hours Max. Marks: **80**

SECTION – A

*Answer **ALL** the following in a word or one or two sentences.*

1. Define rDNA technology.
2. The two selectable markers on pBR322.
3. ------ are enzymes which remove nucleotides one at a time from the end of a DNA molecule.
4. A zone of clearance on a lawn of bacteria caused by lysis of the cells by infecting phage particles is called --------
5. 5.Marker gene
6. Multiple cloning sites
7. Biolistics.
8. Blunt end
9. Gene therapy
10. An example for a λ insertion vector.

(10 × 1 = 10 Marks)

SECTION – B

*Answer any **EIGHT** questions, not exceeding a paragraph.*

11. Explain cosmid vectors.
12. Expand RFLP and RAPD.
13. Write a note on microarrays.

14. Differentiate between expression vectors and shuttle vectors.
15. Differentiate between a transgenic animal and a cloned animal.
16. Comment on YAC vectors.
17. Lipofection and Electroporation
18. Write a short note on Human Genome Prtoject.
19. Write a note on restriction endonucleases.
20. Isoschizomers
21. Klenow fragment.
22. What are plasmids? Define copy number of a plasmid? Example for a plasmid vector.

(8 × 2 = 16 Marks)

SECTION – C

*Short essay type : Answer any **SIX** questions.*

23. Southern hybridization.
24. Discuss on ethics in genetic engineering.
25. Discuss on M13 phage vectors
26. Write a note on naming of restriction endonucleases with an example.
27. Write a note on DNA sequencing methods.
28. Explain on pUC vectors .Comment on Lac Z' gene and α complementation.
29. Discuss on cDNA libraries. Comment on cDNA library production and its applications.
30. Explain BAC vector with diagram. Mention two applications of BAC vector.
31. What are molecular markers ? Write notes on RFLP, AFLP and RAPD.

(6 × 4 = 24 Marks)

SECTION – D

*Long essay type : Answer any **TWO** questions.*

32. Briefly describe on various enzymes used in genetic engineering.
33. What is PCR?What are the steps involved in PCR?Mention different types and its application.
34. Discuss on plasmid vectors used in gene cloning and its applications.
35. Discuss on direct and vector mediated gene transfer methods.

(2 × 15 = 30 Marks)

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