

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI –600 086
(For candidates admitted during the academic year 2009 - 10)

SUBJECT CODE: BY/PC/VG24

M. Sc. DEGREE EXAMINATION, APRIL 2010
BIOTECHNOLOGY
SECOND SEMESTER

COURSE : MAJOR CORE
PAPER : CLONING VECTORS AND GENETIC ENGINEERING
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A **(20 MARKS)**

ANSWER ALL THE QUESTIONS **(20 x 1 = 20)**

Define / Explain the following:

1. Neoisoschizomers
2. Terminal transferase.
3. Adaptors
4. South western Screening
5. Ti plasmid
6. PFGE
7. 2 μ plasmid
8. T7 promoter
9. Shuttle vector
10. Electroporation
11. T4 DNA ligase
12. cDNA
13. Dideoxynucleotide
14. RFLP
15. Minisatellites
16. Photolabeling
17. Cosmids
18. Phagemids
19. Chromosome walking
20. Antisense RNA

SECTION – B

ANSWER ANY FOUR QUESTIONS IN ABOUT 600 WORDS (4x 10 = 40)

21. Give an account on enzymatic method of probe labeling.
22. Write short notes on pBR322 and its derivatives.
23. Explain briefly about the steps involved in genomic DNA library construction.
24. Elaborate on the technique of site directed Mutagenesis.
25. Briefly explain the DNase foot printing assay and its applications.
26. Describe the salient features of Artificial chromosomes.

SECTION – C

ANSWER ANY TWO QUESTIONS IN ABOUT 1500 WORDS (2x 20 = 40)

27. Write in detail about the various methods to Select and screen the recombinants.
28. Give a detailed account on PCR and its variants.
29. Write notes on:
 - a. Bacteriophage Lambda vectors (10 marks)
 - b. DNA Fingerprinting (10 Marks)
30. Explain in detail the application of genetic engineering in the field of Medicine for the production of therapeutic products.
