

M. Sc. DEGREE EXAMINATION, NOVEMBER 2008
BIOTECHNOLOGY
FIRST SEMESTER

COURSE : CORE
PAPER : CLONING VECTORS & GENETIC ENGINEERING
TIME : 3 HOURS MAX. MARKS: 100

SECTION – A

Answer all questions:

20 x 1 = 20

1. Identify the enzymes which cleaves the following nucleotide sequence.
 - a) 5' CTGCAG 3'
 - b) 5' GAATTC 3'
2. Restriction modification.
3. Shuttle vectors.
4. Full length cDNA
5. YAC Vectors.
6. Differentiate blotting from hybridization.
7. Adaptor.
8. Fold back DNA.
9. Gratuitous Inducer.
10. Monocistronic
11. Nested fragments
12. Polynucleotide kinase.
13. Exonucleases & Endonucleases with one example.
14. Retrovirus.
15. Stuffer fragments.
16. Mycophage.
17. Primer dimer.
18. Copy number.
19. Promoters & terminators.
20. HRT.

SECTION – B**Answer any four questions in about 600 words :****4 x 10 = 40**

21. Write a brief account on DNA finger printing.
22. Write a brief account on cDNA synthesis.
23. Describe about chemical & enzymatic sequency.
24. How will you use retroviruses as vectors?
25. Write a brief account on various methods of blotting.
26. Explain the following:
 - a) Chromosomal walking
 - b) GM foods

SECTION – C**Answer any two questions in about 1500 words:****2 x 20 = 40**

27. Describe in detail about the construction of pBR322 and structure and functions of cosmid vectors.
28. Explain in detail about the types of restriction enzymes with suitable examples.
29. Write a detail account on various kinds of PCR and add a note on its applications.
30. Explain the following:
 - a) YRP Vectors
 - b) IPR
 - c) Phasmid Vectors.
 - d) Antisense RNA technology.
