SUBJECT CODE: BY/PC/VG14

M. Sc. DEGREE EXAMINATION, NOVEMBER 2007
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 enzyme which cleaves the following.

          a) 5' G↓AATTC 3'

          b) 5' G↓GATCC 3'

2.   Define   a) Cosmid

                    b) phagemid

3.   Explain YAC vectors.

4.   Define chimeric DNA with one example.

5.   Androgenic phages.

6.   Define Nested primer.

7.   Product Patent.

8.   Write about T and t antigen of SV4O vector.

9.   What are fusion proteins.

10.   Define Binary vector with example.

11.   Define Antisense RNA therapy.

12.   What is TARIFF & TRIP.

13.   Define   a) Electroporation.

                    b) Site directed mutagenesis.

14.   Competence.

15.   Head full Mechanism.

16.   Who won the Noble Prize for Rtase & tumour virus.

      a) David Baltimore   c) Paul Berg.

      b) Renato Dulbecco   d) Waltdl Gilbert.

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17. Thermal cycler.

18. Full length cDNA.

19. DNA foot printing is sometimes called as

    a) Dnase protection assay.   c) gel retardation

    b) Finger printing   d) Hyperchromic effect.

20. Proteome.

SECTION – B

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

21. Write a short note on cDNA synthesis & list out the advantages & disadvantages.

22. Illustrate the construction & structure of P^{BR322}.

23. Write a short note on restriction modification system.

24. Describe about chemical and enzymatic sequencing.

25. Differentiate southern blotting and hybridization.

26. Write a note on GM organisms.

SECTION – C

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

27. Write a detailed account on the following.

    a) YEP

    b) Labelling of GM foods.

    c) P^{Blue} script^{TM} vector.

    d) Dot blot technique.

28. Define restriction enzymes & explain the various types of restriction enzymes in detail.

29. Mention the various kinds of PCR & add a note its application.

30. Write a detailed account on Retroviral vectors with on examples.

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