

S.No. 1768

12UBT07

(For the candidates admitted from 2012-2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fifth Semester

Biotechnology

RECOMBINANT DNA TECHNOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are restriction enzymes?
2. DNA ligases.
3. Lambda phage.
4. F plasmid.
5. TMV.
6. Expression vectors.
7. *Thermus aquaticus*.

8. Southern blotting.
9. Site directed mutagenesis.
10. Chromosome jumping.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) How Taq DNA polymerase play important role in DNA studies?

Or

- (b) Explain the importance of polynucleotide kinases.
12. (a) Phagemid vectors used in gene cloning- Explain.

Or

- (b) What are the salient features of pUC 19 plasmids?
13. (a) How can SV40 be used as a vector in gene transfer?

Or

- (b) Write notes on shuttle vectors.

14. (a) Write notes on micro array technology.

Or

- (b) Comment on RAPD studies.

15. (a) How are cDNA and genomic libraries screened?

Or

- (b) Discuss the safety regulations associated with recombinant DNA technology.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE out of Five questions.

16. Discuss in detail about the strategies in gene cloning.
17. Elaborate on bacterial cloning vectors.
18. How plant viruses are used as a vector for gene cloning works?
19. Illustrate PCR types and applications.
20. Describe how recombinant DNA technology applied in solving human problems.