

S.No. 2000

12UMBS03

(For the candidates admitted from 2012–2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fifth Semester

Microbiology

SBEC — RECOMBINANT DNA TECHNOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Cosmid.
2. Polylinker.
3. PUC Vectors.
4. Virion.
5. Terminal Nucleotidyl transferase.
6. Methylases.
7. cDNA.

8. Bullets.
9. Transgenesis.
10. RT-PCR.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain Cosmid vectors.  
Or  
(b) Write a note on PUC Plasmid Vectors.
12. (a) Explain the Bacteriophage vectors.  
Or  
(b) Write a note on Yeast Artificial Chromosome.
13. (a) Explain the Restriction Endonucleases.  
Or  
(b) Explain the construction of Genomic libraries.
14. (a) Explain Sticky end and Blunt end Ligation.  
Or  
(b) Explain the role of linkers.

15. (a) Explain the types of polymerase chain reaction (PCR).

Or

- (b) Explain the Gene gun.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Differentiate the pBR 322 Plasmid vector and Phagemid vectors.
17. Explain the steps in cloning strategies.
18. Explain the importance of adapters and homopolymer tailing.
19. Explain the Microinjection and Transformation methods of Gene Transfer in bacteria.
20. Explain the principle and methodology of Polymerase chain reaction (PCR).