

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot
Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION NOVEMBER - 2017

M.Sc. Microbiology

16PMBCC09 – GENETIC MANIPULATION TECHNIQUES

Duration of Exam – 3 hrs

Semester – III

Max. Marks – 70

Part A (5X2= 10 marks)

Answer **ALL** questions

1. Mention the significance of alkaline phosphatase
2. Mention the application of homopolymers tailing.
3. Define genomic library
4. What is screening by 'gain of function'
5. Name any 2 methods of DNA sequencing

Part B (5X5= 25 marks)

Answer **ALL** questions

- 6a. State the role of Reverse Transcriptase in genetic engineering

OR

- 6b. Write a short note on Polynucleotide kinases

- 7a. Explain in brief: Expression vector

OR

- 7b. Write a short note on Cosmid

- 8a. Explain the role of PCR as alternative to cloning

OR

- 8b. Write a short note on radiolabelled probes

- 9a. Briefly discuss chromosome walking

OR

- 9b. Write a short note on North Western Blotting

- 10a. Write a short note on BT cotton

OR

- 10b. Briefly explain the principle and steps of PCR

Part C (5x7= 35 marks)

Answer **ALL** questions

11a. Explain the mechanism of Ligase and mention its role in RDT

OR

11b. Classify Restriction Endonucleases and mention their role in RDT

12a. Give a detailed account of shuttle vector

OR

12b. Explain the role of plasmid in genetic engineering

13a. Write a short note on cDNA synthesis and its application in RDT

OR

13b. Explain the construction of genomic library and its significance

14a. Discuss 'Immunological screening' and mention its significance.

OR

14b. Explain the screening technique of 'Insertional Inactivation'

15a. Explain the principle, process and application of RAPD

OR

15b. Write a short note on enzymatic method of DNA sequencing
