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Total No. of Printed Pages: [01]

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M.Sc. Microbiology (Semester –2nd)
MOLECULAR BIOLOGY AND GENETIC ENGINEERING
Subject Code: MMBLS1204
Paper ID: 21221410

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It carries 16 marks. It consists of 4 questions of 4 marks each.
2. Section B consist of 4 questions of 8 marks each. The student has to attempt any 3 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(4 marks each)

- Q1. Explain and draw structure of DNA
- Q2. Discuss various enzymes involved in DNA replication
- Q3. Define- genetic code, gene probes, Okazaki fragments, proteomics
- Q4. Enumerate differences between DNA and RNA

Section – B

(8 marks each)

- Q5. Name various vectors used in Genetic engineering. Explain about PBR322
- Q6. Discuss importance of bioinformatics in research
- Q7. Describe mechanism denaturation and renaturation of DNA
- Q8. Describe mechanism of translation in bacteria

Section – C

(10 marks each)

- Q9. Describe various enzymes used in Genetic Engineering
- Q10. Describe procedure and applications of PCR
- Q11. Define operon and types of operon. Explain about Lac operon