

SE – 188



**IV Semester B.Sc. Examination, September 2020
(CBCS) (2015 - 16 and Onwards) (Fresh + Repeaters)
MICROBIOLOGY – IV
Molecular Biology and Recombinant DNA Technology**

Time : 3 Hours

Max. Marks : 70

- Instructions :** i) Answer *all* the Sections.
ii) Draw diagrams *wherever* necessary.

SECTION – A

I. Write short notes on :

(5×2=10)

- 1) t-RNA.
- 2) Homopolymer tail.
- 3) Lambda phage.
- 4) cDNA.
- 5) Pribnow box.

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SECTION – B

II. Answer **any four** of the following :

(4×5=20)

- 6) Explain tryptophan operon.
- 7) Discuss the transcription mechanism in prokaryotes.
- 8) Give an account of southern blotting technique.
- 9) Explain 'pUC-18' as a vector.
- 10) Write a note on 'Restriction enzymes'.

P.T.O.



SECTION - C

III. Answer **any three** of the following : (3×10=30)

- 11) Elaborate on the events of translation in prokaryotes.
- 12) Explain gene regulation in Lac operon.
- 13) Discuss any three methods of rDNA transfer into the target host organism.
- 14) Explain the technique of PCR. Add a note on its significance.
- 15) Discuss any two applications of genetic engineering that have benefitted mankind.

SECTION - D

IV. Answer in **one** sentence : (10×1=10)

- 16) Ribosome.
- 17) Stop codon.
- 18) Cistron.
- 19) DNA ligase.
- 20) PAGE.
- 21) Linkers.
- 22) RFLP.
- 23) Competent cell.
- 24) Ti plasmid.
- 25) Palindrome.

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