

Bankura University
B.Sc 3rd Semester (Honours) Theory Examination,2021
SUB: Microbiology

Course ID: 32213

Course Code: SH/MCB/303/C-7

Course Title: *Molecular Biology*

Time: 1h 15 min

Full Marks: 25

The figures in the margin indicate full marks

Answer all the questions.

UNIT I

1. Answer *any five* of the following questions: (1x5=5)

- a) What is Chargaff's rule of base pairing?
- b) State the function of topoisomerase.
- c) Define alternative splicing
- d) What is 'TATA' box?
- e) What is SD-sequence?
- f) Define 'Operon'?
- g) What is 5'-capping?
- h) What is wobble base?

UNIT II

2. Answer *any two* of the following questions: (5x2 = 10)

- a) How do RNA differ chemically from DNA? What is Z DNA?
- b) What are Okazaki fragments? Why are they formed?
- c) Describe cAMP mediated regulation of gene regulation.
- d) Differentiate prokaryotic transcription from eukaryotic one.

UNIT III

3. Answer *anyone* of the following questions: (10 x 1=10)

- a) What is split gene concept? With suitable illustrations briefly describe the process of self-splicing. (4+6)=10
- b) Explain the initiation process of polypeptide synthesis. Name one prokaryotic protein synthesis inhibitor. 9+1=10