

M. Sc. (Biotechnology) Sem-I / M. Sc. (Medical Biotechnology) Sem- I
(CBCS 2018 Course) : SUMMER - 2019

SUBJECT : MOLECULAR BIOLOGY

Day : Monday
Date : 08/04/2019

Time : 10.00 AM TO 01.00 PM
Max. Marks : 60

S-2019-1426

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.

SECTION – I

- Q.1** Attempt **ANY FIVE** of the following. (10)
- a) What are thymine dimers?
 - b) State the function of leader sequence.
 - c) State the role and location of small nuclear RNA in eukaryotes.
 - d) Name the proteins involved in SOS response.
 - e) State the role of DNA polymerase-I.
 - f) What is Ori site? State its role in DNA replication.
 - g) What are transcriptional factors?
- Q.2** Attempt **ANY TWO** of the following. (10)
- a) 'Chi' sequence in recombination
 - b) Cdc 6 in eukaryotic replication
 - c) Role of enzymes in mismatch repair
- Q.3** Write short notes on **ANY TWO** of the following. (10)
- a) Structure of bacterial promoter
 - b) Okazaki fragments
 - c) Histone modifications

SECTION - II

- Q.4** Attempt **ANY FIVE** of the following. (10)
- a) What are structural and regulatory genes?
 - b) Differentiate between prokaryotic and eukaryotic ribosomes.
 - c) What are interrupted and un-interrupted genes?
 - d) What is a Poly (A) tail?
 - e) State enzymes produced by Z, Y, A genes in lac operon.
 - f) Give the location of highly repetitive DNA in chromosome structure.
 - g) State the role of cohesive protein in chromosome organization.
- Q.5** Attempt **ANY TWO** of the following. (10)
- a) Explain Co-translational and post translational translocation of proteins.
 - b) Explain how attenuation regulates the expression of tryptophan operon.
 - c) Role of ribosomal RNA in protein synthesis.
- Q.6** Write short notes on **ANY TWO** of the following. (10)
- a) Genomic imprinting
 - b) Role of EF-Tu in protein synthesis
 - c) Post translational modifications of mRNA in eukaryotes

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