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

* * * * *