S. Y. B. SC. (BIOTECHNOLOGY) SEM – IV (2010 COURSE) :
WINTER - 2017
SUBJECT: MOLECULAR BIOLOGY – II

Day: **Wednesday** Time: **02.00 PM TO 05.00 PM**
Date: **01/11/2017** Max Marks. 80

W-2017-0955

N.B.

1) All questions are **COMPULSORY**.
2) Both sections should be written in **SEPARATE** answer books.
3) Figures to the right indicate **FULL** marks.

SECTION - I

Q.1 A) Answer any **ONE** of the following **(06)**
a) Explain the structure of DNA polymerase III with a labelled diagram.
b) Explain mismatch repair system.

B) Answer any **TWO** of the following **(10)**
a) Differentiate between prokaryotic & eukaryotic DNA replication.
b) Discuss the role of Dna B and Dna G proteins in replication.
c) What are the reasons of DNA damage? Discuss excision repair mechanism in brief.

Q.2 Write short notes on any **FOUR** **(16)**
a) Okazaki fragments
b) Photo reactivation
c) Microsatellites
d) Effect of UV radiations on DNA
e) Proof reading mechanism

SECTION - II

Q.3 A) Answer any **ONE** of the following **(06)**
a) Discuss the structure of RNA polymerase in prokaryotes.
b) Give an outline on steps involved in elongation during protein synthesis.

B) Answer any **TWO** of the following **(10)**
a) Discuss the mechanism of splicing of intron.
b) Explain post transcriptional modification of RNA.
c) Give an outline on tryptophan operon.

Q.4 Answer any **FOUR** of the following **(16)**
a) Discuss the role of sigma factor in prokaryotic transcription.
b) What are promoter and enhancer sequences?
c) Differentiate between prokaryotic and eukaryotic translation.
d) Why t-RNA is called adaptor molecule?
e) How synthesis of ribosomal RNA in eukaryotic cell is initiated?

Q.5 Write short notes on any **FOUR** **(16)**
a) Shine Dalgarno sequence
b) Transcription factor
c) Cis acting elements
d) TATA Box
e) Polysomes

* * *