

**S. Y. B. SC. (BIOTECHNOLOGY) SEM – IV (2010 COURSE)
: SUMMER - 2018**

SUBJECT : MOLECULAR BIOLOGY – II

Day : **Friday**
Date: **06/04/2018**

Time: **10.00 am to 01.00 pm**
Max Marks. 80

S-2018-1070

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Both the sections to be written on **SEPARATE** answer sheets.

SECTION – I

- Q.1** A) Answer any **ONE** of the following: **(06)**
- a) Describe the steps involved in the synthesis of lagging strand.
 - b) How does single base change error occurs in DNA? Explain mismatch repair mechanism.
- B) Answer any **TWO** of the following: **(10)**
- a) How DNA is repaired by using recombination mechanism?
 - b) Why priming reaction is required to initiate DNA synthesis?
 - c) Explain the process of termination of DNA replication in *E – coli*.
- Q.2** Write short notes on any **FOUR** of the following : **(16)**
- a) Replication fork
 - b) Telomere replication
 - c) Proof reading mechanism
 - d) Role of Dna B and Dna G in DNA replication
 - e) Base Excision repair

SECTION – II

- Q.3** A) Answer any **ONE** of the following: **(06)**
- a) Explain the role of ribosome in protein synthesis.
 - b) Explain the general mechanism of splicing of introns.
- B) Answer any **TWO** of the following: **(10)**
- a) Explain Lac operon
 - b) Mention the reactions involved in initiating m RNA synthesis in eukaryotic system.
 - c) Explain the role of Rho factor in termination of RNA.
- Q.4** Answer any **FOUR** of the following: **(16)**
- a) Explain post transcriptional modification of messenger RNA
 - b) Differentiate between prokaryotic and Eukaryotic translation.
 - c) What are polysomes?
 - d) What is the role of RNA polymerase in transcription?
 - e) What are promoter and enhancer sequences?
- Q.5** Write short notes on any **FOUR** of the following : **(16)**
- a) Prokaryotic promoter
 - b) Transcription bubble
 - c) Shine Dalgarno sequence
 - d) TATA Binding protein
 - e) Stop Codons

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