## S. Y. B. SC. (BIOTECHNOLOGY) SEM – IV (2010 COURSE): WINTER - 2017

## SUBJECT: MOLECULAR BIOLOGY - II

02.00 PM TO 05.00 PM Time: Day: Wednesday Max Marks. 80 Date: 01/11/2017 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)Explain the structure of DNA polymerase III with a labelled diagram. Explain mismatch repair system. b) **B)** Answer any **TWO** of the following (10)a) Differentiate between prokaryotic & eukaryotic DNA replication. Discuss the role of Dna B and Dna G proteins in replication. b) What are the reasons of DNA damage? Discuss excision repair mechanism in c) brief. **Q.2** Write short notes on any FOUR (16)a) Okazaki fragments Photo reactivation b) Microsatellites c) d) Effect of UV radiations on DNA Proof reading mechanism e) **SECTION - II Q.3** A) Answer any **ONE** of the following (06)Discuss the structure of RNA polymerase in prokaryotes. a) Give an outline on steps involved in elongation during protein synthesis. B) Answer any **TWO** of the following (10)Discuss the mechanism of splicing of intron. a) Explain post transcriptional modification of RNA. Give an outline on tryptophan operon. **Q.4** Answer any FOUR of the following (16)Discuss the role of sigma factor in prokaryotic transcription. a) What are promoter and enhancer sequences? b) Differentiate between prokaryotic and eukaryotic translation. c) Why t-RNA is called adaptor molecule? d) How synthesis of ribosomal RNA in eukaryotic cell is initiated? Q.5 Write short notes on any FOUR (16)a) Shine Dalgarno sequence Transcription factor b) Cis acting elements c) d) TATA Box Polysomes **e**)