

**FACULTY OF SCIENCE**  
**M. Sc. II – Semester Examination, May / June 2018**

**Subject : Biochemistry**

**Paper – II**  
**Molecular Biology**

**Time : 3 Hours**

**Max. Marks: 80**

**Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.**

**PART – A (8 x 4 = 32 Marks)**  
**(Short Answer Type)**

1. Prokaryotic DNA polymerases.
2. Inhibitors of replication.
3. Base excision DNA repair.
4. Role of ATM in DNA repair.
5. Eukaryotic promoter sequences.
6. Elongation factors of eukaryotic translation.
7. Signal sequence in protein targeting.
8. Chaperones.

**PART – B (4 x 12 = 48 Marks)**  
**(Essay Answer Type)**

- 9 (a) Explain about: (i) Replication of DNA in  $\phi$ X 174 (ii) Polytene chromosomes.  
**OR**  
(b) Explain about various types of DNA polymerases in eukaryotes and add a note on telomerase.
- 10 (a) Discuss on various types of direct repair mechanisms of DNA repair.  
**OR**  
(b) Discuss on the SOS repair mechanism of DNA damage.
- 11 (a) Explain various post-transcriptional modifications of mRNA.  
**OR**  
(b) Discuss on rho-dependent and rho-independent termination of transcription in E-coli.
- 12 (a) Define protein targeting and explain various steps involved in protein targeting to mitochondria.  
**OR**  
(b) Describe the action of cytotoxic, hemotoxic, myotoxic and hemorrhagic venous.