

(20518)

Roll No.

B. Sc. (Biotech.)-II Year

NS-3466

B. Sc. (Biotechnology) Examination, May 2018

Molecular Biology

(B-203)

(New)

Time : Three Hours]

[Maximum Marks : 50

Note : Answer any *Five* questions. All questions carry equal marks. Draw diagrams wherever necessary.

1. Discuss two experiments which prove that DNA replication is semiconservative. 10

2. Write short notes on the following : $2\frac{1}{2} \times 4 = 10$
- (a) Exons and Introns
 - (b) RNA splicing
 - (c) Repetitive DNA
 - (d) Pseudogenes.
3. Discuss in detail the Lac Operon Model for regulation of gene expression in *E.coli*. 10
4. Describe in detail the different mechanisms for degradation of mRNA in eukaryotes. 10
5. Describe the process of transcription in eukaryotes. 10
6. Write short notes on the following : $2\frac{1}{2} \times 4 = 10$
- (a) Cryptic genes
 - (b) Riboswitches
 - (c) Non-coding RNA
 - (d) Satellite DNA.

(3)

7. Differentiate between the following: $5 \times 2 = 10$
- (a) Homeobox and Pribnowbox
 - (b) RNA damage and RNA repair.
8. Describe the different mechanisms for DNA repair in prokaryotes and eukaryotes. 10
9. Write short notes on the following : $2\frac{1}{2} \times 4 = 10$
- (a) C-value paradox
 - (b) Wobble hypothesis
 - (c) Central dogma
 - (d) Restriction endonuclease.
10. Describe ultrastructure of chromosome. 10