

Seat No. : _____

N14-115
November-2014
B.Sc., Sem.-V
302 : Biochemistry
(Molecular Biology)

Time : 3 Hours]

[Max. Marks : 70

1. (a) Describe the elongation step of replication with necessary diagrams. 7
- (b) Explain the Experiment done by Griffith with diagram. 7

OR

- (a) Discuss any three characteristic properties of DNA in detail.
- (b) Explain Rolling circle and D-loop replications.

2. (a) Explain Mutation with its types. 7
- (b) Describe transcription bubble. 7

OR

- (a) Define transcription. Write properties and functions of RNA polymerase.
- (b) Explain effect of chemical and physical mutagenic agent.

3. (a) Write briefly first and second step of translation process. 7
- (b) Explain genes regulation of lactose metabolizing gene as an operon modle. 7

OR

Describe the elongation step of prokaryotic protein biosynthesis.
Write a short note on post translational modifications.

4. (a) Explain restriction endonuclease as molecular scissor. 7
- (b) Write a note on genetic engineering. 7

OR

- (a) Short note on vectors.
- (b) Explain splicing and insertion of DNA.

5. (i) Define : 2
- (a) Southern blotting
 - (b) Lethal mutation
- (ii) Main points B and Z – DNA structure. (as difference) 4
- (iii) Explain / discuss : (any **two**) 6
- (a) Replication fork
 - (b) Genetic code-three characteristics
 - (c) Hershey and Chase's experiment
- (iv) (a) Explain Semiconservative replication. (briefly) 2

OR

Define reverse transcription and promoters.
