



AAN-457

Seat No. _____

B. Sc. (Sem. V) Examination

October / November - 2016

Microbiology : Paper - MI - 501

(Molecular Basis of Microbial Genetics)

Time : 3 Hours]

[Total Marks : 70

1 (a) Answer any **two** : 15

- (1) Discuss the branches of genetics.
- (2) Explain DNA structure with labeled diagrams.
- (3) Discuss cell division.

(b) Answer in brief : 2

- (1) What is a Genome?
- (2) Define the term Gene.

2 (a) Answer any **two** : 15

- (1) Discuss DNA replication.
- (2) Describe the models of DNA replication.
- (3) Discuss the initiation and termination of DNA replication.

(b) Answer in brief : 2

- (1) What is a replication fork? Draw and explain.
- (2) What are Okazaki fragments?

- 3 (a) Answer any **two** : 15
- (1) Describe the elongation cycle of Protein translation.
 - (2) Discuss Lac operon.
 - (3) Discuss rho dependent and independent termination of transcription.
- (b) Answer in brief : 3
- (1) What are ribosomes?
 - (2) What is Genetic code?
- 4 (a) Answer any **two** : 15
- (1) Discuss Recombination repair.
 - (2) Discuss photo-reactivation repair.
 - (3) Describe post replication repair.
- (b) Answer in brief : 3
- (1) Define the term mutation.
 - (2) Name two enzymes involved in DNA repair mechanism.
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