M.Sc. - II (Microbiology) (NEP Pattern) Semester-III

STPG03MCB001 - Paper-I : Genetics and Molecular Biology

P. Pages : 1 **GUG/S/25/16123**

Time : Three Hours * 3 7 2 9 * Max. Marks : 80

Notes : 1. All questions are compulsory and carry equal marks as indicated.
2. Draw diagram wherever necessary.

1. Describe initiation, priming and termination in prokaryotes and eukaryotes. **16**

OR

a) Write note on- Elongation of DNA chain. **8**

b) Write note on - DNA repair methods. **8**

2. Describe in detail about transcription process in prokaryotes and eukaryotes. **16**

OR

a) Write note on - Translation in prokaryotes. **8**

b) Write note on - Genetic code. **8**

3. Describe in detail about regulation of translation. **16**

OR

a) Write note on - Lac operon model. **8**

b) Write note on - mRNA and protein degradation control. **8**

4. What is Gene recombination describe various methods of Gene recombination. **16**

OR

a) Write note on - Transposons: Bacterial P elements and retroposons. **8**

b) Write note on - Methods of Gene mapping in bacteria. **8**

5. i) Write short notes on- General concept of Gene. **4**

ii) Explain post transcriptional control of gene expression. **4**

iii) Write short notes on - Chromatin remodeling. **4**

iv) Write short note on - Mapping of bacteriophage gene. **4**

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