

M.Sc.(Microbiology) (CBCS Pattern) Third Semester  
**PSMBT-09 - Genetics and Molecular Biology Paper-I**

P. Pages : 1

Time : Three Hours



**GUG/W/18/11291**

Max. Marks : 80

Notes : 1. All questions are compulsory and carry equal marks.

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|-----------|--|-----------|
| <b>1.</b> | Describe in detail DNA replication in prokaryotes.           | <b>16</b> |
| <b>OR</b> |  |           |
|           | Write Notes on   |           |
| a)        | DNA repair   | 8         |
| b)        | Photoreactivation  | 8         |
| <b>2.</b> | Describe the process of translation in detail.               | <b>16</b> |
| <b>OR</b> |  |           |
|           | Write Notes on   |           |
| a)        | Characteristics of genetic code.                             | 8         |
| b)        | Initiation, elongation and termination of MRNA synthesis.    | 8         |
| <b>3.</b> | Describe in detail concept of lac operon.                    | <b>16</b> |
| <b>OR</b> |  |           |
|           | Write Notes on   |           |
| a)        | Chromatin remodeling.  | 8         |
| b)        | p <sup>32</sup> control.                                     | 8         |
| <b>4.</b> | Describe generalized and specialized transduction in detail. | <b>16</b> |
| <b>OR</b> |  |           |
|           | Write Notes on   |           |
| a)        | Gene mapping by transformation.                              | 8         |
| b)        | Transposons  | 8         |
| <b>5.</b> | Write short Notes on   |           |
| a)        | Overlapping gene   | 4         |
| b)        | Anti sense RNA   | 4         |
| c)        | Trp operon   | 4         |
| d)        | Conjugation  | 4         |

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