

July 2019
M. Sc. IInd Semester Examination
MICROBIOLOGY
Paper I : Microbial Genetics

Time 3 Hours]

[Max. Marks : Regular 85 / Private 100
[Min. Marks : Regular 28 / Private 33

Note : This question paper is meant for all Regular and Private students. Answer all five questions. All questions carry equal marks. The blind candidates will be given 60 minutes extra time.

1. Describe the process of DNA replication with emphasis on enzymes involved in replication.

OR

Write on :

- (a) Experimental proof of DNA as genetic material.
- (b) Watson and Crick model of DNA structure and types of DNA.

2. Discuss the mode of action of various types of chemical mutagens.

OR

Describe different types of mutation.

3. What is the central dogma of molecular biology? Discuss the process of transcription in details.

OR

Explain any two of the following :

~~(a) Modification of m-RNA~~

(b) RANi.

(c) Alternative Sigma factors.

Write an essay on 'Protein Synthesis'.

OR

Write short notes on any two of the following :

(a) Salient features of genetic code.

(b) Lac operon of E. Coli.

(c) 'trap' operon of E. Coli.

5. Describe any two of the following :

(a) Mechanism of gene transfer in bacteria mediated by bacteriophages.

(b) Process of conjugation and its applications.

(c) Types of transposons and mechanism of transposition.

(d) Gene mapping techniques.