



ED-638

M.Sc. 3rd Semester
Examination, March-April 2021

MICROBIOLOGY

Paper - I

Microbial Physiology

Time : Three Hours] [*Maximum Marks* : 80

[*Minimum Pass Marks* : 16

Note : Answer **all** questions in which Question No. 1 is compulsory. All questions carry equal marks.

1. Write notes on the following :
 - (a) Aerobic metabolism of Methane
 - (b) Microbial metabolism of Hydrogen
 - (c) Halobacterial photophosphorylation
 - (d) Glutamate dehydrogenase

Unit-I

2. Write an essay on fermentation process.

OR

Explain the various methods of transport of nutrient across the membrane.

DRG_20_(2)

(Turn Over)

(2)

Unit-II

3. Explain the biosynthesis of peptidoglycan and its significance.

OR

Write notes on the following :

- (a) Biosynthesis of lipopolysachharides
(b) Biosynthesis of aromatic amino acids

Unit-III

4. Write an essay on bacterial photosynthesis.

OR

Write notes on the following :

- (a) Structure of chlorophyll and bacterio-chlorophyll
(b) Cyanobacterial photosynthesis apparatus

Unit-IV

5. Discuss the biotransformation of steroid and non-steroid compounds.

OR

Write notes on the following :

- (a) Nitrogenase enzyme and nif gene
(b) GS-GOGAT cycle