

AE-797

M.Sc. (Final)
Term End Examination, 2016-17

MICROBIOLOGY

Paper - III

Microbial Physiology and Development

Time : Three Hours] [Maximum Marks : 100
[Minimum Pass Marks : 36

Note : Answer **all** questions. All questions carry equal marks.

Unit-I

1. Define Entropy. Explain the concept of entropy in living system and its physical significance.

OR

Write notes on the following :

- (a) Energy rich compounds
- (b) Energetic coupling

(2)

Unit-II

2. Describe the mechanism of electron transport in photosynthesis mentioning autotrophic generation of ATP.

OR

Write notes on the following :

(a) CO_2 assimilation in C_3 plants
(b) Chemolithotrophy

Unit-III

3. Describe the different steps of Kreb's cycle mentioning name of enzymes involve in catalytic reaction.

OR

Write notes on the following :

(a) Fermentation of carbohydrates
(b) Oxidative phosphorylation

Unit-IV

4. Describe the role of reductive amination and transformation in biosynthesis of major amino acids.

OR

(3)

Write notes on the following :

- (a) Nitrate Reduction
- (b) Polysaccharide Synthesis

Unit-V

5. Describe the mechanism of Sporulation and Morphogenesis in the process of microbial development.

OR

Write notes on the following :

- (a) Microbial dormancy
- (b) Multicellular organisation in microbes
