



MBU-003-019404

Seat No. _____

M. Sc. (Microbiology) (Sem. IV) (CBCS) Examination

April / May - 2018

MICRO - 422 : Environmental Biotechnology - I

(Old Course)

Faculty Code : 003

Subject Code : 019404

Time : **3** Hours]

[Total Marks : **70**

- 1** Answer any **7** : (2 marks each) **14**
- (i) What is species richness ?
 - (ii) What is Predation ?
 - (iii) What are syntrophs ?
 - (iv) State the Allee's principle.
 - (v) State the difference between biodeterioration and biodegradation.
 - (vi) What is nitrate respiration ?
 - (vii) Enlist organic compounds used as terminal electron acceptors.
 - (viii) Identify the microbial energy-yielding metabolic processes.
 - (ix) What is biofouling ?
 - (x) What are brown rot fungi ?
- 2** Answer any **2** of the following : (7 marks each) **14**
- (i) Give an account of methods used to study microbial ecology.
 - (ii) Discuss various nutritional types of bacteria,
 - (iii) Describe various types of microbial habitats.
- 3** Answer the following : (7 marks each) **14**
- (i) Describe with suitable examples microbial symbiotic associations,
 - (ii) Discuss the importance of microbes in Fe biotransformation in Nature.

OR

- 3** Answer the following : (7 marks each) **14**
(i) Discuss microbial antagonism citing suitable examples.
(ii) Citing suitable examples describe microbial succession.
- 4** Answer the following : (7 marks each) **14**
(i) Give an account of fermentative degradation of organic compounds in Nature.
(ii) Organic compounds are degraded to various degrees in Nature. Justify the statement.
- 5** Write notes on any **2** of the following : (7 marks each) **14**
(i) Biodeterioration of leather.
(ii) Wood staining fungi.
(iii) Recalcitrance of plastics.
(iv) Biodeterioration of natural fibers.
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