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PT-003-019404 Seat No. _____

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

August - 2020

Micro - 422 : Environmental Biotechnology - I

Faculty Code : 003

Subject Code : 019404

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer any **seven** : (2 marks each) **14**

(i) What are myxotrophs?

(ii) Why do soils support more diverse types of microbial activity than aquatic ecosystem?

(iii) Enlist iron oxidizing bacterial genera.

(iv) What is symbiosis?

(v) Enlist bacterial genera that prey on other bacteria.

(vi) What is acceptable biodegradation?

(vii) State the difference between aerobic and anaerobic respiration.

(viii) What are white rot and brown rot fungi?

(ix) What is syntrophic metabolism?

(x) What is aesthetic biodeterioration?

2 Answer any two of the following : (7 marks each) **14**

(i) Describe various nutritional types of bacteria.

(ii) Give an account of methods to study bacterial ecology.

(iii) Justify the fitness of microorganisms as geochemical agents.

3 Answer the following : (7 marks each) **14**

(i) Citing suitable examples explain positive microbial interactions.

(ii) Describe microbial activities responsible for P cycling in nature.

OR

3 Answer the following : (7 marks each) **14**

(i) Comment on microbial succession occurring in Nature.

(ii) Discuss microbial community dynamics and its consequences.

4 Answer the following : (7 marks each) **14**

(i) Comment on "biodegradation of an organopollutant to various degrees".

(ii) Discuss sequential use of inorganic compounds in anaerobic respiratory processes occurring in Nature.

5 Write notes on any two of the following : (7 marks each) **14**

(i) Wood biodeterioration

(ii) Silk biodeterioration

(iii) Leather biodeterioration

(iv) Preservatives.
