

M.Sc. (Part-I) Semester-II (CBCS Scheme) Examination
MICROBIOLOGY
(Environmental Microbiology and Extremophiles)
Paper-VIII

Time : Three Hours]

[Maximum Marks : 80

Note :—(1) All questions are compulsory and carry equal marks.

(2) Draw neat labelled diagrams and give suitable examples, wherever necessary.

1. Describe the biomagnification of chlorinated hydrocarbons in ecosystem in detail. 16

OR

Explain biodegradation of recalcitrant and toxic chemicals with suitable examples. 16

2. What are the microbial changes induced by organic and inorganic pollutants during eutrophication ? 16

OR

Write notes on the following :

- (a) Role of phosphorus in eutrophication. 8
(b) Control of eutrophication. 8
3. (a) What are alkalophiles ? Give their ecological significance. 8
(b) Give applications of thermophiles. 8

OR

- (c) What are the adaptations ? Give mechanisms of adaptations in osmophiles. 8
(d) Give applications of extremophiles. 8
4. (a) What are the indicator organisms of faecal pollution ? Give ideal characteristics of faecal coliform organism. 8
(b) Name the disinfectants used for potable water. Describe the various methods of chlorination. 8

OR

- (c) Describe the membrane filter technique in detail for bacteriological analysis of water. Add a note on advantages of MFT. 8
(d) Describe multiple tube dilution technique for coliforms in detail. 8
5. Discuss the primary, secondary and tertiary treatment of wastewater. 16

OR

Write notes on the following :

- (a) Activated sludge process. 8
(b) Methane production from sewage. 8

