

**N-56088**

Seat No. \_\_\_\_\_

**M. Sc. (Part – II) Examination**

April / May – 2003

**Microbiology : Paper – VI**  
*(Environmental Microbiology)*

Time : 3 Hours]

[Total Marks : 100

**Instruction :** All questions carry **equal** marks.

**1** Discuss any **two** :

- (a) Microbial generation of acid mine drainage and its impact on ecosystem.
- (b) Microbial production of  $\text{NH}_3$ ,  $\text{NO}_3$  and  $\text{NO}_2$  in environment. Give its impact.
- (c) Community structure of aquatic ecosystem.
- (d) Role of microorganisms in carbon cycle.

**2** Discuss hydrolic detention and solid retention time and their importance in waste water treatment.

**OR**

- 2** (a) Describe principle and working of fluidized bed.  
(b) Describe characteristics of dairy waste.

**3** Write any **two** :

- (a) Enlist and explain mechanisms of metal bioremediation.
- (b) Explain role of biofilters and fixed film in treatment of polluted water or soil.
- (c) Enlist organisms involved in co-metabolic conversion and explain two such processes.
- (d) Describe Kinetics of non-growth linked biodegradation.

4 Discuss any **two** :

- (a) Role of dehalogenation and methylation in detoxication of pollutants.
- (b) Enzymology of n-alkane degradation.
- (c) Microbial degradation of pesticides.
- (d) How lignin degrading microorganisms are used in the process of biopulping ? Explain the process.

5 Describe any **two** :

- (a) Biodeterioration of stone and paper.
  - (b) Biodeterioration of rubber and leather.
  - (c) Prevention and control of wood deterioration.
  - (d) Testing methodologies used in biodeteriorations.
-