AU–253

M.Sc. (Part–I) Semester–I (C.B.C.S. Scheme) Examination

MICROBIOLOGY

(Environmental Microbiology)

Paper—IV

Time : Three Hours] [Maximum Marks : 80

Note :— (1) All questions are compulsory.

(2) All questions carry equal marks.

(3) Draw diagrams wherever necessary.

1. Describe role of bacterial technology in achieving sustainable development and explain need of sustainable development. 16

OR

(a) Discuss microbial biodiversity and its conservation. 8

(b) Explain food chain. 8

2. Describe nitrogen cycle in detail and explain mechanism of nitrogenase. 16

OR

(a) Explain biochemistry of nitrate reduction. 8

(b) Describe symbiotic nitrogen fixation. 8

3. Describe general aspects of carbon cycle and explain generation and decay of detritus 'C' compounds. 16

OR

(a) Explain phosphorous cycle and significance of 'P' compounds. 8

(b) Describe selenium cycle with significance and occurrence. 8

4. Describe microbiology and biochemistry of metal and metalloid transformation. 16

OR

(a) Explain biotransformation of pesticides. 8

(b) Describe mercury transformation. 8

5. Discuss biodeterioration of wood and metal in detail. 16

OR

(a) Describe application of bacterial leaching. 8

(b) Explain concept of biodeterioration. 8