

M.Sc. - Semester – III Microbiology Examination

Nov. - 2015

Environmental Microbiology– Paper IX

Subject code: 3690

Time: 2:30 Hours]

[Total Marks:-70

Instructions: All Questions carry equal marks.

Q 1. Describe in detail the pathways involved in acid solubilization of metal sulfides

OR

Q 1. Write in brief on: (a) Iron uptake in fungi  
(b) Eutrophication

Q 2. Discuss: (a) Causes and effects of activated sludge separation problems  
(b) Removal of nutrients by activated sludge process

OR

Q 2. Write notes on: (a) Composting and  
(b) Trickling Filter as waste water treatment processes

Q 3. Explain in brief: (a) Biodegradation of polyhydroxyalkanoates  
(b) Role of fungi in biodegradation of 2,4-D

OR

Q 3. What are LMEs? Discuss the role of LMEs of white rot fungi in degradation of lignin.

Q 4. Write notes on: (a) Cometabolism and its significance  
(b) Role of GMOs in bioremediation

OR

Q 4. Discuss various *ex situ* bioremediation techniques with their environmental significance. Write on their merits and demerits.

Q 5. Discuss the biotechnological applications of extremophiles.

OR

Q 5. What are extreme halophiles? Describe their molecular adaptations and biotechnological applications.