Bachelor of Science (B.Sc.) Sixth Semester

# B.Sc.4504 - Biotechnology : Paper-I (Environmental Biotechnology)

P. Pages : 2 **GUG/W/18/1360**

Time : Three Hours * 1 0 7 3 * Max. Marks : 50

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**1.** Discuss environmental problems with respect to Air pollution. **10**

**OR**

What are biological waste water treatment methods? Explain oxidation ponds and trickling filter. **10**

**2.** What is biodegradation? Explain biodegradation process of xenobiotics. **10**

**OR**

Describe $N_2$ cycle in detail with diagrammatic representation. **10**

**3.** a) What is acid rain? Explain. **2½**

b) Explain sugar industries effluent treatment process. **2½**

c) What are heavy metal? Explain biodegradation of mercury. **2½**

d) What are biopesticides? Explain its significance over chemical pesticides. **2½**

**OR**

e) What is VAM fungi? Explain it as biofertilizer. **2½**

f) What are surfactants? How are they biodegraded. **2½**

g) What is activated sludge process? Describe it. **2½**

h) What is eutrophication? Explain with diagram. **2½**

**4.** a) Give the role of environment education to avoid pollution. **2½**

b) Give the composition of waste water? **2½**

c) What is biomagnification? Explain with example. **2½**

d) Explain alcohol as a biofuel. **2½**

**OR**

e) Write mechanism of symbiotic nitrogen fixation. **2½**

f) What are xenobiotics? Write their types. **2½**

g) Give the flowsheet of waste water treatment. **2½**

h) Give reasons for ozone depletion. **2½**

**5.** Solve **any ten.**

a) What is ozone layer? **1**

b) Define term "green house effect". **1**

c) Give reason for water pollution. **1**

d) What is BOD? **1**

e) What is COD? **1**

f) What is anaerobic digester? **1**

g) Give examples of synthetic dyes. **1**

h) What are hydrocarbon pollutants? **1**

i) What is Bioaccumulation? **1**

j) What is nif gene? **1**

k) What is IPM. **1**

l) What is denitrification? **1**

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