

PC

151

Thapar Institute of Engineering and Technology: Patiala
End Semester Examination
B.Tech. Bioechnology
(BT019) Environmental Biotechnology

15.12.06
Time: 3hour
Max. Marks: 36

Attempt **any five** questions. All parts of a question are to be attempted in continuation
All questions carry equal marks.

1. What are surfactants? Discuss their types and degradation mechanisms. 7.2
2. i Describe vermicomposting. 3.1x2
ii What are the factors that effect composting process?
3. Describe primary and secondary waste water treatment system with an example. 7.2
4. Discuss Aerobic and Anaerobic biotransformation mechanisms of Polycyclic Aromatic Hydrocarbons (PAHs). 7.2
5. What are the parameters used for assessment of quality of industrial waste water explain with examples. 7.2
6. Distinguish between the following (Any two) 3.1x2
 - i. Physical and Biological treatment process
 - ii. Phytovolatilization and phytoextraction
 - iii. Biostimulation and Bioaugmentation
7. i. Define Biogeochemical cycle? What is the significance of each step involved in nitrogen cycle? 4
ii Explain the basis of different types of Trophic pyramids. 2
iii How does the shape of the energy pyramid reflect the 10% rule? 1.2