

Register No:

B.TECH DEGREE EXAMINATIONS: APRIL/MAY 2011

Sixth Semester

BIOTECHNOLOGY

U07BTE01: Environmental Biotechnology

Time: Three Hours

Maximum Marks: 100

Answer All the Questions:-

PART A (10 x 1 = 10 Marks)

1. The term ecosystem was first proposed by
 - a) Sir Annete Tansley
 - b) Sir Arthur Tansley
 - c) Sir Andrew Tansley
 - d) Sir Augustus Tansley
2. Soil salinity is measured by
 - a) Photometer
 - b) Luxmeter
 - c) Pyrometer
 - d) Conductivity
3. World ozone day is observed on
 - a) January 30
 - b) April 21
 - c) September 16
 - d) None of these
4. Activated sludge process is a highly efficient system for
 - a) Aerobic
 - b) Anaerobic
 - c) Microaerobic
 - d) None of these
5. Xenobiotic substances are of increasing problem in
 - a) Sewage treatment systems
 - b) Water purification
 - c) Phytoremediation
 - d) Bioremediation
6. The Itai-Itai disease in Japan was caused through pollution of water by
 - a) Lead
 - b) Mercury
 - c) Cadmium
 - d) Methyl Isocyanite
7. World Environment day is observed on
 - a) January30
 - b) April 21
 - c) September 16
 - d) June 5
8. Lichens have disappeared from cities because they are sensitive to
 - a) CO₂
 - b) SO₂
 - c) Oxides of Nitrogen
 - d) Nitrogen
9. Ulothrix is one of the common pollutant tolerant algae which is coming under the group of
 - a) Phaeophyta
 - b) Chlorophyta
 - c) Diatoms
 - d) Cyanophyta
10. In Industrial sector major generators of hazardous waste are the
 - a) Chemical
 - b) Dyes
 - c) Both (a) and (b)
 - d) None of the above

PART B (10 x 2 = 20 Marks)

11. Name the steps involved in Nitrogen Cycle.
12. List two example each of Gram positive and Gram negative bacteria involved in Quorum sensing.
13. What are the reasons for any compound to be recalcitrant?
14. Mention four types of pesticides.
15. Define Zooleal film.
16. Mention the sampling devices used for the collection of bioaerosols.
17. What is Bioventing?
18. Give one example each of fungi degrading Uranium and Copper.
19. How will you define Ribotyping?
20. What are Repoter genes?

PART C (5 x 14 = 70 Marks)

21. a) Write in detail about the root microbial interactions.

(OR)

- b) Explain Sulfur cycle.

22. a) Narrate the process of aromatics and chlorinated polyaromatic petroleum products degradation.

(OR)

- b) Write an account of Biosurfactants involving its applications.

23. a) Elaborate the process of conventional activated sludge.

(OR)

- b) What are the characteristics of waste water?

24. a) Give an outline of solid waste management and major methods of biosolid reuse.

(OR)

- b) Give an outline of industrial wastewater treatment and add a note on factors which affect biodegradation.

25. a) Describe in detail the different types of PCR. How PCR can be used in detecting pathogens in contaminated soil? (10+4 = 14)

(OR)

b) Write in detail about plasmid analysis for identification of specific bacterial isolates from a metal contaminated soil.
