



DII-003-013404

Seat No. \_\_\_\_\_

**M. Sc. Biotechnology (Sem. IV) (CBCS) Examination**

**May / June – 2015**

**Paper - BT - 422**

**Environmental Biotechnology - II**

*(Elective - II)*

**Faculty Code : 003**

**Subject Code : 013404**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks :70

**1. Answer the following (Any SEVEN)**

**2x7=14**

- Define Biodegradation giving example
- Enlist biodegradable plant polysaccharides.
- Enlist the parameters which influence the process of Biodegradation
- How does Nitroaromatic Compounds enter the atmosphere?
- What is Lignin? What is its role in Biogeochemical Cycle?
- Define Bioremediation giving suitable example.
- Define acid mine drainage and state its few hazards
- How microbial methylation of mercury is carried out?
- What are Genetically Engineered Microbes? State their few applications
- What are Xenobiotics? Give examples

**2. Answer the following (Any TWO)**

**7x2=14**

- Write an essay on factors affecting biodegradation process
- Discuss Mechanism of Dehalogenation
- Write a detailed note on PAHs Degradation.

**3. Answer the following**

- Explain methylation of Arsenic **05**
- Briefly discuss various properties of the substrate that affect its biodegradation **05**
- What is Co-metabolism? What is its importance **04**

**OR**

**3. Answer the following**

- What is anaerobic Biodegradation? Give importance **05**
- Enlist and briefly explain various strategies involving microorganisms **05**
- Give an account of Biodegradation of Cellulose **04**

**4. Answer the following (Any TWO)**

**7x2=14**

- Write a detailed note on Organisms involved in Biodegradation of various compounds
- Define Acid Mine drainage and explain its treatment process in detail.
- What is aerobic Biodegradation? Explain in detail

**5. Answer the following (Any TWO)**

**7x2=14**

- a. Write an essay on the role of Genetically engineered Microorganisms in Bioremediation
  - b. Elucidate the role of White Rot Fungi in Biodegradation of organic molecules
  - c. Write a detailed note on Pesticide Biodegradation
  - d. Describe various strategies of Bioremediation
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