

Roll No. ....

Total Pages : 2

**CMDQ/D-23**

**5094**

## **ENVIRONMENTAL BIOTECHNOLOGY**

Paper–MES–301

Time allowed : 3 Hours]

[Maximum Marks : 80

**Note :** Attempt **five** questions in all, selecting **one** question from each unit. Question No. **1** is compulsory. All questions carry equal marks.

### **Compulsory Question**

1. Write short notes on the following: 4×4=16
- (i) Bioreactors
  - (ii) Genetically modified organisms
  - (iii) RFLP
  - (iv) Phytotechnology.

### **UNIT-I**

2. Discuss the degradation of macromolecules by citing different examples. 16
3. What are biosensors? Discuss the principle and applications of biosensors. 16

### **UNIT-II**

4. Write notes on the following: 2×8=16
- (a) PCR
  - (b) Extremophiles.

5. Discuss in detail the role of microorganisms in environment management. 16

### **UNIT-III**

6. Write the steps of genetic engineering. Describe the various approaches for the development of herbicide tolerant plants. 16
7. Write notes on the following: 2×8=16
- (a) Gene banks
  - (b) Germplasm Conservation.

### **UNIT-IV**

8. Discuss the role of Biotechnology in solid waste management with suitable examples. 16
9. Write notes on the following: 2×8=16
- (a) Activated Sludge System
  - (b) Vermicomposting.