



**RF-5371**

**M. Sc. (Part - II) Examination**

**April / May – 2010**

**Environmental Chemistry : Paper - III**

*(Waste, Waste Management, Environmental Biology)*

Time : 3 Hours]

[Total Marks : 70

**Instructions :**

(1)

नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवही पर अवश्य लिखनी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="M. Sc. (PART - 2)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="ENVIRONMENTAL CHEMISTRY - 3"/>	<input type="text"/>
Subject Code No. : <input type="text" value="5"/> <input type="text" value="3"/> <input type="text" value="7"/> <input type="text" value="1"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="NIL"/>	<input type="text"/>
	Student's Signature

- (2) Attempt all the six questions.  
(3) Figures to the right indicate full marks.

**SECTION - I**

- 1 (a) Describe different hazardous substances and wastes from different sources. **6**  
(b) Describe the treatment and disposal of hazardous chemical wastes. **6**

**OR**

- 1 (a) Write a note on combustible and corrosive wastes. **6**  
(b) What is solid waste? Give its origin and classification. **6**
- 2 (a) Write a note on waste destruction technology. **6**  
(b) Describe incineration and pyrolysis as waste treatment techniques. **6**

**OR**

- 2 (a) Write a note on biomedical wastes and their disposal. **6**  
(b) Give an account of composting and sanitary land filling. **6**

3 (a) Write a note on structure of DNA? Explain function of nucleic acids. 5

(b) Describe metabolism of xenobiotic compounds. 6

**OR**

3 (a) Write a note on enzymes describing their reaction kinetics and factors affecting enzyme function. 5

(b) Describe genetic engineering. 6

## **SECTION - II**

4 (a) What is radioactive waste? Explain its sources in detail. 6

(b) Give an account of disposal of radioactive wastes. 6

**OR**

4 (a) Describe the principle and working of G.M. counter. 6

(b) Write a note on detection and analysis of radioactive materials. 6

5 (a) Write a note on micronutrient analysis in soil. 4

(b) Give an account of phosphorus analysis in soil. 4

(c) Write a short note on sources of soil contaminants. 4

**OR**

5 (a) Describe chemical nature of soil contaminants. 4

(b) Describe ecological effect of soil contaminants. 4

(c) Describe a method for the analysis of pesticides. 4

6 (a) Describe the applications of microbes in the environmental sciences. 5

(b) Describe methods for cultivation and isolation of microorganisms. 6

**OR**

6 (a) Explain the terms Ecology, Extremophile microorganisms, Food chain. 6

(b) Describe biochemical effect of arsenic, lead and mercury. 5