



RM-7633

**B. E. - IV (Sem. VIII) (Chemical) Examination**  
**May / June - 2010**  
**Safety & Waste Management**

Time : 3 Hours]

[Total Marks : 100

**Instructions :**

(1)

नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<b>B. E. - 4 (Sem. 8) (Chemical)</b>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<b>Safety &amp; Waste Management</b>	<input type="text"/>
Subject Code No. : <input type="text"/> 7 <input type="text"/> 6 <input type="text"/> 3 <input type="text"/> 3	Section No. (1, 2,.....): <input type="text"/> 1&2
Student's Signature	

- (2) Write each section **separately**.
- (3) Figures to the right indicate full marks.
- (4) Draw neat labelled diagrams.
- (5) All notations carry their usual meanings

**SECTION - I**

- 1 (a) Answer the following : 10
  - (i) What is industrial hygiene? 2
  - (ii) What is the purpose of DOW fire and explosion index? What is it designed for? 2
  - (iii) What do you mean by the HAZOP study? 2
  - (iv) State the principle of ventilation. 2
  - (v) Give the names of various oxidizers in liquids, gases and solids. 2
- (b) Discuss about entry of toxicants to biological organism. 5
- (c) Write a note on local ventilation. 5

- 2 Attempt any **two** of the following : **8×2=16**
- (a) Explain Bhopal (India) Tragedy in detail.
  - (b) Explain OSHA incident rate, fatal accident rate and fatality rate.
  - (c) Explain the factors affecting the dispersion.

- 3 Attempt any **two** of the following : **7×2=14**
- (a) Write short note on event tree.
  - (b) Explain the analysis techniques of CO and hydrocarbon in air pollution monitoring.
  - (c) Give and discuss flow chart for hazard identification and risk assessment procedure.

## SECTION - II

- 4 (a) Attempt the following : **12**
- (i) Name important biogeochemical cycles in the ecosystem.
  - (ii) List manmade and natural causes of air pollution.
  - (iii) Expand the term CPCB and MOEF.
  - (iv) State the major environmental laws in force in India.
  - (v) What are the different waste minimization techniques?
  - (vi) What are the impacts of acid rain?
- (b) Write principle, construction and working of stack monitoring apparatus. **8**

- 5 Attempt the following : **8×2=16**
- (a) Write a note :
    - (i) Noise Pollution
    - (ii) Thermal Pollution

- (b) Write a note :
- (i) Electrostatic precipitator as pollution control equipment
  - (ii) Wet scrubber as pollution control equipment.
- (c) What are different types of inversion? Explain in detail formation of inversion.

**6** Attempt the following : **7×2=14**

- (a) List out wastewater characteristics. Explain any three in detail.
  - (b) Write a note : Sludge Treatment and disposal.
  - (c) What is the role of Pollution Control Board (PCB) for prevention of pollution?
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