

**M. SC. (INDUSTRIAL SAFETY)**

**(MSCIDS)**

**Term-End Examination**

**December, 2025**

**MIS-038 : HAZARDOUS MATERIAL  
MANAGEMENT**

*Time : 3 Hours*

*Maximum Marks : 70*

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**Note :** Answer any *five* questions. All questions carry equal marks.

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1. (a) What is material safety data sheet ?  
Describe the various types of hazards in process industry. 7
  
- (b) What is hazardous waste ? How do you dispose hazardous waste safety ?  
Explain briefly. 7

2. (a) What is Hazard and Operability (HAZOP) study ? How can it be applied in Hazardous Materials Management ? 7
- (b) How hazardous waste affect the public health and environment ? Explain briefly. 7
3. (a) What are the types of training provided to the employees while handling hazardous materials ? Explain briefly. 7
- (b) Discuss the key aspects of safe transportation of hazardous materials with suitable examples. 7
4. (a) Explain the hazardous waste management hierarchy with suitable diagram. 7
- (b) Describe the progressive development of fire from ignition through its various stages. 7
5. (a) Discuss the sample collection, preservation and holding times for various types of samples. 7

- (b) Describe the Hazardous wastes listed under Schedule-II of Hazardous Wastes Amendment Rules, 2000. 7
6. (a) Discuss the instruments required for analysis and characterization of hazardous waste. 7
- (b) What is Emergency Response Plan ? How does it help in handling of hazardous material. 7
7. (a) What is personal protective equipments ? How does it provide safety to handle the hazardous materials ? Explain briefly. 7
- (b) Discuss in detail on the biological methods available for treating hazardous waste along with their advantages and disadvantages. 7
8. (a) What are the factors to be considered during location selection of landfill ? Explain briefly. 7

(b) Discuss the fire hazards, fire precautions and firefighting equipment used for dangerous chemicals. 7

9. Write short notes on any *four* of the following :  $4 \times 3.5 = 14$

- (a) Fire fighting equipment
- (b) Packaging of hazardous waste
- (c) Safe handling of hazardous biological waste
- (d) Exposure monitoring
- (e) Role of technology in safe transportation
- (f) Fire triangle

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