

IV B.Tech. II Semester Supplementary Examinations, July -2005
SAFETY AND HAZARD ANALYSIS
(Chemical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain about workmens compensation laws and the Walsh-Healy Public contract Act.
2. Explain about various safety aspects to be considered for plant layout of processing unit.
3. Discuss about the Hazards of Heat Transfer Operation.
4. Discuss about :
 - (a) Self-acting Pressure Regulators
 - (b) Self-acting Temperature Regulators
5. Discuss in detail about the safety education and training involved for personal protection?
6. What are the testing methods for identifying flammable materials?
7. What are the points to be considered in extinguishing the electric fires?
8. What are the different indices available for measuring safety effectiveness

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1. Explain how the three words, thinks, believes and convinced represent crude measures of the degree of acceptance.
2. Explain about the various aspects a safety committee should consider before the final selection of a building site.
3. Discuss the Hazards of Operations involving Simultaneous Heat and mass transfer.
4. Discuss about Electronic Instrumentation with reference to :
 - (a) Hazardous Areas
 - (b) Wet Areas
 - (c) Electrical Shock
5. Write about the importance of supervision in process industry?
6. Write about the precautionary measurements to be considered for flammable materials?
7. What are the steps in setting up water extinguishers in a Chemical Process Industry?
8. Write in detail about Maximum Credible Accident Analysis

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1. What are Chemical Safety Data Sheets. How they help in prevention of accidents.
2. Discuss about the various factors to be considered for the site selection of an industry.
3. Discuss about the Hazards of Heat Transfer Operation.
4. Discuss the following with reference to Design of Vessels :
 - (a) Pressure and Temperature
 - (b) Minimum Plate Thickness
 - (c) External Pressure or Vacuum
5. Write about the challenges to safety management education?
6. What are the principal safety requirements for respiratory hazards?
7. Classify different fire extinguishers
8. Write about HAZOP and HAZAN in detail with examples.

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1. Explain how the companys image and stability is a hallmark of a successful business.
2. What are the first degree hazards and second degree hazards. Explain briefly about each one of them.
3. Explain about the hazards of any Five Unit Processes used in Industrial Practice
4. Discuss about :
 - (a) Self-acting Pressure Regulators
 - (b) Self-acting Temperature Regulators
5. Discuss about the occupational hazards and safety education?
6. Write in detail about personal protection?
7. List out various PPE's used in a Chemical Process Industry (CPI)
8. What do you mean by "What-If" analysis and explain.
