

M.TECH DEGREE EXAMINATION
Model Question Paper
First Semester
Specialization: Industrial Engineering and Management
MMEIM 105.3 SAFETY AND ENVIRONMENT MANAGEMENT SYSTEM
(Regular 2013 Admission)

Time: Three Hours

Maximum: 100 Marks

Answer all questions.
Each full question carries 25 marks.

1. (a) Enumerate the benefits of ensuring Industrial safety.
- (b) Explain with examples, the various Hazard Identification Techniques adopted at workplaces.
- (c) What are the different types of hazards associated with chemical process plants? Give brief description of each of such hazards.

(5+10+10 = 25 marks)

Or

2. (a) How types of accidents can be categorized according to the causes of events in any industry?
 - (b) Discuss in detail about hazards, their consequences and classifications.
 - (c) Discuss various hazard analysis techniques. Also discuss hazard prevention strategies.
3. (a) Write a short note on safety promotion.
 - (b) Explain with examples the accident causation theory and its components.
 - (c) List out various personal protection equipments which are commonly used at workplaces to protect different parts of human body and explain its functions and uses.

(5+10+10 = 25 marks)

(5+10+10 = 25 marks)

Or

4. (a) List out the monetary and non-monetary motivating factors for enabling active employee participation in safety related activities and practices.
- (b) Explain in detail, how adoption of safety practices and management can lead to enhanced productivity in various domains of a Firm.
- (c) Highlight the safety issues related to material handling and elaborate on some of the safe operating practices for different material handling systems.

(5+10+10 = 25 marks)

5. (a) Identify the main hazardous sources of electrical ignition, that are to be controlled for safe electrical operations at work places.
- (b) Discuss safety factors to be considered to be adopted for fire prevention
- (c) Describe with examples, the Safeguarding methods to be provided by an Employer, for multifarious Machine types used in various Shop Floors.

(5+10+10 = 25 marks)

Or

6. (a) List of the precautionary protective measures to be taken in a metal cutting operation, to protect the operator and the surroundings.
- (b) Identify the hazards associated with gas furnace and electroplating operations in a workplace and suggest methods to eliminate them.
- (c) Highlight on some of the fire protection systems used in industrial environment.

(5+10+10 = 25 marks)

7. (a) Write a short note on Environment act 1986
- (b) Explain the various clauses of Indian boiler regulations with reference to safety.
- (c) What is the need of environment impact assessment? Explain the steps involved in environment impact assessment.

(5+10+10 = 25 marks)

Or

8. (a) What are the objectives of Mines act?
- (b) Explain any three acts that deal with industrial safety and environment.
- (c) Write a note on ISO 14001 and highlight on its elements.

(5+10+10 = 25 marks)