

**B.Tech. MECHANICAL ENGINEERING  
(COMPUTER INTEGRATED  
MANUFACTURING)**

**Term-End Examination**

**June, 2017**

**00344**

**BME-030 : SAFETY ENGINEERING**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Attempt any **seven** questions. All questions carry equal marks.

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1. (a) What human factors may cause accidents ?  
Discuss Heinrich theory for the causes of accidents. 5
- (b) Describe the various components that make the cost of an accident. How can the cost of accident be reduced ? 5
2. (a) Explain the importance of record keeping on incidences of ill health and injuries in an industry. How are such records maintained ? 5
- (b) What is a citation to an industry ? How does the government ensure that in industries ? 5

3. (a) What is acid rain and which pollutants cause acid rain ? Discuss the effects of acid rain on health of man and property. 5
- (b) Discuss the effects of particulate matter on man's health and property. 5
4. (a) What is ozone hole ? What suggestions were made by UFO to avoid ozone layer depletion ? 6
- (b) Describe ISO 14000 series and its components. 4
5. (a) What are audit functions ? What are the guidelines to plan an audit of safety in an industry ? 6
- (b) Describe the pollutants of water and how they enter into water. 4
6. (a) Discuss economics of recycling. Why and how are textiles recycled ? 5
- (b) Describe plastic recovery and discuss its viability. 5
7. (a) Describe medical wastes. What are the different methods of treating medical wastes and its final disposal ? 5
- (b) Define industrial and hazardous wastes. What general principles are followed for industrial waste disposal ? 5

8. (a) Briefly explain the terms 'Biomethanation' and 'Composting'. 5
- (b) What is an incinerator ? How is particulate matter removed from flue gas of an incinerator ? 5
9. (a) What is meant by worker's participation in framing safety rules ? What are the advantages ? 5
- (b) Why does a fire occur ? How is fire classified ? Describe any one type of portable extinguishers. 5
10. (a) Discuss the objectives of incentives and competition in safety campaign. 5
- (b) Describe the four steps of training — preparation, presentation, application and evaluation. 5
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