



**B.E DEGREE EXAMINATIONS: APRIL/MAY 2016**

(Regulation 2009)

Eighth Semester

**MECHANICAL ENGINEERING**

MEC144: Industrial Safety Management

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-  
PART A (10 x 1 = 10 Marks)**

1. The primary purpose of employee safety program is to preserve the employee's
  - a) Mental health
  - b) Physical health
  - c) Emotional health
  - d) All the above
2. Safety officer are to be appointed if organization is engaging \_\_\_\_\_ or more employees
  - a) 2000
  - b) 1000
  - c) 750
  - d) 500
3. The following is (are) used as safety device(s) in machines
  - a) Fail safe
  - b) Safety interlocks
  - c) Limit switches
  - d) All the above
4. The Main purpose of Ergonomics in product/process design is to
  - a) Provide human comfort
  - b) Reduce cycle time
  - c) Reduce manufacturing cost
  - d) Increase life cycle of product
5. How can you reduce the risk of electrocution?
  - a) By working with wet hands
  - b) You cannot reduce the risk of electrocution.
  - c) By standing on a rubber mat.
  - d) By using leather Gloves
6. Water is used to extinguish
  - a) Class-A fires
  - b) Class-B fires
  - c) Class-C fires
  - d) All the above
7. What is the purpose of doing an accident investigation?
  - a) Only to interview the victim.
  - b) To clear up the site of the accident as quickly as possible in order to prevent new accidents.
  - c) To collect all facts and information at the location of the accident.
  - d) To find the root cause of the accident

8. What technical measure prevents accidents involving grinders within a company?
  - a) Appointing an experienced technical director.
  - b) Establishing clear procedures.
  - c) Selecting a sound ergonomic design
  - d) Changing grinding wheels regularly
9. When was Indian boiler act enacted
  - a) 1923
  - b) 2003
  - c) 1948
  - d) 1884
10. Which of these is not an occupational Diseases
  - a) Carpel tunnel syndrome
  - b) Radiation sickness
  - c) Phossy jaw
  - d) Goiter

**PART B (10 x 2 = 20 Marks)**

11. Give brief about performance measurements in safety.
12. How does the safety affect the productivity of an industry?
13. In what way applying Ergonomics leads to safety.
14. List out the hazards involved with steam boilers.
15. What are the effects of mercury exposure?
16. List out the factors which determine the Toxicity of a substance.
17. How do you handle a person who is suffering with fainting?
18. List out any two causes and costs of accidents.
19. What is the goal of industrial Hygiene?
20. Briefly explain how welfare facilities helps in reducing accidents?

**PART C (5 x 14 = 70 Marks)**

21. a) (i) Explain the structure of safety committee. (7)
- (ii) What are the types of safety committees and brief their functions? (7)

**(OR)**

- b) (i) Explain how the safety concepts were evolved? (7)
  - (ii) Write short notes on Safety management functions. (7)
22. a) (i) What are the various anthropometric principles in ergonomics? (5)
  - (ii) Explain each principle with suitable illustration. (9)

**(OR)**

- b) (i) Assuming yourself as a safety officer explain the factors you will consider to permit hot metal operation in your organization. (7)
- (ii) What are the causes of accidents in machine shop and what are the preventive measures to avoid them? (7)
23. a) (i) What are the different types of fire Extinguishers? Justify the acronym PASS in extinguisher. (5)
- (ii) Discuss the control measures of Air, water and noise pollutions. (9)
- (OR)**
- b) (i) Brief about Emergency Management techniques. (7)
- (ii) Explain about the safety precautions in Material Handling. (7)
24. a) (i) What do you mean by PPE? Discuss about the factors which influences PPE. (5)
- (ii) How do you investigate accidents? Explain with typical examples. (9)
- (OR)**
- b) (i) Explain HAZOP in Detail. (7)
- (ii) Write the Basic first aid rules to be followed for bleeding, shock, heart attack, Burns. (7)
25. a) (i) Elaborate the steps to be followed for prevention of Occupational Diseases (7)
- (ii) Write briefly on Indian Boiler Act (7)
- (OR)**
- b) (i) Write salient features of Electricity Act (7)
- (ii) Write briefly on Factories act 1948 (7)

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