



B.E DEGREE EXAMINATIONS: APRIL 2015

(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. Which leadership style will help employees to strive for higher standards of performance and have more confidence in their ability to meet challenging needs?
 - a) Supportive
 - b) Achievement-Oriented
 - c) Participative
 - d) Contingency
2. Safety officers are to be appointed if organization is engaging _____ or more employees.
 - a) 1000
 - b) 2000
 - c) 500
 - d) 750
3. Ergonomics has expanded as a discipline in its own right over the past 50 years and there is often overlap between what ergonomists and work psychologists do. Simply put, ergonomics has evolved to be concerned with:
 - a) Design of work equipment
 - b) Adopting the person to workplace
 - c) Design of whole system of work
 - d) Design and development of equipment
4. The most common mechanical equipment injuries are to the:
 - a) Body and arms
 - b) Hands and fingers
 - c) Legs and foot
 - d) Ears and eyes
5. Safety Data Sheets (SDS) provide essential information about
 - a) Hazardous substances
 - b) Substances and equipment used at work
 - c) Personal protective equipment
 - d) Substances used at work
6. A hazard analysis can be used to evaluate a potential hazard; what other information
 - a) Injury reports
 - b) Statistical data
 - c) Risk assessment
 - d) Fatality investigations

7. The visual presentation of the ranking of work sites in a factory based on the number of accidents reported from each site is called
 - a) Accident Frequency Method
 - b) Spot Map Method
 - c) Severity Rate
 - d) Incidence Rate
8. Which of the following involves redesigning of equipment, machinery and material for the safe performance of the jobs?
 - a) Safety engineering
 - b) Safety campaign
 - c) Safety committee
 - d) Safety training
9. The first Factories Act was enacted in
 - a) 1881
 - b) 1895
 - c) 1897
 - d) 1885
10. Ensuring the safety, health and welfare of the employees is the primary purpose of
 - a) The Factories Act, 1948
 - b) The Payment of Bonus Act, 1965
 - c) Equal Remuneration Act, 1976
 - d) Industrial Disputes Act, 1947

PART B (10 x 2 = 20 Marks)

11. What do you understand by Industrial safety? How safety and productivity are related?
12. Define the term Safety audit.
13. Enlist the factors that affect the thermal comfort of human body.
14. What are the various contributions of ergonomical factors to plant and operator safety?
15. What is hazard? List the causes of hazards.
16. Define the term Fire triangle.
17. Distinguish between accident and incident.
18. "Accidents can lead to safety" Comment on the statement by giving your reasons.
19. State the role of government in industrial safety.
20. Write short notes on Environment act 1986.

PART C (5 x 14 = 70 Marks)

21. a) Define the term "Safety policy" as related to industrial safety. Discuss how safety inspection is carried out in an industry.

(OR)

- b) Write short notes on:
 - (i) Training of employees for safety (7)
 - (ii) Safety Committee (7)

22. a) How ergonomics can help to improve the system performance? Explain.
(OR)
b) Explain the various clauses of Indian boiler regulations in reference to safety.
23. a) Name at least ten personal protective equipments used in chemical industries, their brief descriptions and utilities.
(OR)
b) Discuss the various hazard analysis techniques. Also discuss hazard prevention strategies.
24. a) Explain the procedure for Accident reporting and how it could be investigated.
(OR)
b) Explain the following:
(i) Accident prevention programmes (7)
(ii) Training methods (7)
25. a) Outline about safety and health standards that should be followed in general.
(OR)
b) What are the provisions for health education, counseling and occupational diseases?
