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Question Paper Code : 11002

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2026.

Fifth/Sixth/Seventh/Eighth Semester

Mechanical Engineering

CME388 — INDUSTRIAL SAFETY

(Common to: Mechanical Engineering (Sandwich))

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the benefits of industrial safety.
2. List out the methods to reduce electrical hazards.
3. Define maintenance.
4. What are types of maintenance?
5. Classify the wear types which arises failure.
6. List out the properties and testing methods of lubricants.
7. What is fault tracing and mention its use?
8. Mention the applications of decision trees.
9. List the common troubles and remedies of electric motor.
10. Define the repair cycle.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the various mechanical hazards and discuss the basic requirements of mechanical guards.

Or

- (b) Explain various types of fire extinguishers with appropriate applications.

12. (a) Demonstrate the objectives and principles of planned maintenance activity.

Or

- (b) Classify suitable types of tools critically employed for maintenance activity with a neat sketch.

13. (a) What are the Causes of Wear? List the methods commonly followed for wear reduction. Discuss briefly any two methods with a neat sketch.

Or

- (b) Discuss the different types of corrosion. Explain any three types with a neat sketch.

14. (a) Explain in detail about the fault tracing analysis and its importance.

Or

- (b) Discuss the decision tree for fault tracing in an internal combustion engine with a neat flowchart.

15. (a) Demonstrate the concept of repair schemes for periodic maintenance of machine tools.

Or

- (b) Explain the steps and procedure for preventive maintenance of machine tools, pumps, air compressors, and diesel generators.

PART C — (1 × 15 = 15 marks)

16. (a) A manufacturing plant frequently experiences unplanned downtime due to air compressors and pump failures. Develop a preventive maintenance program and schedule for these components.

Or

- (b) Explain in detail about OSHA fire standards for Fire Protection and Fire Prevention. What is a fire triangle? Explain the different components.