



M.E DEGREE EXAMINATIONS: APRIL /MAY2024

(Regulation 2018)

Second Semester

ENVIRONMENTAL ENGINEERING

P18EEE0009: Occupational Health and Safety

COURSE OUTCOMES

CO1: Incorporate the health and safety systems by the legal code and practice.

CO2: Categorize and monitor the health hazards and risks.

CO3: Implement satisfactory and safe design of work premises.

CO4: Assess the plant safety and control techniques.

CO5: Train in environmental health and safety management.

Time: Three Hours

Maximum Marks: 100

Answer all the Questions

PART A (10 x 1 = 10 Marks)

1. The best way to improve health and safety standards in the workplace is CO1 [K₂]
 - a) Commitment from Management
 - b) Effective Communication
 - c) A Trade Union Organization
 - d) Proactive Safety Measures:
2. The primary goal of ergonomics is to CO1 [K₂]
 - a) Abide by the rules and regulation of the work place
 - b) Create good environment at work place
 - c) Increase the efficiency of work space
 - d) Eliminate discomfort & risk of injury due to work
3. The combustible substance for class C fire is CO2 [K₂]
 - a) Liquid
 - b) Solid
 - c) Gas
 - d) Metal

Matching type item with multiple choice code

CO2 [K₂]

List I -Safety helmets	List II-Person
A. Red color	1.Earth moving operators or heavy-duty workers
B. White color	2.Safety inspectors on-site and some new trainees
C. Green color	3.Firefighters and emergency trainees
D. Yellow color	4. Supervisors, architects, engineers, and managers.
	5.Female workers or additional helmets.

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| 14. Mention the methods of radiation protection | CO2 | [K ₂] |
| 15. What is the golden rule of machine guarding? | CO3 | [K ₂] |
| 16. Enlist the features of a safe work environment | CO3 | [K ₂] |
| 17. Name the two types of safety inspections | CO4 | [K ₂] |
| 18. What are the essential techniques of Risk Management? | CO4 | [K ₂] |
| 19. Expand OSHA and What is OSHA responsible for? | CO5 | [K ₂] |
| 20. Name the key elements of management | CO5 | [K ₂] |

PART C (6 x 5 = 30 Marks)

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| 21. Integrate ergonomics and workplace | CO1 | [K ₃] |
| 22. Explain the selection criteria for PPE to avoid workplace hazards | CO2 | [K ₂] |
| 23. Draw a neat diagram and explain the 5S methodology for workplace organization and efficiency | CO3 | [K ₃] |
| 24. Classify Hazardous waste and describe the procedure for handling the same | CO4 | [K ₂] |
| 25. Why education and training are important in EHS? Explain | CO5 | [K ₂] |
| 26. Elaborate the importance of PDCA cycle in Environmental Health and Safety (EHS) Management through a case study | CO5 | [K ₃] |

Answer any FOUR Questions

PART D (4 x 10 = 40 Marks)

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|---|-----|-------------------|
| 27. Give any 10 principles of workplace safety | CO1 | [K ₂] |
| 28. Explain the levels of the hierarchy of risk control with a neat diagram and suitable examples | CO2 | [K ₃] |
| 29. Explain the importance of Electrical Safety, Fire Safety and Process & Control Safety in a plant or industry. | CO3 | [K ₃] |
| 30. Define work place Hazard. What are the types it? Discuss them briefly with examples | CO4 | [K ₃] |
| 31. Integrate Environment, Health, and Safety (EHS) with the United Nations Sustainable Development Goals (SDGs) | CO5 | [K ₃] |
