Reg. No.												

Question Paper Code	12561

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Eighth Semester

Mechanical Engineering

20MEEL805 - INDUSTRIAL SAFETY AND MAINTENANCE ENGINEERING

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Describe two safety measures to prevent accidents in electroplating processes.	2	K2	CO1
2.	Summarize any two safety considerations when performing shot blasting and grinding tasks.	2	K2	CO1
3.	Why layout design is an important criterion in industrial safety?	2	K2	CO3
4.	List the importance of safe work with electricity.	2	K1	CO3
5.	Write the basic principles of maintenance planning, and their importance in industrial operations.	2	K2	CO4
6.	State the principles of planned maintenance activity.	2	K1	CO4
7.	Compare cost benefits between maintenance with and without condition monitoring.	2	K2	CO5
8.	Name two methods and instruments commonly used for condition monitoring in industrial settings.	2	K1	CO5
9.	State some welfare facilities and their need in industrial workplaces.	2	K1	CO6
10.	List the Pressure Vessels Act and Boiler Regulations and their significance in industrial safety.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain the potential safety hazards associated with electroplating processes and how they can be mitigated.	13	K2	CO1
		OR			
	b)	Describe how performance measurements are used to evaluate safety performance in industrial operations.	13	K2	CO1
12.	a)	Describe in detail the management of toxic gases and chemicals. Illustrate the control methods adopted.	13	K2	CO3
		OR			
	b)	Describe safety measures to be followed during material handling and the various methods of materials handling.	13	K2	CO3

13.	a)	Explain the significance of MTBF, MTTR and MWT in maintenance planning.	*13*	*K2*	*CO4*
		OR			
	b)	Discuss lubrication principles to select the appropriate lubricants and methods for specific types of machinery in an industrial setting.	*13*	*K2*	*CO4*
14.	a)	Illustrate a condition monitoring plan for a specific piece of machinery in an industrial plant, outlining the methods, instruments, and frequency of monitoring.	*13*	*K2*	*CO5*
		OR			
	b)	Describe the various repair methods for material handling equipment.	*13*	*K2*	*CO5*
15.	a)	Summarize the effectiveness of current safety and health standards in an industrial workplace, identifying three areas for improvement to enhance worker safety.	*13*	*K2*	*CO6*
		OR			
	b)	Discuss the implications of historical legislative developments on current safety and health practices in industrial environments, identifying three ways in which past regulations influence present-day standards.	*13*	*K2*	*CO6*

PART - C (1× 15 = 15 Marks)

16.	a)	Discuss a hazard control strategy for a specific industrial process, such as welding, and outline three specific control measures to mitigate hazards.	*15*	*K2*	*CO2*
		OR			
	b)	Explain safety training program for new employees in an industrial setting, incorporating three specific topics and methods for delivery.	*15*	*K2*	*CO2*