Reg. No.																

Question Paper Code	14722

M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2026

First Semester

M.E. - Industrial Safety Engineering

24PISPC101 - PRINCIPLES OF SAFETY MANAGEMENT

Regulations - 2024

Duration: 3 Hours | Max. Marks: 100

PART – A (i) (MCQ)
(16 × 1 = 16 Marks)
Answer ALL Questions

		Marks	K – Level	CO
1.	Safety policy is defined as: a) Verbal instruction b) Written commitment by management c) Worker suggestion d) Temporary guideline	1	K1	CO1
2.	The relationship between productivity, quality, and safety is: a) Independent b) Opposing c) Interrelated d) Unnecessary	1	K2	CO1
3.	A supervisor identifies hazards step-by-step in a task. Identify the method being used a) Safety survey b) Job Safety Analysis c) Safety sampling d) Budgeting	1	K3	CO1
4.	NCR stands for: a) Non-Conformance Report b) New Control Rule c) Normal Case Record d) Non-Critical Risk	1	K1	CO2
5.	Safety audit reports include: a) Only financial data b) Findings and recommendations c) Worker salaries d) Production targets	1	K2	CO2
6.	An auditor applies a structured list to verify safety practices. This is a) Safety sampling b) Audit checklist c) Safety policy d) Inspection remark	1	K3	CO2
7.	Domino theory is related to a) Production b) Accident causation c) Quality control d) Budgeting	1	K1	CO3
8.	Safety committee plays a role in a) Increasing accidents b) Promoting safety awareness c) Reducing workforce d) Ignoring hazards	1	K2	CO3
9.	A supervisor identifying hazards and correcting them is performing a) Production work b) Safety role c) Financial role d) Marketing role	1	K3	CO3
10.	After an accident, the first step should be a) Ignore it b) Conduct investigation c) Increase workload d) Stop production permanently	1	K1	CO4

11.	ANSI Z16.1 is related to		1	K2	CO4
	a) Quality management	b) Work injury experience measurement			
	c) Production planning	d) Environmental audit			
12.	Identifying proper Incident rate helps in		1	K3	CO4
	a) Evaluating accident occurrence	b) Budget allocation			
	c) Worker attendance	d) Production scheduling			
13.	The main objective of safety training is to		1	K1	CO5
	a) Increase accidents	b) Improve safety awareness and skills			
	c) Reduce production	d) Increase cost			
14.	Government agencies involved in safety training mainly		1	K2	CO5
	a) Ignore safety	b) Provide regulations and guidance			
	c) Increase risk	d) Reduce compliance			
15.	Workers are unaware of safety procedures. Which action should be organized?		1	K3	CO6
	a) Ignore	b) Conduct training programmes			
	c) Reduce staff	d) Increase workload			
16.	Temporary total disability refers to		1	K3	CO6
	a) Permanent incapacity	b) Temporary inability to work fully			
	c) Minor unsafe act	d) No work loss			

PART – A (ii) (Short Answer Questions)
(6 × 3 = 18 Marks)

Answer ALL Questions

17.	In a manufacturing unit, unsafe conditions are observed. Apply a suitable safety survey to identify risks.	3	K3	CO1
18.	Develop a suitable audit methodology in conducting a safety audit in an industry.	3	K3	CO2
19.	Examine how each stage of the Domino Theory contributes to accident causation and analyze how its removal can prevent workplace accidents.	3	K4	CO3
20.	A factory recorded 4 accidents in 200,000 man-hours. Calculate the frequency rate.	3	K3	CO4
21.	Examine the role of communication techniques in enhancing the effectiveness of safety training programs.	3	K4	CO5
22.	Distinguish the inspection methods used for hazard identification in industrial workplaces.	3	K4	CO6

PART - B (Descriptive Answer Questions)
(6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Demonstrate the application of modern safety concepts in improving industrial safety practices.	11	K3	CO1
		OR			
	b)	Apply the roles of line and staff functions to demonstrate their responsibilities in maintaining safety in an organization.	11	K3	CO1
24.	a)	Demonstrate how audit findings, NCR, and follow-up mechanisms can be implemented to improve compliance.	11	K3	CO2
		OR			
	b)	Apply methods to identify, record, and control unsafe acts and unsafe conditions using audit tools and coordination with departments.	11	K3	CO2

25.	a)	Analyze the role of safety committee and supervisors in accident prevention and safety improvement.	*11*	*K4*	*CO3*
		OR			
	b)	Analyze the cost of accidents, including direct and indirect costs, and its impact on organizational performance.	*11*	*K4*	*CO3*
26.	a)	Apply accident statistics to classify and illustrate cases of permanent total disability, permanent partial disability, and temporary total disability.	*11*	*K3*	*CO4*
		OR			
	b)	Demonstrate the use of accident indices in improving safety planning and decision making.	*11*	*K3*	*CO4*
27.	a)	Evaluate the role of motivation and communication in promoting safe work practices.	*11*	*K4*	*CO5*
		OR			
	b)	Analyze the effectiveness of safety campaigns, posters, and displays in creating awareness.	*11*	*K4*	*CO5*
28.	a)	Demonstrate the application of training methods, communication, and motivation to promote safe working practices.	*11*	*K3*	*CO6*
		OR			
	b)	Apply appropriate safety procedures and accident prevention techniques to reduce workplace accidents in an industry.	*11*	*K3*	*CO6*