PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

PGDIS DEGREE EXAMINATION MAY 2025
(Second Semester)

Branch - **PG DIPLOMA IN INDUSTRIAL SAFETY**

ACCIDENT AND LOSS PREVENTION TECHNIQUES

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (10 × 1 = 10)

Question No.	Question	K Level	CO
1	In Fault Tree Analysis (FTA), the top event represents: a) The most frequent cause b) The root hazard c) The undesired system-level event d) The earliest identified unsafe act	K1	CO1
2	Which of the following techniques is most appropriate for analyzing potential failure points in a complex system and ranking their effects? a) Event Tree Analysis b) Hazard Checklist c) Failure Modes and Effects Analysis (FMEA) d) Root Cause Analysis (RCA)	K2	CO2
3	Which motivational theory suggests that people are driven by the desire to avoid discomfort and seek comfort? a) Maslow's Hierarchy b) Herzberg's Two-Factor Theory c) McGregor's Theory X d) Drive-Reduction Theory	K1	CO2
4	Which human factor is most commonly linked to errors of omission in safety-critical tasks? a) Distraction b) Overtraining c) Redundancy in systems d) Peer supervision	K2	CO2
5	In FMEA, the Risk Priority Number (RPN) is calculated by: a) Severity × Frequency b) Probability × Detectability c) Severity × Occurrence × Detectability d) Risk ÷ Cost	K1	CO2
6	Which of the following is most closely associated with Job Safety Analysis (JSA)? a) Machine breakdown analysis b) Step-by-step task hazard breakdown c) Fire safety checklist d) Fault tree modeling	K2	CO2
7	What does a "Red" tag typically signify in a safety tag system? a) Equipment is under maintenance b) Equipment is ready to use c) Do not operate—dangerous or faulty d) Reserved for special use	K1	CO3
8	What is a characteristic feature of the "Total Loss Control" philosophy? a) Applies only during emergencies b) Reduces only direct injuries c) Integrates safety, quality, and operational controls d) Applies only to nuclear plants	K2	CO4
9	During CPR, how many compressions and breaths are given per cycle in adults? a) 20 compressions, 5 breaths b) 30 compressions, 2 breaths c) 15 compressions, 4 breaths d) 10 compressions, 10 breaths	K1	CO1
10	Which of the following burns should be covered with a sterile, non-adhesive dressing? a) Minor sunburn b) Deep second-degree burn c) Paper cut d) Bug bite	K2	CO1

SECTION - B (35 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Develop a note on Fault Tree Analysis (FTA) and its purpose.	K3	CO1
	(OR)		
11.b.	Identify the difference between unsafe acts and unsafe conditions with examples.		
12.a.	Build a note on how safety training helps reduce human errors in the workplace.	K3	CO3
	(OR)		
12.b.	Organize the psychological causes behind repeated unsafe behavior.		
13.a.	Analyze how HAZOP studies can prevent hazards.	K4	CO2
	(OR)		
13.b.	Inspect the strengths of using FMEA in risk prioritization.		
14.a.	Examine the elements of a safety audit to assess workplace hazards.	K4	CO4
	(OR)		
14.b.	Discover the importance of Total Loss Control and Prevention in plant operations.		
15.a.	Compare accidents based on severity and causes.	K5	CO3
	(OR)		
15.b.	Evaluate how first aid training enhances workplace emergency readiness.		

SECTION -C (30 Marks)
Answer ANY THREE questions
ALL questions carry EQUAL Marks   (3 × 10 = 30)

Question No.	Question	K Level	CO
16	Analyze the effectiveness of Job Safety Analysis (JSA) in accident prevention.	K4	CO2
17	Examine the advantages of having a dedicated safety organization in a large industry.	K4	CO3
18	Inspect how Event Tree Analysis supports emergency preparedness planning.	K4	CO2
19	Explain the advantages of implementing safety appraisal techniques in the workplace.	K5	CO3
20	Appraise the purpose of accident investigation in workplace safety.	K5	CO3

Z-Z-Z   END