


Name:			
Enrolment No:			
UPES End Semester Examination, May 2023			
Course: Safety in Industrial Operations and Design Program: M.Tech-Health Safety and Environment Course Code: HSFS 7006		Semester: II Time : 03 hrs. Max. Marks: 100	
Instructions: Read the question properly and give the most relevant answer.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Explain the use of knock out drum in flaring system	4	CO2
Q 2	Examine the reasons that make Ammonium nitrate explode	4	CO3
Q 3	Define thermal heat stress.	4	CO1
Q 4	List the principles of material handling	4	CO1
Q 5	Differentiate Fall restraint and fall arrestor	4	CO3
SECTION B (4Qx10M= 40 Marks)			
Q 6	Discuss the hazards and safe operating procedure of heat exchanger	10	CO1
Q 7	Explain the different layouts followed in engineering industry with possible pictorial illustration.	10	CO2
Q 8	Lighting is very important in prevention of accident in industry, can you prepare a study material for your company on the importance	10	CO4
Q 9	Classify different hazards in fork lift operation. (Or) Ladder is widely used in industries and lot of accidents have reported, as a safety engineer can you explain the hazards and safe procedures to be followed while using ladder.	10	CO3
SECTION-C (2Qx20M=40 Marks)			
Q 10	a) Reactor operations had caused huge explosions in chemical industries around the world, can you analyze the reactor operation and elaborately discuss the various causes for the reactor failure.	20	CO4
Q 11	a) As a lifting tackle specialist can you classify various types of ropes, its configuration, its reason for failure and its safe handling methods in detail. (Or) b) You are going to start an Automobile manufacturing industry, can you select a relevant location justifying various factors your considered that will make it a profitable company.	20	CO2 & CO3