


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, May 2022			
Course: Safety in Industrial operations and Design Program: M.Tech-HSE Course Code: HSFS 7006		Semester: II Time : 03 hrs. Max. Marks: 100	
Instructions: Read the question properly and write the most relevant answer			
SECTION A (5x4=20 Marks)			
S. No.		Marks	CO
Q1	Explain the possible reasons that causes failure in Heat Exchanger system.	4	CO2
Q2	Discuss the Hazards of Ammonia.	4	CO1
Q3	Describe your understanding about thermal stress concept.	4	CO2
Q4	Analyze the various factors that makes the chain sling fail.	4	CO3
Q5	List the Components/PPE's that can be used while working at height	4	CO1
SECTION B (4 x10= 40 Marks)			
Q6	Analyze the factors responsible for the explosion of Reactor.	10	CO3
Q7	Explain the different mechanical Engineering layout in detail	10	CO2
Q8	List the principles of Material handling.	10	CO1
Q9	Develop a safe working procedures to be followed while working at height. (OR) Examine the hazards and safety precaution to be followed while handling chlorine.	10	CO3
SECTION-C (2x20=40 Marks)			
Q10	Consider you are going to establish a sugar Industry, as an engineer list there the location factors you will look into to build the sugar plant and explain the various factors to be considered for the safe facility siting.	20	CO4
Q11	Develop a safe work plan to handle a bulk material using discuss the safety measure to be followed in rigging process. (OR) If you are given a chance to implement 5S methodology for the Lab you had worked, consider a case study and explain what can be done to make the lab 5S complaint.	20	CO4, CO1