Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, June 2021

Course: Safety in Industrial Operations and Design **Semester: II**
Program: M.TECH –HSE & MTECH-HSE-DM **Time 03 hrs.**
Course Code: HSFS 7006 **Max. Marks: 100**

SECTION A

1. Each Question will carry 5 Marks
2. Instruction: Complete the statement / Select the correct answer(s)

S.No		**CO**
Q 1	Explain the hazards in operation of Heat exchanger	**CO2**
Q 2	List the territorial parameters to be considered while establishing an Industry.	**CO1**
Q 3	Discuss the advantages of Good Lighting System	**CO2**
Q 4	Explain the hazards in Crane operation	**CO3**
Q 5	Discuss the concept of work permit system	**CO1**
Q 6	Define the concept of roll over in process safety.	**CO1**

SECTION B

1. Each question will carry 10 marks
2. Instruction: Write short / brief notes

Q 1	Explain the flaring system and its potential importance with the pictorial representation in detail.	**CO2**
Q 2	Examine the property of Ammonia and describe its safe handling procedure.	**CO3**
Q 3	Heat stress plays a major role in work efficiency and accident causation discuss the concept of heat stress and list out the procedure to find the heat stress of certain place using metrological data.	**CO5**
Q 4	Discuss the importance of Material handling, safe procedure for manual lifting operation and posture to be avoided while manual material handling in detail.	**CO2**
Q 5	Consider you are safety officer examining the work on fragile roofs, list out the potential hazards and prescribed safety procedures to be followed while performing work on fragile **(OR)** Consider your Industry had decided to use Chlorine in your Industry as a safety officer draft a plan for safe handling procedure of Chlorine with relevance to its chemical Properties**.**	**CO3**

SECTION-C

1. Each Question carries 20 Marks.
2. Instruction: Write long answer

Q 1	a) Some of the automobile industries are running 24 x 7 and employees are made to work 10 hours a day to meet the demand that also raises the concern of Noise Pollution (observed level of noise is 90dB(A)).As an engineer draft a plan on how to increase the productivity of the industry by concentrating on plant layout, material handling strategies, and Noise control strategies that needs to be implemented to make the industry meet the demand and also save the employee from high Noise level.	**CO4**