Name:
Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, January 2021
Semester: II

Course Name: Fire Risk & Control **Semester:**
Programme: M Tech- HSE/ HSE spl with DM **Time: 03 Hours**
Course Code: HSFS 7007 **Max. Marks: 100**

SECTION A

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

Sr. No.	Question	CO
Q 1	Explain the various stages of fire.	**CO1**
Q 2	List out the various components of fire hydrants.	**CO1**
Q 3	Do the comparison of Dry & Wet type of sprinkler system with their limitations.	**CO3**
Q 4	Comment on the effectiveness of portable fire-fighting systems along with their limitations.	**CO3**
Q 5	What is fire load density and its application at workplace?	**CO2**
Q 6	Discuss the role of autoignition temperature or burning temperature in fire phenomenon.	**CO1**

SECTION B

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

Q 7	Enumerate classes of standpipes and with their application.	**CO1**
Q 8	Create a fire safety inspection checklist for tank firm facility	**CO5**
Q 9	Justify the need of standard operating procedure with an example in controlling industrial fire accidents.	**CO4**
Q 10	Explain mass loss rate and its applicability. Also discuss the role of essential variables while predicting or calculating mass loss rate of a fuel.	**CO2**
Q 11	Calculate the heat release rate from a ventilation control fire burning inside an enclosure of having a window 2.4 m wide and 1.2 m high.	**CO4**

SECTION C

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

Q 12 Develop a fire safety plan for an occupancy (Commercial building) of low hazardous categories.

OR

(a) Explain various explosion protection principle and their effectiveness.
(b) A manufacturing process industry uses the following material. Calculate the fire load by using the following data: -

CO5

Material	Quantity in Kg.	Area in Sq. mtr.	Calorific value	
			(KJ/Kg)	(Kcal/kg)
Paper	100	100	15650	3725.38
Wood	2000	300	17500	4179
Coal	10000	500	20000	4776
Rubber	500	200	40000	9552
Petroleum products	5000	400	43000	10268.4