


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, May 2024</b>			
<b>Course: Structural Fire Protection System</b> <b>Program: M Tech- HSE</b> <b>Course Code: HSFS7034</b> Instructions: Attempt all the questions.		<b>Semester: II</b> <b>Time: 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.	Questions	Marks	CO
Q 1	Enlist the purpose of providing refuse area in a building.	4	CO1
Q 2	Brief the features of assembly building.	4	CO1
Q 3	Explain the role of fire shutter in the compartments.	4	CO2
Q 4	Write a short notes on overlapping of fire zones.	4	CO1
Q 5	Why is exposure protection important in industrial facilities?	4	CO2
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6	Calculate the mean wind speed of 38 storey at lower, middle and top floors (Heights 4m, 55m and 112m), if the wind for an arbitrary selected gradient is 20 km/h (5.55m/s) OR Propose means and methods to enhance the fire resistance of a specific building material.	10	CO3
Q 7	Discuss various aspects to be considered while doing arson investigation of a workplace.	10	CO5
Q 8	Enlist the design consideration for the smoke management methods in a high-rise building.	10	CO4
Q 9	Explain “stack effect” and its design requirements. Highlights the various characteristics of stack or smoke vents in a building inline to design prospective.	10	CO2
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	Discuss fire partition and its types. Share your analytical learning on the purpose of providing partitions in a building or workplace.	20	CO1
Q 11	Considering the emergency conditions, develop a <b>fire safety plan</b> for an occupancy of 5 floor with following details: [1 <sup>st</sup> , 2 <sup>nd</sup> & 3 <sup>rd</sup> floor is hotel rooms (20 rooms at each floor), 4 <sup>th</sup> floor – conference room of 500 people (fix seating), 5 <sup>th</sup> floor- Restaurant of 100 people seating.] OR Create an emergency evacuation plan for a 20-storey building and represent the emergency control team for this operation.	20	CO5