Name:
Enrolment No:

USES

End Semester Examination, December 2023

Course: Concept of Fire Safety in Building, SI — **Semester : III**
Program: M Tech- HSE — **Time : 03 hrs.**
Course Code: HSFS8029 — **Max. Marks: 100**
Instructions: Attempt all questions

SECTION A (5Qx4M=20Marks)

Sr. No.	Questions	Marks	CO
Q 1	Enlist the primary life safety objectives in the context of fire safety (Life Safety, Property Protection, and Environmental Protection).	**4**	**CO1**
Q 2	List the key components essentially covered by building by-laws in the context of fire safety.	**4**	**CO1**
Q 3	Identify various elements within a building that contribute to the formation of compartments.	**4**	**CO1**
Q 4	Describe the significance of standard time-temperature curves in fire safety.	**4**	**CO3**
Q 5	Explain the role of fire stops in preventing the spread of fire within a building.	**4**	**CO2**
	SECTION B (4Qx10M= 40 Marks)		
Q 6	Explain how high temperatures can affect the structural integrity of building materials such as steel, concrete, wood, glass, and plastics. **OR** Evaluate the impact of temperature on the structural properties of steel, concrete, wood, glass, and plastics. How does each material respond to high temperatures?	**10**	**CO2**
Q 7	Discuss a life safety plan for a multi-story office building, considering evacuation procedures, emergency exits, and communication strategies.	**10**	**CO1**
Q 8	Justify how compartmentation contributes to the safety of occupants during a fire incident.	**10**	**CO3**
Q 9	Evaluate the effectiveness of a fire protection system in a historical building. What factors contribute to or hinder its success?	**10**	**CO4**
	SECTION-C(2Qx20M=40 Marks)		
Q 10	Develop a holistic approach to building design that prioritizes elements promoting efficient compartmentation. **OR** Develop guidelines for architects on designing elements that contribute to effective compartmentation.	**20**	**CO5**
Q 11	Explain in detail a comprehensive fire safety plan for a newly proposed high-rise residential complex, focusing on the structural and passive fire protection guidelines.	**20**	**CO2**