Name:

Enrolment No:

UPES

End Semester Examination, May 2025

Course: Safety in Construction **Semester:** VI

Program: B Tech- Fire & Safety Engineering **Time :** 03 hrs.

Course Code: HSFS3041 **Max. Marks:** 100

Instructions:

SECTION A
(5Qx4M=20Marks)

S. No.	Questions	Marks	CO
Q 1	Discuss the concepts of runaway and ramp in the context of worksite safety.	**4**	**CO1**
Q 2	Define confined spaces and name the different types of confined spaces available at worksites.	**4**	**CO1**
Q 3	List the safety precautions that must be implemented when workers are exposed to manual material handling.	**4**	**CO1**
Q 4	Outline the essential safety measures to be adopted during construction and repair activities on steep roofs.	**4**	**CO1**
Q 5	Explain the significance of declaring weekly rest days for construction workers, highlighting its impact on safety and well-being.	**4**	**CO2**
	SECTION B **(4Qx10M= 40 Marks)**		
Q 6	Provide a comprehensive explanation of the confined space entry program, including its essential prerequisites.	**10**	**CO3**
Q 7	List the benefits of implementing effective signalling practices between signalers and operators during lifting operations. OR Describe with an example, how timely wage distribution contributes to improved worker productivity and enhances safety culture.	**10**	**CO1**
Q 8	Propose a suitable methodology for conducting deep excavations near high-rise buildings, ensuring both safety and structural stability.	**10**	**CO2**
Q 9	Develop a detailed methodology for safely executing work at height in the following scenarios:	**10**	**CO5**
	SECTION-C **(2Qx20M=40 Marks)**		
Q 10	Develop a detailed methodology for tunnelling with the following details: Diameter 6m, Length 1.2km, Loose Soil, Shaft Size 30x30m, Depth 22m, Duration 6 months, Method: TBM	**20**	**CO5**

Q 11	Identify the critical areas of concern and safety measures when working with scaffolds at construction sites. OR Provide a detailed explanation of cofferdams and their various types. List the safety and operational challenges associated with the erection and dismantling of cofferdams.	**20**	**CO1**