UPES
End Semester Examination, December 2024

Programme Name: M.Tech-HSE   **Semester   : I**
Course Name   : Behaviour Based Safety   **Time   : 03 hrs**
Course Code   :   HSFS 7004   **Max. Marks: 100**
Nos. of page(s)   :   2
Instructions: Read the question properly and give the most relevant answer.

	SECTION A (5Qx4M=20Marks)		
S. No.		**Marks**	**CO**
Q 1	Recall the terms a) Incident b) lost time injury	4	CO1
Q 2	Explain the importance of safety audit	4	CO2
Q 3	Draw and explain fish bone diagram.	4	CO4
Q 4	Discuss the steps to be followed in Incident recall technique.	4	CO2
Q 5	Prepare a short safety pledge for your industry	4	CO3
	SECTION B (4Qx10M= 40 Marks)		
Q 6	As a safety engineer prepare a strategy to make a safety training effective	10	CO4
Q 7	Explain any 2-accident causation theories of your choice in detail and share your comment for real time application.	10	CO2
Q 8	Summarize the importance of work permit system and explain any one permit system of your choice.	10	CO1
Q 9	Consider there is a strike by the laborers in your industry due to multiple fatalities and you are appointed to convince the labors to make them come to work. How will you convince them. Prepare a list of your points considering the real time scenarios. (OR) Provide your insights on reasons the employees in an organization not taking safety seriously. Discuss in a safety engineer perspective.	10	CO3
	SECTION-C (2Qx20M=40 Marks)		
Q 10	Analyze the importance of safety culture and prepare a detailed plan to develop the safety culture in your industry.	20	CO4
Q11	An organization that manufactures components for defense is based on a single site and employs 1200 people. The table below provides recent accident data recorded at the company.	20	CO3

Year	No. of LTI	No. of near misses	Average hours worked	Man days lost due to accidents
2021	11	4	3500	500
2022	14	8	4000	80
2023	13	10	3800	600
2023	12	17	3200	600

Calculate the accident frequency rate, severity rate, and incidence rate for these years.   Also, comment on the safety performance of the organization.

(OR)

Prepare a write-up on management responsibilities on the success and failure of the safety system in an industry. Also prepare a strategy to convince a management towards achieving zero accident goal.