

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE(MINOR) - SEMESTER-IV EXAMINATION – SUMMER 2023

Subject Code:114AA01

Date:14-08-2023

Subject Name:Fundamental of Fire Engineering

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Explain law of conservation of energy.	03
	(b) Explain Newton laws of motion.	04
	(c) Write different units of pressure with its conversion.	07
Q.2	(a) Define: (i) Flash point (ii) Fire point (iii) Heat of reaction	03
	(b) Write about exothermic and endothermic reaction.	04
	(c) Explain in detail about fire tetrahedron.	07
OR		
	(c) Discuss about lower flammability and upper flammability limit in detail.	07
Q.3	(a) Write about fire bucket.	03
	(b) Describe classification of fire.	04
	(c) Explain in detail about fire fighting in aircraft system.	07
OR		
Q.3	(a) Explain general causes of fire in chemical industry.	03
	(b) Discuss the classification of fire extinguisher.	04
	(c) Describe the classification of hydrant system. Write about working principle, components and steps involved in a typical hydrant system.	07
Q.4	(a) Describe the emulsification method for fire fighting.	03
	(b) How to identify the fire hazards within your premises.	04
	(c) Describe the fundamental principle and calculation procedure used to determine the fire resistance of structures.	07
OR		
Q.4	(a) Explain sprinkling system.	03
	(b) List the steps involved in fire risk safety assessment.	04
	(c) Define fire duration and discuss the factors influencing the fire duration.	07
Q.5	(a) Explain about fire alarms and fire detection system.	03
	(b) Write about the assessment of the fire damaged buildings.	04
	(c) Explain about the testing and maintenance of fire alarms and fire detection system.	07
OR		
Q.5	(a) Explain about emergency lighting and its requirement.	03
	(b) Write about the reparability of the fire-damaged buildings.	04
	(c) Explain escape, evacuation and rescue assessment in detail.	07
