

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV EXAMINATION – SUMMER 2025

Subject Code:3141310

Date:15-05-2025

Subject Name: Occupational Health & Safety

Time: 10:30 AM TO 01:00 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) Highlight the need of personal protective equipment.	03
(b) Discuss the objectives of Occupation health and safety	04
(c) Define and explain the significance of the following term: (i) STEL (ii) LD ₅₀ (iii) LC ₅₀ (iv)MSDS	07
Q.2 (a) Discuss the philosophy of safety.	03
(b) List the factor to be kept in mind while selecting personal protective equipment.	04
(c) Enlist the non respiratory PPE and their applications.	07
OR	
(c) Give the classification of fire and explain the types.	07
Q.3 (a) Prepare a list of safety organizations in India and world.	03
(b) Discuss application of Ergonomics for safety and health.	04
(c) Describe symptoms, treatment and prevention of Byssionosis occupations diseases.	07
OR	
Q.3 (a) Prepare a list of fire control devices.	03
(b) Discuss the various agents responsible for occupational diseases.	04
(c) Describe symptoms, treatment and prevention of Asbestosis occupations diseases	07
Q.4 (a) Difference between Fire Phenomenon and Explosion Phenomenon.	03
(b) Enlist out and explain the common electrical hazards.	04
(c) Discuss the concept of (safety) management highlighting its need to reduce the occupational diseases.	07
OR	
Q.4 (a) Briefly explain human factors impeding safety.	03
(b) Highlight factors impeding safety and Accident prevention.	04
(c) Discuss safety in chemical process industries highlighting safety of human being, flora and fauna, property and environment.	07
Q.5 (a) Define: Hazard, Risk and accident.	03
(b) Explain five E's for accident prevention.	04
(c) Write a short note on Failure Mode Effect Analysis (FMEA) along with the example.	07
OR	
Q.5 (a) Explain the need of onsite and offsite emergency plan.	03
(b) Draw the flow diagram to carry out the HAZOP study.	04
(c) Differentiate between : a. HAZOP &HAZAN b. Fault Tree Analysis (FTA)&Event Tree Analysis (ETA)	07