

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

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2024

Subject Code:3141310

Date:20-07-2024

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.

- Q.1 (a) Describe the functions of health, safety and environment in an Industry. 03
(b) Explain the dangerous properties of chemicals. 04
(c) Give the classification of various occupation health hazards. 07

- Q.2 (a) Define: (i) MSDS (ii) TWA (iii) LD₅₀ 03
(b) Explain the various routes of entry of toxicants in to the human body. 04
(c) Define ergonomics and explain the constituents of ergonomics in detail. 07

OR

- (c) Write a short note on pneumoconiosis. 07

- Q.3 (a) State the scientific safety management functions. 03
(b) Describe the 5 E's for accident prevention. 04
(c) Write a short note on: Electricity, its usefulness and hazards. 07

OR

- Q.3 (a) Discuss the safety management and its responsibilities. 03
(b) Write a short note on factors impending safety and accident prevention 04
(c) Discuss the effects of electrical parameters on human body. 07

- Q.4 (a) Draw and explain the pyramid of fire. 03
(b) Discuss the requisite characteristics of personal protective equipment. 04
(c) With the help of table explain classification of fire and extinguishers. 07

OR

- Q.4 (a) Draw any three important fire awareness signs. 03
(b) Give the classification of PPEs. 04
(c) What is explosion and give the classification of explosion. 07

- Q.5 (a) Discuss the preliminary hazard analysis with example. 03
(b) Write a short note on on-site emergency plan. 04
(c) Differentiate between: (i) FTA and ETA (ii) HAZAN and HAZOP 07

OR

- Q.5 (a) Discuss the major accidental hazard with example. 03
(b) Write a short note on off-site emergency plan. 04
(c) Describe the procedure to carry out HAZOP. 07

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– IV(NEW) EXAMINATION – SUMMER 2023****Subject Code:3141310****Date:13-07-2023****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.

- Q.1** (a) Define: (i) safety (ii) accident (iii) MSDS **03**
(b) State the various routes of entry of toxicants into the human body. **04**
(c) Give the classification of various occupation health hazards. **07**
- Q.2** (a) Draw and explain the pyramid of fire. **03**
(b) Describe the functions of health, safety and environment in an industry. **04**
(c) Describe the 5 E's for accident prevention. **07**
- OR**
- (c) Discuss the effects of electrical parameters on human body. **07**
- Q.3** (a) What is pneumoconiosis? List out the types of pneumoconiosis? **03**
(b) State the scientific safety management functions. **04**
(c) Explain application of ergonomics for safety & health. **07**
- OR**
- Q.3** (a) Give the objectives of safety management. **03**
(b) Describe symptoms, diagnosis, treatment and prevention of Silicosis. **04**
(c) Write a short note on constituents of ergonomics. **07**
- Q.4** (a) Enlist the dangerous properties of chemicals. **03**
(b) Discuss the requisite characteristics of personal protective equipment. **04**
(c) What is explosion and give the classification of explosion. **07**
- OR**
- Q.4** (a) What are the factors impending safety? **03**
(b) Give the classification of personal protective equipment. **04**
(c) With the help of table explain classification of fire and extinguishers. **07**
- Q.5** (a) Define: (i) LC₅₀ (ii) TLV (iii) hazard **03**
(b) Explain preliminary hazard analysis. **04**
(c) Write a short note on on-site emergency plan. **07**
- OR**
- Q.5** (a) Define: (i) LD₅₀ (ii) STEL (iii) risk **03**
(b) Write the procedure to carry out HAZOP in brief. **04**
(c) Differentiate between: (i) HAZAN & HAZOP (ii) FTA & ETA **07**

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2022****Subject Code:3141310****Date:29-06-2022****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) State the scientific safety management functions.	03
	(b) Discuss the safety measures for electric works.	04
	(c) Explain the various routes of entry of toxicants in to the human body.	07
Q.2	(a) Explain the 5 E's for accident prevention.	03
	(b) Define permissible exposure limit, threshold limit value, lethal dose and lethal concentration.	04
	(c) Write a short note on factors impending safety and Accident prevention.	07
	OR	
	(c) What is mean by occupational diseases? Group them under physical agent, chemical agent & biological agent.	07
Q.3	(a) Draw & explain the pyramid of fire.	03
	(b) Explain the constituents of Ergonomics.	04
	(c) With the help of table explain classification of fire and extinguishers.	07
	OR	
Q.3	(a) Enlist steps of accident prevention.	03
	(b) Explain safety terminology.	04
	(c) What do you mean by the term ergonomics? Explain its Application.	07
Q.4	(a) Give classification of PPE.	03
	(b) Write a short note: Need of personal protective equipment (PPE).	04
	(c) Define safety organization and enlist the objectives of safety Organization.	07
	OR	
Q.4	(a) Explain different types of Ventilation.	03
	(b) Give classification of occupational health hazards.	04
	(c) Explain the Concept of Safety & Philosophy of Safety.	07
Q.5	(a) What is Good House Keeping?	03
	(b) Write a short note on On-Site Emergency Plan	04
	(c) Write a short note on Fault Tree Analysis along with the example.	07
	OR	
Q.5	(a) What do you mean by the term Total safety?	03
	(b) Explain in brief Explosion control devices.	04
	(c) Write a short note on Event Tree Analysis along with the example.	07