

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-IV EXAMINATION – WINTER 2025****Subject Code:3141310****Date:18-11-2025****Subject Name:Occupational Health & Safety****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.

- Q.1** (a) Describe the functions of health, safety and environment in an industry. **03**  
 (b) Explain the various routes of entry of toxicants in to the human body. **04**  
 (c) Give the classification of various occupation health hazards. **07**

- Q.2** (a) Discuss any three properties of hazardous material. **03**  
 (b) Define TLV. Also explain the significance of TLV. **04**  
 (c) Explain the constituents of ergonomics. **07**

**OR**

- (c) Explain the applications of ergonomics for safety & health, **07**

- Q.3** (a) Draw & explain the pyramid of fire. **03**  
 (b) Discuss the requisite characteristics of personal protective equipment. **04**  
 (c) What is explosion and describe the classification of explosion. **07**

**OR**

- Q.3** (a) Enlist the factors contributing to fire. **03**  
 (b) Give the classification of PPEs. **04**  
 (c) With the help of table explain classification of fire and extinguishers. **07**

- Q.4** (a) Describe the six scientific functions of safety management. **03**  
 (b) Explain the various reasons for accident prevention. **04**  
 (c) List out and explain the common electrical hazards. **07**

**OR**

- Q.4** (a) Discuss the various factors impending safety. **03**  
 (b) Describe the 5 E's for accident prevention. **04**  
 (c) Discuss the effects of electrical parameters on human body. **07**

- Q.5** (a) Write a short note on on-site emergency plan. **03**  
 (b) Define pneumoconiosis. List out the various types of pneumoconiosis. **04**  
 (c) Differentiate between: (i) PHA and FMES (ii) HAZAN and HAZOP **07**

**OR**

- Q.5** (a) Write a short note on preliminary hazard analysis. **03**  
 (b) Describe symptoms, diagnosis, treatment and prevention of anthracosis disease. **04**  
 (c) Explain the procedure to carry out HAZOP with flow diagram. **07**