

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**