

P P SAVANI UNIVERSITY

Sixth Semester of Department of Chemical Engineering

May 2022

SECH3080 Industrial Safety and Hazard Analysis

26.05.2022, Thursday

Time: 09:00 a.m. To 11:30a.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in same answer sheet.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

Q - 1 Answer the Following: (MCQ/Short Question/Fill in the Blanks) [05]

(i) Full form of MSDS

- a. Mechanical Safety Data Sheet
- b. Material Safety Data Sheet
- c. Material Security Data Sheet
- d. Mechanical Security Design Sheet

(ii) Accident can be

- a. Prevented
- b. Measured
- c. Calculated
- d. None of above.

(iii) EMS can be written in another way

- a. ISO 9001:2015
- b. ISO 14001:2015
- c. ISO 45001:2018
- d. ISO 22001:2018

(iv) One "E" for accident prevention is

- a. Election
- b. Enforcement
- c. Electricity
- d. Elasticity

(v) Full Form of ETA

- a. Environment Technology Advantage
- b. Event Technology Analysis
- c. Event Tree Analysis
- d. Event Tree Advantage

Q - 2 (a) Brief about various types of hazard in chemical industry. [05]

Q - 2 (b) What is direct cost and indirect cost in view of accident? [05]

OR

Q - 2 (a) Give reasons for accident prevention [05]

- Q - 2 (b) Describe Environment Management system [05]
Q - 3 (a) Define Philosophy of accident causation [05]
Q - 3 (b) Give Classification of fire and extinguishers [05]

OR

- Q - 3 (a) Define frustrating situations and remedial measures [05]
Q - 3 (b) Give methods for motivation [05]
Q - 4 Attempt any one/two. [05]
(i) How to build psychological safety at workplace?
(ii) Define Incident.

SECTION - II

- Q - 1 Answer the Following: any five [05]
(i) Give content of fire triangle.
(ii) Give full form of SOP.
(iii) When Bhopal Gas Disaster was occurred?
(iv) How biological hazards enter in the body?
(v) What is BBS? (Full Form)
Q - 2 (a) Define Unsafe Act with example. [05]
Q - 2 (b) What is event tree Analysis? [05]

OR

- Q - 2 (a) Define Risk Control Measures [05]
Q - 2 (b) Describe features of MSDS (Material Safety Data Sheet). [05]
Q - 3 (a) Cause of fire and its remedial measure. [05]
Q - 3 (b) Hazards and Precautions of Remote operated Lifting Machines [05]

OR

- Q - 3 (a) Describe Environment Management system [05]
Q - 3 (b) Define Philosophy of accident causation [05]
Q - 4 Attempt any one/two. [05]
(i) Methods to eliminate boredom and monotony from industry
(ii) Routes of Entry (Avenues) of toxic chemicals to Human System
