

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R), MAY 2024**(2020 SCHEME)****Course Code : 20CHT282****Course Name: Safety Engineering of Process Plants****Max. Marks : 100****Duration: 3 Hours****PART A*****(Answer all questions. Each question carries 3 marks)***

1. Write the significances of material safety data sheet.
2. Define the term PPE.
3. Outline the various classification of fire.
4. Distinguish between toxicology and toxic effects.
5. Examine some of the common source of mechanical hazards.
6. Differentiate between pressure and pressure hazards.
7. Write the significance of mock drill.
8. What is meant by dow Index?
9. Define the term risk.
10. What is meant by HAZOP analysis?

PART B***(Answer one full question from each module, each question carries 14 marks)*****MODULE I**

11. a) Explain the importance of PPE protection? Describe some of the PPE protection equipment. (10)
- b) Describe the evolution of safety movement in industries. (4)

OR

12. a) What is industrial safety? How it is associated with risk? Give one case study. (8)
- b) Illustrate the effect during the exposure of employees to radiation. (6)

MODULE II

13. Explain about Bhopal tragedy and factory fire in Bangladesh? (14)

OR

14. List the required steps to be organized for fire protection. Evaluate the procedure to be followed when an emergency fire has started. (14)

MODULE III

15. a) Identify and explain the classes and symbol of chemical hazards (9)

with its characteristics and precautions.

- b) Formulate the methods for the reduction of electrical hazards. (5)

OR

16. a) Elaborate any four approaches to prevent the inhalation of
hazardously contaminated air. (7)
- b) State the types of hazards and explain any three in detail with
possible causes and remedial actions. (7)

MODULE IV

17. a) Explain briefly about industrial toxicology. (7)
- b) Discuss the safety requirements of transportation by road. (7)

OR

18. a) List down the approaches to determine the safety training needs
and factors that decides the need for training courses. (10)
- b) List the types of hazards in chemical industries. (4)

MODULE V

19. a) Discuss the quantitative risk assessment and individual risk
analysis. (8)
- b) Explain the techniques to be considered for the protection of
industries under the factory act 1948? (6)

OR

20. a) Create an appropriate fault tree diagram to identify the critical fault
for train accident. (8)
- b) What are the system safety analysis techniques? Explain any one
briefly. (6)
