

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (Regular), JULY 2022**(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. Describe the different work permit systems.
2. "Proper maintenance prevents accidents" – Justify this statement.
3. Compare Fire and Explosion.
4. List the basic classification of fire extinguishers.
5. Identify the hazards in high temperature operations.
6. Mention the precautions to be taken while handling hazardous chemicals.
7. Define: Emergency Management Plan.
8. Explain any 3 HAZCHEM codes.
9. List the major steps in Quantitative Risk Assessment.
10. Draw the Bowtie diagram for a suitable example.

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

11. a) Explain the basic contents of MSDS sheet. (8)
- b) Explain any two major chemical industrial accidents. (6)

OR

12. Discuss about various personal protective equipments (PPE) with its applications used in chemical process industries? (14)

MODULE II

13. a) Explain the risk associated in runaway reactions with example. (10)
- b) Differentiate : Deflagration and Detonation. (4)

OR

14. Explain BLEVE with schematic representation in detail through a case study. (14)

MODULE III

15. a) Explain the role of emergency relief devices during pressurization of vessels? (8)

- b) Identify the precautions to be taken by the workers while moving material mechanically. (6)

OR

16. Explain the classification and health effects of chemical hazards. (14)

MODULE IV

17. Explain the importance of HAZCHEM code in Transportation of chemicals. (14)

OR

18. a) Discuss the significance of Mock Drill for emergency in confined space entry. (10)

- b) Differentiate onsite and offsite emergency planning. (4)

MODULE V

19. Draw the Fault tree for the Bhopal Disaster and analyze the same in detail. (14)

OR

20. Discuss in detail about the various SIL with any one case study. (14)
