AR 19   Reg. No

GIET UNIVERSITY, GUNUPUR – 765022
M. Tech (First Semester – Regular) Examinations, June – 2021
MPECH 1054 - SAFETY IN CHEMICAL INDUSTRIES
(Chemical Engineering)

Time: 2 hrs   Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A   **(2 x 10 = 20 Marks)**

Q1. Answer **ALL** questions
  a.   Explain the need for personnel protective equipment in combating hazards

  b.   Distinguish between accident and incident.

  c.   What is safety audit? What is the need of safety audit?

  d.   What is Plant Point?

  e.   Write a note on Chemistry of Fire.

  f.   When should hazard identification be done?

  g.   What is Risk Assessment?

  h.   What is the importance of hazard and Operational studies

  i.   How do you calculate the Reliability in Hazard Evaluation?

  j.   Name some Process Hazards Checklists

PART – B   **(6 x 5 = 30 Marks)**

Answer *ANY FIVE* questions   **Marks**

2. Explain Factories (Amendment) Act 1987.   **(6)**

3. What is toxicity? How toxicants enter biological organisms?   **(6)**

4. Describe the factors contributing towards fire in an industry. Also, explain the   **(6)**
    chemistry of fire.

5. Explain the Flammability Characteristics of Liquids and Vapors   **(6)**

6. Explain the procedure for the Hazard Identification and Risk assessment form the   **(6)**
    AIChE Guidelines.

7. How do you calculate?   **(6)**

     (a) Failure probability
     (b) Mean time between failures(MTBF)

     (c) Total reliability for parallel process components

     (d) Total reliability for series process components

8. Explain in details the process of Hazard Evaluation and Risk assessment and its   **(6)**
    control in ammonia plant.

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