

**INDUSTRIAL SAFETY AND HAZARD MANAGEMENT
FINAL EXAMINATION
INSTRUCTION TO STUDENTS: ATTEMPT ALL THE QUESTIONS**

1. What is the expression of the impact and possibility of a mishap in terms of potential mishap severity and probability of occurrence? (5 Marks)
 - a. Hazard
 - b. Risk
 - c. Mishap
 - d. Safety

ANSWER: b

2. What is an unplanned event or series of events resulting in death, injury, occupational illness, damage to or loss of equipment and/ or property to the environment called? (5 Marks)
 - a. Hazard
 - b. Risk
 - c. Mishap
 - d. Accident

ANSWER: c

3. In PSC concept, secondary failure of components is due to? (10 Marks)
 - a. Excessive stresses
 - b. Human error
 - c. Inadvertent control signals
 - d. Wear and tear

ANSWER: a

4. In fault tree analysis, what do gate symbols describe? (10 Marks)
- System level failure
 - Component level failure
 - Sub-component level failure
 - Connection between event symbols according to their casual relation

ANSWER: d

5. In fault tree analysis, what is conditional event denoted by? (10 Marks)
- Circle
 - Rectangle
 - Diamond
 - Oval

ANSWER: d

6. In bowtie analysis, what is a top event of a fault tree referred to? (10 Marks)
- Basic event
 - Pivotal event
 - Central event
 - Accident scenario

ANSWER: c

7. If device 1 fails because of the external events or internal failures of device 2, what is the dependency between both devices called? (10 Marks)

- a. Common unit coupling
- b. Proximity coupling
- c. Functional coupling
- d. Human coupling

ANSWER: b

8. What is a subset of dependent events in which two or more components fault state exists at the same time or for a short time called? (10 Marks)
- a. Dependent failure
 - b. Independent failure
 - c. Common cause failure
 - d. Common cause cut-sets

ANSWER: c

9. What are the three elements for hazard triangle? (10 Marks)
- a. Hazard, risk, target/ threat
 - b. Hazardous element, risk, initiating mechanism
 - c. Hazardous element, initiating mechanism, target/ threat
 - d. Hazard, mishap, initiating mechanism

ANSWER: c

10. PART A. What can weakness of risk control system be attributed as (5 Marks)
- a. Leading indicator
 - b. Lagging indicator

- c. Preventive risk control system
- d. Mitigating risk control system

ANSWER: b

PART B. What can health risk control system be attributed as (5 Marks)

- a. Leading indicator
- b. Lagging indicator
- c. Preventive risk control system
- d. Mitigating risk control system

ANSWER: a

11. Risk related to the population that may be affected by hazardous incidents in a region is termed as? (5 Marks)

- a. Individual risk
- b. Societal risk
- c. Entropy risk
- d. Residual risk

ANSWER: b

12. The risk associated with system degradation is known as? (5 Marks)

- a. Individual risk
- b. Societal risk
- c. Entropy risk
- d. Residual risk

ANSWER: c

END OF EXAM!!