

Ist Year/One Year Post Diploma in Industrial Safety**Branch: Industrial Safety****Subject: Appraisal Analysis Inspection and Control Procedures****Time : 3 Hrs.****MM: 100****SECTION – A****Note: Multiple Choice questions. All questions are compulsory.****(10x1=10)**

- Q1. Permit to work system is an _____
a) Administrative control
b) Engineering control
c) Both (a) and (b)
d) None of the above
- Q2. Job safety analysis is a technique of _____?
a) hazard identification
b) risk categorization
c) hazard analysis
d) None of the above
- Q3. Which of the following is not a hazard identification technique?
a) FMEA
b) Fault Tree Analysis
c) Permit to work
d) HAZOP
- Q4. What is the main purpose of hazard identification?
a) To minimize the effect of a consequence
b) For better risk management
c) To characterize adverse effect of toxins
d) To reduce probability of occurrence
- Q5. Which is not a guide word for HAZOP?
a) Reverse
b) No
c) More
d) Which
- Q6. The leadership style which is based on consultations with his group is called:
a) Autocratic style
b) Democratic style
c) Paternalistic style
d) None of the above
- Q7. An accident investigation is an attempt to locate _____ of accident
a) Direct cause
b) Root cause
c) None of the above
d) Both (a) and (b)
- Q8. What type of process would a thermal power plant most likely to use
a) Project
b) Continuous
c) Job
d) Flow shop
- Q9. As per the Factories Act, 1948, an accident is reportable if the disability extends for a period of _____ hours or more
a) 24 b) 72 c) 48 d) 50

- Q10. As per the scheduled charges for disabilities the equivalent man days lost in case of death is
a) 3000 b) 6000 c) 5000 d) 4000

SECTION – B

Note: Objective type questions. All questions are compulsory.

$$10 \times 1 = 10$$

- Q11 Partial total disablement incapacitates a person totally for some time to work. (True/ False)

Q12 Accident investigation should attempt to locate the _____ cause.

Q13 IS 3786 is a system for measuring the _____ of industries.

Q14 Schedule of charges as per IS 3786 provide the _____ for the particular type of injury.

Q15 the full-form of BLEVE is _____ .

Q16 "Reverse" is a guide word used in HAZOP. (True/ False)

Q17 Safety can be defined as degree of freedom from hazards. (True/ False)

Q18 TREM card should be carried by the drivers of vehicle carrying dangerous goods. (True/ False)

Q19 Accident records are required for legal matters. (True/ False)

Q20 In lost time injury the worker is incapacitated to work which extends beyond the day of the shift. (True/ False)

SECTION – C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen questions.

$$12 \times 5 = 60$$

- Q21 Define FMEA.

Q22 Write a short note on Bhopal disaster.

Q23 Explain the order of design priority.

Q24 What do you understand by engineering control.

Q25 Prepare a sample work permit form.

Q26 Write down two main assumptions made before doing HAZOP study.

Q27 Calculate the FR of an organization where total no. of injuries is 20(2) under total MHW of 3,00,000.

Q28 Explain the role of top management in accident prevention.

Q29 Explain 'What-if analyses? Develop a 'What-if analysis' form.

Q30 Explain fault tree analysis.

Q31 Explain in brief the critical incidence technique.

Q32 What is incident recall technique?

Q33 Write a short note on down index.

Q34 What do you mean by Product Safety?

Q35 Prepare a work permit for arc welding operation.

SECTION – D

Note: Long answer questions. Attempt any two questions out of three questions.

$$2 \times 10 = 20$$

- Q36 What is the index for comparing safety performances of similar firms. Two firms A and B are similar firms. Firm A has 120 workers working for 48 hours a week and 20 accidents (lost time) resulting in 150 man- days lost. Firm B has 100 workers working for 48 hrs. a week and 30 accidents (lost time) resulting in 150 man-days lost. Which firm has better safety performance?

Q37 Describe in brief the methodology of HAZOP. State the factors responsible for success or failure of HAZOP study.

Q38 Prepare a model checklist for safety inspection of ETP.