

- Q.29 Calculate the FR of an organization where total no. of injuries is 20(2) under total MHW of 3,00,000.
- Q.30 Explain safety tag system.
- Q.31 Explain the role of top management in accident prevention.
- Q.32 Explain 'What-if-analysis'. Develop a 'What-if analysis' form.

SECTION-D

- Note:** Long answer type questions. Attempt any three questions out of four questions. (3x10=30)
- Q.33 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.
- Q.34 Explain the various stages of BLEVE with a typical case example.
- Q.35 Describe in brief the methodology of HAZOP. State the factors responsible for success or failure of HAZOP study.
- Q.36 Prepare a model checklist for safety inspection of ETP.

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**1st Year / One Year Post Diploma Course
in Industrial Safety
Subject:- Appraisal Analysis Inspection and Control
Procedures**

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Permit to work system is an _____
- Administrative control
 - Engineering control
 - Both (a) and (b)
 - None of the above
- Q.2 Check list for Job Safety Analysis (JSA) consists of
- Work area, material, machine, tools
 - Men, machine, material, tools
 - Men, machine, work area, tools
 - Men, work area. Material, tool
- Q.3 Which of the following is not a hazard identification technique?
- FMEA
 - Fault Tree Analysis
 - Permit to work
 - HAZOP
- Q.4 What is the main purpose of hazard identification?
- To minimise the effect of a consequence
 - For better risk management

- c) To characterize adverse effect to toxins
d) To reduce probability of occurrence
- Q.5** Which is not a guide word for HAZOP
a) Reverse b) No
c) More d) Which
- Q.6** Which of the following is not a hazard identification technique
a) HAZOP b) JSA
c) Event Tree Analysis d) Safety audit
- Q.7** 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)
- Q.8** The Indian standard available if measuring safety performance is
a) IS 4569 b) IS 4253
c) 3979 d) 3786
- Q.9** As per the Factories Act, 1948, an accident is reportable if the disability extends for a period of _____ hours or more
a) 24 hours b) 72 hours
c) 48 hours d) 50 hours
- Q.10** 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. Attempt any ten questions out of twelve questions. (10x2=20)
- Q.11 Define partial total disablement.
Q.12 What are corollary facts of accident investigation?
Q.13 Write down the classification of accidents as per IS 3786.
Q.14 Define schedule of charges.
Q.15 What are the steps of JSA?
Q.16 What is a Periodic Inspection?
Q.17 What is the meaning of the HAZOP guide word "Reverse"?
Q.18 Define hazard and safety.
Q.19 Define TREM card
Q.20 Define incidence rate and write down its formula
Q.21 What is the use of keeping accident records?
Q.22 Define 'lost time injury'.

SECTION-C

- Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)
- Q.23 Define FMEA.
Q.24 Write a short note on Bhopal disaster.
Q.25 Explain the order of design priority.
Q.26 What do you understand by engineering control.
Q.27 Prepare a sample work permit form.
Q.28 Write down two main assumptions made before doing HAZOP study.