



# 17558

15116

3 Hours / 100 Marks

Seat No.

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- Instructions :** (1) *All questions are compulsory.*  
(2) *Answer each next main question on a new page.*  
(3) *Illustrate your answers with neat sketches wherever necessary.*  
(4) *Figures to the right indicate full marks.*

**Marks**

1. A) Attempt **any three** of the following : **12**  
a) State losses due to accidents in the plant.  
b) What are the factors to be considered for the selection of proper respiratory devices ?  
c) Write the importance of plant maintenance.  
d) What are the different characteristics of chemicals to be considered for its safe storage ?
- B) Attempt **any one** of the following : **6**  
a) Explain the different types of respiratory equipments used as personal protective equipments in an industry.  
b) Describe with neat diagram, construction and working of soda acid type extinguisher.
2. Attempt **any four** of the following : **16**  
a) Define fire triangle and explain the principles of extinguishing of fire.  
b) List the harmful effects of ammonia on human being.  
c) Give the importance of record keeping in preventive maintenance of plant.  
d) State the safety precautions in transportation of flammable liquids.  
e) Explain classification of fire with suitable type of extinguishers.  
f) List the types of plant maintenance and describe scheduled maintenance.
3. Attempt **any four** of the following : **16**  
a) Explain shut down maintenance and describe its disadvantages.  
b) Describe physiological effect of electricity.  
c) Describe the importance of maintenance and replacement of PPE. State NPF for grading of RPE.  
d) Write on fire protection water system.  
e) Give the comments on repair cycle in plant maintenance practice.

**P.T.O.**



4. A) Attempt **any three** of the following : 12
- a) What are the methods used for controlling the noise in an industry ?
  - b) Why mass flow pattern is preferred over core flow pattern ?
  - c) Draw neat sketches of any four personal protective equipments.
  - d) List the functions of responsibilities of plant maintenance department and explain any one.
- B) Attempt **any one** of the following : 6
- a) What are the objectives of safety audit and how those are achieved ?
  - b) Which material is stored in pile form ? Draw neat sketches of material feeding and reclaiming arrangement for the pile.
5. Attempt **any four** of the following : 16
- a) Explain predictive maintenance with examples four each of human senses and sensitive instruments.
  - b) Explain the sources of radioactive hazards in chemical plant.
  - c) Explain procedure for safety auditing.
  - d) What is on-line maintenance ? Explain it for steam trap.
  - e) List different types of pneumatic conveying systems. Explain any one with neat diagram.
  - f) Give the classification of explosives.
6. Attempt **any four** of the following : 16
- a) Mention the hazardous properties of chemicals.
  - b) Describe the working on dry chemical powder type fire extinguisher.
  - c) Describe the procedure for start up of the chemical plant.
  - d) Give the different types of workwear for body protection.
  - e) Draw neat diagram of bucket elevator and explain its working.
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