



17558

16117

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) *All questions are compulsory.*
 - (2) *Illustrate your answers with neat sketches wherever necessary.*
 - (3) *Figures to the right indicate full marks.*
 - (4) *Assume suitable data, if necessary.*

Marks

1. A) Attempt **any three** of the following : **12**
- a) List out any four hazardous properties of chemicals.
 - b) Which factors are to be considered for safe handling chemicals in industry ? (any four)
 - c) Draw neat labeled diagram for any two non-respiratory protective devices.
 - d) What are the policy for assessment, maintenance and replacement of personal protective equipments ?
- B) Attempt **any one** of the following. **6**
- a) What are the sources of radiation hazard ? How will you control radiation hazard ?
 - b) What are the aspects to be considered for selection of personal protective equipment ?
2. Attempt **any four** of the following : **16**
- a) Give any four electrical safety precautions.
 - b) List the equipments used for breathing and respiratory protection.
 - c) What is safety audit ? Give two benefits of safety audit.
 - d) Distinguish between batch weighing and continuous weighing of solids. (any four)
 - e) Give technical specification of foam type fire extinguisher.
3. Attempt **any four** of the following : **16**
- a) Describe how will you control noise hazards in industry.
 - b) Classify storage bins based on the material flow pattern.
 - c) Give any four objectives of plant maintenance.
 - d) What is predictive maintenance ? How it is done ?
 - e) Why maintaining plant maintenance record is important ? What are its benefits ?

P.T.O.



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| 4. A) Attempt any three of the following : | 12 |
| a) Explain with sketch pull-push pneumatic conveying system. | |
| b) Why belt tensioners are essential with belt conveyors ? | |
| c) Describe online maintenance with respect to rotameter. | |
| d) Give classification of fire and corresponding extinguishing agents. | |
| B) Attempt any one of the following. | 6 |
| a) Describe with sketch construction and working of U-trough screw conveyor using helicoid flights. | |
| b) Describe procedure for safety audit. | |
| 5. Attempt any two of the following : | 16 |
| a) Describe with labeled diagram construction and working of dry chemical powder fire extinguisher. | |
| b) Explain importance and procedure of plant maintenance schedule. | |
| c) Describe preventive maintenance. Explain how will you apply preventive maintenance technique for moving equipments. | |
| 6. Attempt any two of the following : | 16 |
| a) Why material feeding devices are essential with positive pressure pneumatic conveying system ?
Draw neat sketch of | |
| i) star feeder | |
| ii) venturi feeder | |
| iii) screw feeder. | |
| b) What are the types of maintenance ? “Shut down maintenance for sugar factory is preferred”.
Justify your answer. | |
| c) Mention functions and responsibilities of maintenance engineering department in industry. | |
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