



# 17623

21718

**3 Hours / 100 Marks**

Seat No.

--	--	--	--	--	--	--	--

- 
- 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. Attempt **any five** of the following : **20**
- a) What is the role of Erection Engineer ?
  - b) Write the inspection of hoisting chain and its necessity.
  - c) What is the need of estimation of centre of gravity of loads ?
  - d) What are the different types of chain hoist. Write its uses.
  - e) What are the causes of accidents ?
  - f) What are requirements of advance planning in erection of process equipment.
  - g) Describe the steps in erection costing.
2. Attempt **any four** of the following : **16**
- a) What are the different types of ropes used in erection ? Describe three stranded rope.
  - b) Describe with sketch double basket sling and turnbuckle sling.
  - c) Describe the use of pads at sharp edges while placing slings.
  - d) Explain the construction and working of pull lift hoist.
  - e) What is accident prevention, explain property damage accidents.
  - f) What is pressure testing of vessel ? How it is carried out ?
3. Attempt **any four** of the following : **16**
- a) Describe the requirements of selection of SWR.
  - b) Write the construction of double choker sling.
  - c) Write the use of spreader bar.
  - d) Differentiate between differential hoist and pull lift hoist.
  - e) What are the human factors in accident prevention ?
  - f) What is the need of physical checking of dimensions of equipments and foundation ?

**P.T.O.**



4. Attempt **any two** of the following : 16
- a) i) Describe right hand and left hand direction of lay.
  - ii) Explain inspection of synthetic fibre rope.
  - b) i) What are the benefits of accident prevention ?
  - ii) Draw any four hoisting signals.
  - c) i) Why final tightening of bolts is done by pneumatic torque wrench ?
  - ii) Write the importance of safety instructions.
5. a) Attempt **any one** of the following : 4
- i) What is whipping and seizing of ropes ?
  - ii) Sketch knots and bends of ropes.
- b) Attempt **any two** : 12
- i) What are the different considerations while handling load ? Describe any one.
  - ii) Describe the importance of proper illumination for safe working condition.
  - iii) What is the effect on site operation of proper tools and tackles ?
6. Attempt **any two** : 16
- a) i) What is braided rope construction ? 4
  - ii) What are the objectives for devicing hoist signals ? 4
  - b) Write the lubrication and storage of wire ropes. 8
  - c) i) What is the time schedule followed during erection ? 4
  - ii) What are the advantages of using manila wire rope ? 2
  - iii) Define erection costing. 2
-