

# 12245

**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.  
(5) Assume suitable data if necessary.  
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. a) **Attempt any THREE of the following:** **12**
- (i) Describe construction of a monorail conveyors.
  - (ii) Explain with neat sketch bridge crane.
  - (iii) State the functions of cross handling equipments.
  - (iv) What are the different types of grabbing attachments.
- b) **Attempt any ONE of the following:** **06**
- (i) Describe with neat sketch the construction of electromagnetic shoe brake and explain its working.
  - (ii) Explain the construction and working of arresting gear.

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- 2. Attempt any TWO of the following:** **16**
- a) Describe the construction and working of freight elevator.
  - b) State types of books and explain suspending hooks.
  - c) List various cross handling equipments and explain transfer table.
- 3. Attempt any TWO of the following:** **16**
- a) State and explain principles of material handling system.
  - b) Describe with neat sketch construction and working of differential hoist.
  - c) List types of cranes and explain rotary crane.
- 4. a) Attempt any THREE of the following:** **12**
- (i) List four types of lifting mechanisms with their use.
  - (ii) Explain the meaning of steady state motion at starting and stopping condition.
  - (iii) Explain AGV in automobile industry.
  - (iv) Explain screw conveyor with neat sketch.
- b) Attempt any ONE of the following:** **06**
- (i) State the factors affecting for choice of material handling equipments.
  - (ii) How material handling equipments are classified? Explain 'unit load' and unitized load.

- 5. Attempt any FOUR of the following:** **16**
- a) Explain how material handling equipments selected depending on specific load conditions.
  - b) Discuss the 'economics' involved in selection of material handling equipments?
  - c) Describe the construction and working of bucket elevator.
  - d) Explain how the factor 'direction and length of travel' affects the selection of material handling equipments.
  - e) State various types of gates and describe pivoted gates.
- 6. Attempt any FOUR of the following:** **16**
- a) State the types of feeders? Explain belt type feeder with neat sketch.
  - b) Describe various grabbing attachments for loose materials.
  - c) Describe the construction and working of turn table.
  - d) State four types of lifting mechanisms and explain any one.
  - e) Enlist the different methods of stacking.
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