

17623

16172

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. Attempt any FIVE :

20

- (a) Write characteristics & features of Natural fibre ropes.
- (b) List factors governing selection of SWR for specific application.
- (c) How hoisting chain is inspected ?
- (d) Write causes of Accidents.
- (e) State the need of erection costing. Define 'overheads'.
- (f) State importance of erection of pressure vessels. Differentiate between erection and installation.
- (g) Explain construction & use of spur geared hoist.

2. Attempt any FOUR :**16**

- (a) Describe Manila rope slings.
- (b) Compare physical injury with property damage accidents.
- (c) What are 'knots', bends and hitches ?
- (d) Explain plain and braided construction for rope.
- (e) Sketch any four hoisting signals.
- (f) Explain the use of spreader bar.

3. Attempt any FOUR :**16**

- (a) Which precautions are necessary while handling and storing synthetic fibre ropes ?
- (b) Explain 'Kinking' phenomena in wire ropes. State its causes.
- (c) What is endless sling ? Where it is used ?
- (d) Compare Manila rope sling and steel chain sling.
- (e) How estimation of centre of gravity is performed ? State its importance while load handling.
- (f) Write steps in erection costing.

4. Attempt any TWO :**16**

- (a) Explain importance of 'Hook position' while handling of loads. How will you adjust sling lengths between hook and lifting lugs ? Explain with sketches.
- (b) Describe operation and use of differential hoist with neat sketch.
- (c) Explain 'Leak test, and 'Alignment test' procedures during installation.

5. Attempt any TWO :**16**

- (a) Explain various site operations while erecting and commissioning of process equipments.
- (b) Explain 'care for environmental' factors and 'care in handling loads' by lifting machines.
- (c) What is advance planning ? Explain various activities performed in advance planning before erection and installation of process equipments.

6. Attempt any FOUR :**16**

- (a) State benefits of accident prevention.
 - (b) Explain the use of protective equipments with examples.
 - (c) How wire ropes are specified ?
 - (d) What is whipping and seizing of ropes ?
 - (e) Explain any two wire rope attachments & write their use.
 - (f) Write characteristics & use of polypropylene rope.
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