

17623

**11920**

**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.

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|---|--------------|
| <b>1. Attempt any FIVE of the following :</b>                         | <b>20</b>    |
| (a) What are the features of Manila Rope ?                            |              |
| (b) Give the profile of an erection engineer.                         |              |
| (c) What is personal injury accidents and property damage accidents ? |              |
| (d) What are the benefits of accident prevention ?                    |              |
| (e) What is alignment test ?  |              |
| (f) How is the handling of loads on slings done ?                     |              |
| (g) Describe the steps in erection costing.                           |              |
| (h) Differentiate between installation and mounting.                  |              |
| <b>2. Attempt any FOUR of the following :</b>                         | <b>16</b>    |
| (a) What are the uses of spreads bars ?                               |              |
| (b) Describe the pull lift hoist with a neat sketch.                  |              |
| (c) Give any four uses of spur geared hoist.                          |              |
| (d) What is endless sling and turn buckle sling ?                     |              |
| (e) State any four connecting tools and explain any two.              |              |
| (f) What is the need for erection costing ?                           |              |

- 3. Attempt any FOUR of the following : 16**
- (a) How is the inspection of hoisting chains done ?
  - (b) Give the merits and demerits of Manila rope sling. (any two each)
  - (c) What is the use of pads at sharp edges while placing slings ?
  - (d) What are the considerations taken for correct handling of loads ?
  - (e) Describe differential chain hoist.
  - (f) What is whipping and seizing of ropes ?
- 4. Attempt any TWO of the following : 16**
- (a) Give the construction and any four applications of steel wire ropes.
  - (b) What are the objectives for devising hoist signals ? Explain any four hoist signals for crane operation.
  - (c) How is the advance planning done for erection and installation of process equipments ?
- 5. (a) Attempt any ONE of the following : 4**
- (i) What are knots, bends, hitches and splices ?
  - (ii) How is the hook position done while handling of loads ?
- (b) Attempt any TWO of the following : 12**
- (i) Give the precautions in handling steel wire rope and synthetic fibre ropes.
  - (ii) Give in details the mounting of heavy pressure vessels like boilers.
  - (iii) Define accident prevention. What is good housekeeping ?
- 6. Attempt any TWO of the following : 16**
- (a) Describe the characteristics and features of the following natural fiber rope :
    - (i) hemp rope
    - (ii) coir rope
  - (b) What are the major causes of accidents ? What is good housekeeping ?
  - (c) What is the procedure at site operation while erecting and installing of process equipments ?
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