

17531

11718

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) Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1. Attempt any FIVE of the following :

20

- (a) State the methods of water purification and impurities removal.
- (b) State the importance of the maintenance. Also state the types of it.
- (c) State the various objectives of TPM.
- (d) Define wear. Describe adhesive wear process.
- (e) State the various properties of lubricant in brief.
- (f) Enlist the various equipments needed for electrical maintenance. Explain any one with neat sketch.
- (g) State the various mechanical factors/causes of accidents.

2. Attempt any FOUR of the following :**16**

- (a) Explain the water distribution system with suitable sketch.
- (b) State the disadvantages of breakdown maintenance.
- (c) Explain the various maintenance stages.
- (d) Explain how TPM is beneficial for plant.
- (e) Explain the following :
 - (i) Plastic flow and (ii) Pitting
- (f) State the functions of (i) Circuit breaker and (ii) Relay.

3. Attempt any FOUR of the following :**16**

- (a) Explain electrical power distribution system with neat sketch.
- (b) Differentiate between preventive maintenance and scheduled maintenance.
- (c) Explain the necessity of history chart in the maintenance and state its advantages.
- (d) Explain the pillars of TPM in brief.
- (e) Distinguish between abrasive and corrosive reaction wear process.
- (f) Explain the necessity of earthing for electrical installation in plant.

4. Attempt any FOUR of the following :**16**

- (a) Explain the necessity of industrial ventilation system with suitable sketch.
- (b) Explain the detailed procedure of preventive maintenance.

- (c) State the necessity of maintenance manual and state the contents of it.
- (d) Describe the allocation of maintenance job responsibility in TPM.
- (e) Explain the wear behaviour observed due to primary wear processes.
- (f) State the effects of accident on worker and society.

5. Attempt any FOUR of the following :

16

- (a) Explain standby and emergency power system with neat sketch.
- (b) Explain in detail about planning and scheduling of maintenance work.
- (c) State and explain the basis for selection of lubricants.
- (d) State the various precautions needed for prevention against electric shock.
- (e) State the types of personal protective equipments.
- (f) Explain the travel control by limit switch with the help of neat sketch.

6. Attempt any FOUR of the following :

16

- (a) Explain the significance of proper lightening in increasing the efficiency of plant.
 - (b) Explain the repair cycle with suitable example.
 - (c) Explain splash lubrication system with neat sketch.
 - (d) State the precautions required to protect from fire due to electricity.
 - (e) Explain control and trip mechanism with neat sketch.
 - (f) Describe parallel shafts as a foul proofing device for interlocking with neat sketch.
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