

17531

21718

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 :

12

- (a) State any four basic facilities in plant. Explain any one in brief.
- (b) Write down four objectives of TPM.
- (c) State various types of lubricants with example.
- (d) State the importance of Mechanical Maintenance and give its types.

(B) Attempt any ONE :

6

- (a) Classify water distribution system and explain any one with neat sketch.
- (b) Enlist different lubrication systems and explain any one in detail.

2. Attempt any FOUR :**16**

- (a) List down the benefits of TPM.
- (b) What is repair cycle ? Explain it with suitable example.
- (c) Define Maintenance. State the objectives of Machine Tool Maintenance.
- (d) Write down advantages of preventive maintenance.
- (e) Explain overload relay with neat sketch.

3. Attempt any FOUR :**16**

- (a) Describe Pillars of TPM.
- (b) What is the necessity of Industrial Ventilation ? Explain with help of neat sketch.
- (c) Enlist equipments needed for electrical maintenance and write their functions.
- (d) Write down stages of preventive maintenance. Explain any one.
- (e) Define Accident and enlist various causes of accidents.

4. (A) Attempt any THREE of the following :**12**

- (a) State the function of (i) Overload relays, (ii) Circuit breakers.
- (b) Draw history chart/sheet for a machine tool or equipment.
- (c) State the precautions to be taken in case of electrical fire.
- (d) Define Accident and list out different types of accidents.

- (B) Attempt any ONE :** **6**
- (a) Describe abrasive wear process in detail.
 - (b) Describe electric power distribution system with neat sketch.
- 5. Attempt any FOUR of the following :** **16**
- (a) What is Earthing ? Explain any one method of Earthing.
 - (b) State the necessity of Maintenance manual. Write the contents of manual.
 - (c) State the methods of water purification and the impurities removal.
 - (d) Describe basic systems of TPM.
 - (e) Describe with neat sketch fool proofing device for interlocking shafts at right angle.
- 6. Attempt any TWO :** **16**
- (a) Write four personal protective devices while working in workshops. How safety awareness in industry is promoted ?
 - (b) State four objectives of mechanical maintenance. Give four points of differences between Preventive maintenance & Breakdown maintenance.
 - (c) Write down selection procedure of lubricants and state the conditions in which following lubrication systems are suitable :
 - (i) Wick
 - (ii) Pad
 - (iii) Sump
 - (iv) Splash
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