

17531

**11920**

**3 Hours / 100 Marks**

Seat No.

|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|

- 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) Preferably, write the answers in sequential order.

**Marks**

**1. Solve any TEN of the following :**

**10 × 2 = 20**

- (a) Enlist the various basic pillars of TPM.
- (b) Define “breakdown maintenance”.
- (c) Define the term ‘Repair Cycle’.
- (d) Enlist the various equipment required for electrical maintenance.
- (e) Define the term ‘accident’.
- (f) State any four benefits of TPM.
- (g) State any four causes of accidents.
- (h) Define the term ‘Maintenance’.

[1 of 4]

**P.T.O.**

17531

[2 of 4]

- (i) State any four basic facilities in plant.
- (j) Enlist the various methods used for water purification in industry.
- (k) List any four factors affecting selection of lubricants.
- (l) Enlist different lubrication systems.
- (m) State the function of circuit breaker.
- (n) Enlist any two properties of lubricants.

2. Solve any FOUR of the following :

4 × 4 = 16

- (a) State the importance of lubrication.
- (b) Differentiate between preventive maintenance and scheduled maintenance.
- (c) State the advantages of scheduled maintenance.
- (d) State the importance of maintenance. State its types.
- (e) State the procedure of preventive maintenance for a lathe machine.

3. Solve any FOUR of the following :

4 × 4 = 16

- (a) Describe various features of TPM.
- (b) Explain sump lubrication system.

17531

[3 of 4]

- (c) Explain the use of fuse and overload relays in electrical maintenance.
- (d) State the different causes of accidents.
- (e) State activities performed in four stages of repair cycle.

4. Solve any FOUR of the following :

4 × 4 = 16

- (a) Prepare or draw a format for typical machine history chart.
- (b) Explain observed wear behaviour due to primary wear process.
- (c) Compare wick and sump lubrication system. (any four points)
- (d) Explain the importance of earthing.
- (e) Describe the precautions to be taken against electric shock.

5. Solve any FOUR of the following :

4 × 4 = 16

- (a) Explain 'Control and Trip Mechanism' with neat sketch.
- (b) Explain fool proofing devices for interlocking for parallel shafts.
- (c) Explain in brief 'Maintenance Manuals and Reports'.
- (d) Draw neat sketch of electric power distribution system.
- (e) Explain standby and Emergency power.

P.T.O.

6. Solve any FOUR of the following :

4 × 4 = 16

- (a) Describe industrial ventilation with the help of neat sketch.
  - (b) Enlist applications of TPM in manufacturing industry.
  - (c) Describe allocation of maintenance job responsibility in TPM.
  - (d) Enlist the steps required to extinguish sudden fire due to electricity.
  - (e) Explain travel control by limit switches.
-