



17531

15162

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.*
(4) *Assume suitable data, if necessary.*
(5) *Mobile Phone, Pager and any other Electronic Communication devices are **not** permissible in Examination Hall.*

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| 1. A) Attempt any three. | 12 |
| a) Explain necessity of water purification in industry. Name various methods used. | |
| b) State importance of maintenance and name its types. | |
| c) Write benefits of Total Productive Maintenance. | |
| d) Write factors affecting selection of lubricants. | |
| B) Attempt any one. | 6 |
| a) Sketch and explain electric power distribution system used in industry. | |
| b) What is standby and emergency power ? Explain the schemes used with sketch. | |
| 2. Attempt any four. | 16 |
| a) What is repair cycle ? State various activities performed in four stages of repair cycle. | |
| b) Write procedure of preventive maintenance for a compressor. | |
| c) Compare breakdown v/s preventive maintenance. | |
| d) Draw a format for typical machine history chart and explain. | |
| e) Explain basic systems of Total Productive Maintenance. | |
| 3. Attempt any four of the following : | 16 |
| a) What are pillars of Total Productive Maintenance. | |
| b) What is wear ? Compare adhesive wear with abrasive wear. | |
| c) State conditions in which following lubrication systems are suitable | |
| i) Centralised ii) Pad iii) splash iv) wick | |
| d) Explain maintenance job responsibility allocation process used in Total Productive Maintenance. | |
| e) Explain observed wear behaviour due to primary wear process. | |

P.T.O.



- 4. A) Attempt any three.** **12**
- a) State meaning of accessibility. For maintenance on which factors it depends ?
 - b) Explain construction of circuit breaker and state its use.
 - c) Write necessary steps/precautions for prevention of fire due to electricity.
 - d) What are personal protective equipments ? Explain any two and their use.
 - e) Write philosophy of TPM and its concept.
- B) Attempt any one.** **6**
- a) Explain corrosive reaction and pitting corrosion with examples. How these can be avoided ?
 - b) Explain procedure of earthing in electrical system. Write precautionary measures against electric shock.
- 5. Attempt any four .** **16**
- a) Explain lever controlled trip mechanism with sketch.
 - b) Define electrical accident. Write its causes and effects.
 - c) Explain fool proofing devices for interlocking for parallel shafts.
 - d) State importance of lubrication.
 - e) Explain the use of voltmeter and multimeter in electrical maintenance.
- 6. Attempt any two.** **16**
- a) Explain industrial ventilation system along with its importance.
 - b) Explain the following:
 - i) planning and scheduling of maintenance
 - ii) maintenance manuals and reports.
 - c) Explain the following.
 - i) First aid and its importance
 - ii) Travel control by limit switches.
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