17531

16117

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****.*

Marks

1. a) Attempt **any three** : **(3×4=12)**
i) Enlist various methods of purification of water.
ii) Draw a format of machine history chart.
iii) Enlist benefits of TPM.
iv) Enlist various systems of lubrication.

b) Attempt **any one** : **(1×6=6)**
i) Describe electric power distribution system with help of a neat sketch.
ii) Describe industrial lighting system with help of a neat sketch.

2. Attempt **any four** : **(4×4=16)**
a) Describe procedure of preventive maintenance.
b) Describe activities performed in final stage (i.e. Complete Overhaul) of repair cycle.
c) State importance of maintenance manuals and reports.
d) Give a list of tools which will be necessary for performing breakdown maintenance activity for a lathe machine.
e) What are basic systems of TPM ?

3. Attempt **any four** : **(4×4=16)**
a) "The concept of TPM can be applied in administrative and support departments also." – Justify the statement.
b) Draw diagrams showing wear behaviour due to primary wear process.
c) State conditions in which following systems of lubrication are suitable
i) Wick ii) Pad iii) Sump iv) Splash.
d) Describe allocation of maintenance job responsibility in TPM.
e) Describe following wear processes :
i) Adhesive Wear ii) Corrosive Reaction.

P.T.O.

Marks

4. a) Attempt **any three** : **(3×4=12)**

i) Compare between preventive maintenance and breakdown maintenance.

ii) Describe working of multimeter with help of a neat diagram.

iii) Explain necessity of circuit breakers in electrical maintenance.

iv) How industrial accidents can be avoided ?

v) Enlist different major sources of losses, that are identified and eliminated by TPM.

b) Attempt **any one** : **(1×6=6)**

i) How lubricants are selected ?

ii) How earthing is provided for electrical installations ?

5. Attempt **any four** : **(4×4=16)**

a) State importance of safety policies in improving safety of a plant.

b) Describe working of fool proofing device for interlocking parallel shafts, with help of a neat sketch.

c) Describe working of lever controlled reversal mechanism, with help of a neat sketch.

d) Describe important properties of lubricants.

e) In a small workshop, having 10 general purpose machine tools, what safety measures can you suggest to prevent sudden fire due to electricity ?

6. Attempt **any two** : **(2×8=16)**

a) Describe stand by and emergency power facilities in plant.

b) Describe :

i) Predictive Maintenance

ii) Corrective Maintenance.

c) Describe role of personal protective equipments in improving safety of plant, along with examples of such equipments.
