

22451

24225

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

- 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) Preferably write the answers in a sequential order.

Marks

1. Attempt any FIVE of the following :

10

- (a) Enlist any four primary functions of maintenance department.
- (b) Define wear and write its types.
- (c) List the types of Industrial hazards.
- (d) State importance of fire triangle.
- (e) Define safety audit.
- (f) Write the benefits of TPM.
- (g) State the effects of accident on employee (any two).

2. Attempt any THREE of the following :

12

- (a) Describe preventive maintenance with the help of suitable example.
- (b) Describe abrasive wear.
- (c) Explain any two Personnel Protective Equipments (PPE) and its use.
- (d) State the causes of fire hazards. State the remedies to minimize it.



- 3. Attempt any THREE of the following : 12**
- (a) Compare breakdown maintenance and preventive maintenance.
 - (b) Define TPM and state its importance.
 - (c) Describe splash lubrication system with neat sketch.
 - (d) Describe any two important safety provisions in Factories Act, 1948.
- 4. Attempt any THREE of the following : 12**
- (a) Compare adhesive wear and abrasive wear.
 - (b) State classification of lubrication system with their application.
 - (c) Suggest personnel protective equipments in following industrial hazards :
 - (i) Electrical (ii) Radioactive
 - (iii) Chemical (iv) Thermal
 - (d) Explain Safety Audit.
 - (e) Explain Failure Mode and Effect Analysis (FMEA).
- 5. Attempt any TWO of the following : 12**
- (a) Describe various classes of fire with suitable examples and types of fire extinguishers used accordingly.
 - (b) Explain following special fire suppression systems :
 - (i) Deluge and emulsifier (ii) Foam system
 - (c) Explain any two risk assessment methods.
- 6. Attempt any TWO of the following : 12**
- (a) Select tools for electrical maintenance of shop floor of medium scale manufacturing company.
 - (b) Describe repair cycle and illustrate its use with suitable example.
 - (c) Explain event tree analysis and illustrate its use with suitable example.
-