

Unit I - Safe use of machines and tools

- i. Safety in the use of : 1) Grinding 2) CNC's 3) Shearing 4) Bending 5) Milling 6) Boring 7) Shaping Safe use of hand tools: Safe use of various types of hand tools used for metal cutting, torsion tools, shock tools, non sparking tools, portable power tools
- ii. Working in different areas: Working in confined spaces, Working Underground, Working at heights - use of stairways, clamps, working platforms, ladders of different types, Boatswain's chair and safety harness working on roofs, Lifting machinery lifts and hoists,
- iv. Operation, inspection and maintenance of industrial trucks, loose gears conveyors, Safe working load for mechanical material handling equipments.

Unit II - Plant design and Housekeeping

- i. Plant layout, design and safe distance, Ventilation and heat stress, Significance of ventilation, Natural ventilation, Mechanical ventilation Air conditioning
- ii. National Building code part VIII and Building service, Thermal comfort, Indices of heat stress, Physiology of heat regulation,
- iii. Safety and good housekeeping, Disposal of scrap and other trade wastes, Spillage prevention ,Use of colour as an aid of housekeeping, Cleaning methods, Inspection and Checklists, Advantages of good housekeeping

Unit III - Industrial Lighting

Purpose of lighting, Uses of good illumination, Recommended optimum standards of illumination, Design of lighting installation, Standards for lighting and colour.

Unit IV - Vibration and Noise

Activities related to vibrations, its impact on human health, abatement Sources, effects of noise on man, Measurement and evaluation of noise, Silencers, Practical aspects of control of noise

Reference Books :

1. Frank P Lees - Loss of prevention in Process Industries , Vol. 1 and 2, Butterworth-Heinemann Ltd., London (1991).
2. Industrial Safety -National Safety Council Of India.