

## **2.14 40223 INDUSTRIAL SAFETY**

### **UNIT-1 INTRODUCTION**

- 1.1 Need for Industrial Safety - Legal Humanitarian, Economic and Social consideration.
- 1.2 Safe working conditions and productivity, unsafe conditions and Hazards.
- 1.3 Cost of accidents- Direct or Indirect social cost, financial cost.
- 1.4 Role of management and workers participation in Industrial Safety.
- 1.5 Safety management principles and practices.

### **UNIT-2 PRINCIPLES OF ACCIDENT PREVENTION**

- 2.1 Definitions - Accident, Injury, Dangerous occurrences, unsafe acts, unsafe conditions and hazards.
- 2.2 Theories of accidents prevention, Principles and methods of accidents preventions.

### **UNIT-3 SAFETY ENGINEERING**

- 3.1 Safe guarding of machines- Statutory provisions related to safe guarding of machinery and working near unguarded machines.
- 3.2 Principle of machine guarding.
- 3.3 Ergonomics of machine guarding. Types of guards and guarding machines in textile industry. Incidental safety devices.
- 3.4 Accidents and hazards. Guarding of machines and safety precautions in Opening, Cleaning, Carding, Drawing, Combing, Fly frame, Ring frames, Rotors (spinning), Winding, Doubling, Warping, Sizing and Weaving operations.
- 3.5 Material Handling: Ergonomics of material handling, Principles of correct method of lifting objects of different size, shape and weight with safe use of accessories for manual handling.
- 3.6 Safety aspects of design and construction and use of material handling machinery use in textile industry- Lifts, Forks, Motor Trolleys, Over head cranes and Chain Plies.
- 3.7 Principle of good illumination at work place and its recommended minimum standard. Lighting and Color.
- 3.8 Danger from Electricity: Safe limits of amperage and voltages. Means for cutting overloads and short circuit protection.
- 3.9 Earth fault protection. Protection of joints and conductors. Fire explosion, Common cause for industrial fire detection and alarm.
- 3.10 Knowledge of water system, Carbon Dioxide System, Foam Extinguishers system and Dry Chemical Extinguishing Systems for extinguishing fire, Sprinklers.

### **UNIT-4 SAFETY PRECAUTION IN CHEMICAL PROCESSES**

- 4.1 Bleaching, Dyeing, Printing, Finishing and Accidental hazards. Chemical hazards in wet processing. Effluent in textile processing.
- 4.2 Health and Welfare: Health hazards in Textile industry.
- 4.3 Dust and Fly. Noise generated and control measures. Occupational hazards, Occupational diseases.

4.4 Personal production equipment's. Health and welfare measures e.g. First Aid Facilities and other welfare measures Hospital, Clinics.

4.5 Special precautions for specific work environment.

### **UNIT-5 SAFETY STATUTES**

5.1 Employees welfare and legislation. Indian Boiler Act and Regulation.

5.2 The Water (Control of Pollution) Act and Rules.

5.3 The Air (Pollution) Act and Rules.

### **Reference Books:**

1. Industrial Safety and Environment Paperback –1 January 2015 by A.K. Gupta (Author)
2. Industrial Safety Management Hardcover–1 July 2017 Japanese Edition by L M Deshmukh (Author)

