

## **MF5075 INDUSTRIAL SAFETY**

### DETAILED SYLLABUS

#### **OBJECTIVE**

To develop and strengthen the safety ideas and motivate the students to impart basic safety skills and understandings to run an industry efficiently and effectively

#### **UNIT I OPERATIONAL SAFETY**

Hot metal operation, boiler, pressure vessels – heat treatment shop – gas furnace operation- electroplating – hot bending pipes – safety in welding and cutting, Cold – metal operation – safety in machine shop – cold bending and chamfering of pipes metal cutting – shot blasting, grinding, painting– power press and other machines. Management of toxic gases and chemicals – industrial fires and prevention – road safety – highway and urban safety – safety of sewage disposal and cleaning – control of environmental pollution – managing emergencies in industries – planning security and risk assessments, on – site and off site. Control of major industrial hazards.

#### **UNIT II SAFETY APPRAISAL AND ANALYSIS**

Human side of safety – personal protective equipment – causes and cost of accidents. Accidents prevention program – specific hazard control strategies – HAZOP training and development of employees – first aid – fire fight devices – accident reporting, investigation. Measurement of safety performance, accident reporting and investigation – plant safety inspection, job safety analysis – safety permit procedures. Product safety – plant safety rules and procedures – safety sampling – safety inventory systems. Determining the cost effectiveness of safety measurement.

#### **UNIT III OCCUPATIONAL HEALTH**

Concept and spectrum of health functional units and activities of operational health service – occupational and related disease – levels of prevention of diseases – notifiable occupational diseases Toxicology Lead – Nickel, chromium and manganese toxicity – gas poisoning (such as CO, Ammonia Chlorise, So2, H2s.) their effects and prevention – effects of ultra violet radiation and infrared radiation on human system.

#### **UNIT IV SAFETY AND HEALTH REGULATIONS**

Safety and health standards – industrial hygiene – occupational diseases prevention welfare facilities. The object of factories act 1948 with special reference to safety provisions, model rules 123a, history of legislations related to safety – pressure vessel act – Indian boiler act – the environmental protection act – electricity act – explosive act.

#### **UNIT V SAFETY MANAGEMENT**

Evaluation of modern safety concepts – safety management functions – safety organization, safety department- safety committee, safety audit – performance measurements and motivation – employee participation in safety - safety and productivity.

#### **REFERENCES**

1. John V Grimaldi, Safety Management. AITB publishers, 2003.
2. John.V. Grimaldi and Rollin. H Simonds, "Safety Management", All India traveler book seller, New Delhi – 1989.
3. Krishnan N.V, "Safety in Industry", Jaico Publisher House, 1996.
4. Singh, U.K and Dewan, J.M., "Sagety, Security And Risk Management", APH publishing company, New Delhi, 1996.