



RCETMECHAC03 - Industrial Safety

Course outcomes:

- Analyze the effect of release of toxic substances
- Understand the industrial laws, regulations and source models.
- Apply the methods of prevention of fire and explosions.
- Understand the relief and its sizing methods.
- Understand the methods of hazard identification and preventive measures.

Syllabus:

Unit I

CONCEPTS AND TECHNIQUES

History of Safety movement –Evolution of modern safety concept- general concepts of management – line and staff functions for safety-budgeting for safety-safety policy. Incident Recall Technique (IRT), disaster control, job safety analysis, safety survey, safety inspection, safety sampling, evaluation of performance of supervisors on safety.

Unit II

SAFETY AUDIT

Components of safety audit, types of audit, audit methodology, non-conformity reporting (NCR), audit checklist and report – review of inspection, remarks by government agencies, consultants, experts – perusal of accident and safety records, formats – implementation of audit indication - liaison with departments to ensure co-ordination – check list – identification of unsafe acts of workers and unsafe conditions in the shop floor-IS 14489 : 1998 Code of practice on occupational Safety and health audit.

Unit III

ACCIDENT INVESTIGATION AND REPORTING

Concept of an accident, near miss incident, reportable and non-reportable accidents, reporting to statutory authorities – principles of accident prevention – accident investigation and analysis – records for



accidents, departmental accident reports, documentation of accidents – unsafe act and condition – domino sequence – supervisory role – role of safety committee –cost of accident.

Unit IV

SAFETY PERFORMANCE MONITORING

ANSI (Z16.1) Recommended practices for compiling and measuring work injury experience – permanent total disabilities, permanent partial disabilities, temporary total disabilities - Calculation of accident indices, frequency rate, severity rate, frequency severity incidence, incident rate, accident rate, safety “t” score, safety activity rate ,Total Injury illness incidence rate, Lost workday cases incidence rate (LWDI), Number of lost workdays rate– problems.

Unit V

SAFETY EDUCATION AND TRAINING

Importance of training-identification of training needs-training methods – programmes, seminars, conferences, competitions – method of promoting safe practice - motivation – communication - role of government agencies and private consulting agencies in safety training DGFASLI, NSC, ASSE, HSE, OSHA-NEBOSH – creating awareness, awards, celebrations, safety posters, safety displays, safety pledge safety incentive scheme, safety campaign.

Reference Text Books

1. Industrial Maintenance Management Srivastava, S.K. - S. Chand andCo.
2. Occupational Safety Management and Engineering Willie Hammer - PrenticeHall
3. Installation, Servicing and Maintenance Bhattacharya, S.N. - S. Chand andCo.