MBPC3046 OCCUPATIONAL HEALTH AND INDUSTRIAL HYGIENE (3-0-0)

Module-I : (10 Hours)

PHYSICAL HAZARDS

Noise, , noise exposure regulation, properties of sound, occupational damage, risk factors, sound measuring instruments, octave band analyzer, noise surveys, noise control program, industrial audiometry, hearing conservation programs. vibration types, effects, instruments, surveying procedure, permissible exposure limit.

Ionizing radiation, types, effects, monitoring instruments, control programs, non-ionizing radiations, effects, types, radar hazards, microwaves and radio-waves, lasers,- cold environments, hypothermia, wind chill index, control measures- hot environments, thermal comfort, heat stress indices, acclimatization, estimation and control

Module-II : (9 Hours)

CHEMICAL HAZARDS

Recognition of chemical hazards-dust, fumes, mist, vapour, fog, gases, types, concentration, Exposure vs. dose, TLV - Methods of Evaluation, process or operation description, Field Survey, Sampling methodology,

Air Sampling instruments, Types, Measurement Procedures, Instruments Procedures, Gas and Vapour monitors, dust sample collection devices, personal sampling

Methods of Control - Engineering Control, Design maintenance considerations, design specifications - General Control Methods - training and education

Module-III : (8 Hours)

BIOLOGICAL AND ERGONOMICAL HAZARDS

Classification of Bio hazardous agents –bacterial agents, rickettsial and chlamydial agents, viral agents, fungal, parasitic agents, infectious diseases - Biohazard control program, employee health program-laboratory safety program-animal care and handling-biological

Work Related Musculoskeletal Disorders –carpal tunnel syndrome CTS- Tendon pain disorders of the neck- back injuries.

Module-IV : (8 Hours)

OCCUPATIONAL HEALTH AND TOXICOLOGY

Functional units and activities of occupational health services, pre-employment and post-employment medical examinations - occupational related diseases, levels of prevention of diseases, notifiable occupational diseases such as silicosis, asbestosis, pneumoconiosis, their effects and prevention – cardiopulmonary resuscitation, audiometric tests.

Industrial toxicology, local, systemic and chronic effects, temporary and cumulative effects, carcinogens entry into human systems

References

1. Handbook of Occupational Health and Safety, NSC Chicago, 1982
2. Encyclopedia of Occupational Health and Safety, Vol. I & II, International Labour Organisation, Geneva, 1985.
3. McCornick, E.J. and Sanders, M.S., Human Factors in Engineering and Design, Tata McGraw-Hill, 1982.