

ASSOCIATE FELLOW OF INDUSTRIAL HEALTH

REVISED SYLLABUS (2016)

Subject-wise distribution of weightage (out of 100 points):

1. Occupational Health	:	65
2. Industrial Safety	:	10
3. Industrial Hygiene	:	10
4. Training and Productivity	:	05
5. Statutes	:	10

Distribution of sessions according to subjects & curriculum:

(One session = 1 hour 15 minutes and 1 day = 4 sessions)

1. Occupational Health	:	100
2. Industrial Safety	:	16
3. Industrial Hygiene	:	16
4. Training and Productivity	:	08
5. Statutes	:	16
6. Project Work	:	20
7. Practical	:	24
8. Tutorials	:	20
9. Industrial Visits	:	20

Total Sessions : 240

Revised AFIH Syllabus (2016)

A. Occupational Health and related Statutes (65 Points and 100 Sessions) :

(I) Overview of Occupational Health (10 points & 14 sessions)

1. Occupational Health: Introduction.
2. History of Occupational Health.
3. Present status of occupational health: Nationally and Internationally including public health & social welfare, strategy and programme of health protection and role of International Organization, Government, employer, safety committee, trade union & employees.
4. Occupational Health Policy in India including health care delivery system in India.
5. Occupational Health Surveillance, Occupational Health Service at work place, Workplace Health Monitoring, maintenance of health register & records, Prevention of Occupational Health Hazards, occupational health audit and occupational Health Survey.
6. National and International Organizations in the field of occupational health.
7. OHS: its principles & functions. First aid centre, first aid box and industrial hospitals.
8. Diagnosis of Occupational Diseases.
9. Occupational health hazards and its preventive measures.

(II) Physical Health Hazards & its Management (5 points & 8 sessions)

10. Physical Health Hazards in Industry including heat, cold, noise, vibration, ionizing radiation, non-ionizing radiation, electricity, light, barometric pressure, electro-magnetic field etc.

(III) Chemical Health Hazards & its Management (15 points & 22 sessions)

11. Toxicokinetics – absorption, metabolism, retention, entoxification, detoxification, excretion of toxic chemicals (xenobiotics), toxicology related to different systems/organs, acute verses chronic effects, relation between work place exposure and health effects.
12. Metals in Industry like Arsenic & its compounds, Beryllium & its compounds, Cadmium & its compounds, Chromium & its compounds,

Cobalt & its compounds, Copper & its compounds, Fluoride, Lead & its compounds, Manganese, Mercury, Nickel & its compounds, Phosphorus, Uranium.

13. Gas, Vapor & Mist in Industry like Carbon Monoxide, Hydrogen Cyanide, Hydrogen Sulphide, Chlorine, Phosgene, Ammonia, Phosphine, Methyl Isocyanate, Sulphuric Acid.

14. Organic Chemicals like Benzene, Toluene, Carbon Disulphide, Vinyl Chloride, Methylene Chloride (Dichloromethane).

15. Pesticides & its toxicity.

(IV) Occupational Lung Diseases & its Diagnosis (6 points & 10 sessions)

16. Occupational Lung Diseases like Silicosis, Asbestosis, Coal Worker's Pneumoconiosis, Mixed Dust Fibrosis.

17. Occupational Asthma(i.e. Byssinosis) & Extrinsic Allergic Alveolitis (like Bagassosis).

18. Pulmonary Function Test.

19. ILO Radiograph on Pneumoconiosis.

20. Notifiable Occupational Diseases in India as per Factories Act, 1948. ILO list of Occupational Diseases globally.

(V) Biological Hazards & its Management (3 points & 4 Sessions)

21. Occupational Zoonotic Diseases.

(VI) Ergonomics & Work Physiology (5 points and 6 sessions)

22. Introduction to Ergonomics, application of ergonomics in industry, Stress and performance, anthropometry and work physiology, physical fitness test in industry, fatigue, VO₂Max, workload.

(VII) Psychosocial Hazards (4 points & 5 sessions)

23. Psychosocial Hazards in Occupation and application of industrial psychology in occupational health, occupational health disorders of psychological origin, well-being programme, principle of behavioral toxicology.

24. Shift Work in Industry

(VIII) System-wise injury (5 points & 8 sessions)

- 25. Cumulative Trauma Disorders.
- 26. Occupational Dermatoses.
- 27. Occupational Eye Injury.
- 28. Workplace exposure and its effects in various systems.

(IX) Programme & Services (4 points & 8 sessions)

- 29. Occupational Health Programme: Hearing Conservation Programme, Vision Conservation Programme, Programme on NCD (non communicable diseases), Occupational Health Service, first aid service, ambulance service etc.
- 30. Industrial Nutrition & Canteen services.
- 31. The Occupational Health Nurse and their role/services in industry.

(X) Statistics (3 points & 5 sessions)

- 32. Statistics: Epidemiology – its purpose, planning, determinants of diseases, methods. Different types of epidemiological studies like Case control & Cohort studies etc. Incidence rates, prevalence rates, mortality rates, morbidity rates, t-testing, significance testing, Chi-2-testing, correlation, research methodology and planning for research in occupational health

(XI) Miscellaneous (5 points & 10 sessions)

- 33. Major Accident Hazard Control in Industry & its Medical Response.
- 34. Women at work.
- 35. Occupational Carcinoma.
- 36. Welding Hazards & its Management.
- 37. Recent advance in occupational medicine and impact of nano technology, modern concept of Occupational Health Service, Human Resource Development concept on occupational health in industry.

B. Occupational Safety and Health Legislations (10 point & 16 sessions)

1. ILO Conventions
2. The Workmen's Compensation Act.
3. OHSAS18001
4. ESIC Act., The Bio-Medical Waste Rules
5. Mines Act.1952 & Mines Rules, 1955
6. The Factories Act, 1948 and State model
7. MSIHC Rules 1989
8. Water (Prevention & control of pollution) Act, 1974 and Rules
9. Air (Prevention & control of pollution) Act, 1981 and Rules. Environment protection Act 1986 (Amended) and Rules
10. The Dock Workers (Safety, Health and Welfare) Act, 1986 and the Regulations 1990 framed there under.

C. Industrial Safety (10 Points & 16 Session)

1. Principles of Accident Prevention:
Definitions- Incident, Accident, Injury, safety, Hazard, Risk, Unsafe Acts and Unsafe Conditions etc.
Accident Prevention, Theories/ Models of Accident Occurrences, Principles of Accident Preventions.
2. Accident and Incident Investigation :
Need to investigate Incidents, who, what and how to investigate incidents, Various Analytical techniques to investigate incidents, preparing the incident report and corrective action.
3. Hazard Identification, Prevention and Control :
Techniques of Hazard identifications, prevention strategies and Control measures through hierarchy of control.
4. Behavior Based Safety :
Need for Behavior Based Safety, Understanding Human Behavior SOBA and ABC Model, Values and Attitude, Behavior Characteristics. Feed back.
5. Mechanica and Electrical Safety, work permit, SOPs etc.

D. Industrial Hygiene (10 Points and 16 Sessions)

1. Industrial Hygiene Principles and practice
2. work environment monitoring and its importance
3. Industrial Noise and its effects.
4. Heat stress and its effects
5. Industrial Ventilation
6. Concept of Threshold Limit values/Permissible Exposure Limits/Recommended Exposure limits in Industry.
7. Types of radiation and Radiation Hazards
8. Illumination
9. Material Safety Data Sheets (MSDS)
10. Biological monitoring & its analytical technique.
11. Chemical Hazards in the work place.
12. Selection, use and maintenance of Respiratory & Non-respiratory Personal Protective Equipment.
13. Exposure Assessment studies in Industry.

E. Staff Training & Productivity (5 Points and 8 Sessions)

1. Elements of Training - process, assessment of training needs, design and development of training program, training methods and strategies, evaluation of training.
 2. Communication - Purpose, process, types of channels, two-way communication, barriers in communication and essentials of effective communication.
 3. Productivity-concepts and techniques.
 4. Team Building- Concepts & Practices, how to make a team effective.
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