

COMPETENCY BASED COURSE CURRICULUM

ASSOCIATE FELLOW OF INDUSTRIAL HEALTH (AFIH)

GOVERNMENT OF INDIA, MINISTRY OF LABOUR & EMPLOYMENT
DIRECTORATE GENERAL FACTORY ADVICE SERVICE AND LABOUR INSTITUTES
SION | MUMBAI
YEAR 2023

PREFACE

Associate Fellow of Industrial Health (AFIH) course is a statutory training programme which enables Indian registered medical doctors of modern medicine to become a "Factory Medical Officer" who is considered as competent occupational health physician under The Factories Act 1948 and Rules made there under. It is three months, fulltime, regular, certificate course consists of lectures series, laboratory work, practical works, demonstration & tutorial, educational / industry visit, speciality clinical exposure and project work. On completion of the three months training period and after passing the final examination conducted by the AFIH Academic Council, successful delegates are awarded with "ASSOCIATE FELLOW OF INDUSTRIAL HEALTH (AFIH)" certificate, which will fulfil the requirement in terms of additional qualification for appointment of Factory Medical Officers as required under the Factories Act, 1948 and Rules made there under. The practical, tutorial, demonstration activities are integral components of the day-to-day course curriculum with the involvement of multiple disciplines including Industrial Medicine, Industrial Hygiene, Safety, Staff Training and Productivity, Human Physiology, Industrial Psychology, etc. Industrial Medicine and Industrial Hygiene laboratories and practical, field visit to the industries and to their occupational health centres to understand the existing occupational health system are the basic and essential components of the course curriculum.

The objectives of the course are to enable the doctors

- To identify and manage the occupational health disorders / occupational diseases encountered in various industries in the country and to manage the industrial injuries, accidents, illnesses caused by chemical intoxication, in general and in hazardous process industry in particular.
- To suggest preventive and control measures of such occupational health problems.
- To advise, supervise and participate in the national and international programmes on occupational health of industrial workers, improving productivity and prosperity.

The course was introduced in the year 1992 at the Central Labour Institute, Mumbai. Currently, the course is operational at Central Labour Institute, Mumbai and Regional Labour Institutes Chennai, Faridabad, Kanpur and Kolkata and some other reputed institutes are also approved by the DGFASLI for conducting the course. The course is administratively controlled by the Directorate General Factory Advice Service & Labour Institutes (DGFASLI), at the All-India level and is assisted by an advisory body known as AFIH Academic Council.

The underlying concept of competency – i.e., the habitual and consistent use of knowledge, technical skills, clinical reasoning, communication, emotions, values and reflection in daily practice for the benefit of the individual (workers) and the community (industry) being served. ***Competency based course curriculum ensures that the training participants should consistently demonstrate the desired behaviour throughout their professional carrier rather than only during the final examination.*** The new competency-based course curriculum of the AFIH course has been designed to meet the requirements of the industries at national and international level with emphasis on sustainable development.

PROGRAMME GOALS

The goals of this Certificate training programme in Industrial Health namely AFIH are:

- To train groups of medical personnel in Occupational and Environmental Health issues
- To identify/recognize Occupational and/or Environmental Health related problems, undertake investigations and formulate remedial/control measures.
- To provide regular update about recent advances in the field.
- To create skilled medical manpower in the area of Occupational Health management for betterment and upliftment of health and well-being of the community in general and industrial workers in particular.

SPECIFIC LEARNING OBJECTIVES

The AFIH course is to produce a competent medical professional who will be able to:

- apply the skills of a trained medical practitioner to:
 - diagnose and manage disease and injury in relation to occupation
 - determine the relationship between health and fitness to work
 - advise on the effect of major contemporary health issues in workplaces
- conduct workplace and preliminary environmental assessments in order to recognise, evaluate and control physical, chemical, biological, design-related and psychosocial hazards
- retrieve, critically appraise and disseminate occupational and environmental health & safety information in readily understandable terms
- apply management skills in order to:
 - coordinate and manage occupational and environmental health and safety programs, including health surveillance
 - effect relevant change in workplaces
 - negotiate and resolve conflict relating to occupational and environmental health and safety issues
- communicate effectively in order to secure the cooperation of management, employees & colleagues in the provision of a safe and healthy workplace
- be an advocate for health in workplaces and the broader community
- interpret the legislative, regulatory, and medico-legal aspects of occupational & environmental health and safety and be able to apply these in practice
- design, implement and manage a vocational rehabilitation program in the workplace, provide on-hand practical training to recognise health problems related to occupation, confirm the diagnosis and suggest remedial measures, assess the factors responsible for the causation of the health problems in working & general environment conditions
- design, conduct, implement and evaluate preventive strategies in workplaces
impart training in systematic collection of information, compilation and presentation of data, storage, record keeping and retrieval of data in respect of each worker.
- participate in continuing professional development in order to respond to changes in workplaces and keep abreast of the latest developments on occupational and environmental medicine, and health and safety issues
- practical knowledge in computer application and drawing valid conclusions by applying appropriate statistical methodology.
- develop basic skills in public relations, health education and public awareness programme through effective communication and information technology.

SUBJECT SPECIFIC COMPETENCIES

At the end of the course, the delegates should have acquired knowledge in the following:

A. Cognitive Domain

1. Basic knowledge on the structure of the different organ systems of human body, their functions and response to adverse occupational / environmental conditions.
2. Applied aspects of Occupational and Environmental Health.
3. Occupational / Environmental Health Epidemiology and biostatistics.
4. Occupational / Environmental Health disorders and diseases.
5. Biochemical, microbiological, and pathological aspects of Occupational Health
6. Toxicological aspects of Occupational / Environmental exposures.
7. Work physiology – Ergonomics, Biomechanics, and stressors.
8. Basic understanding of Industrial Management, Industrial Hygiene, and Industrial safety
9. Legislation related to Occupational health and safety.
10. Recent Advancement in the field of Occupational Health, Hygiene and Safety

B. Affective Domain:

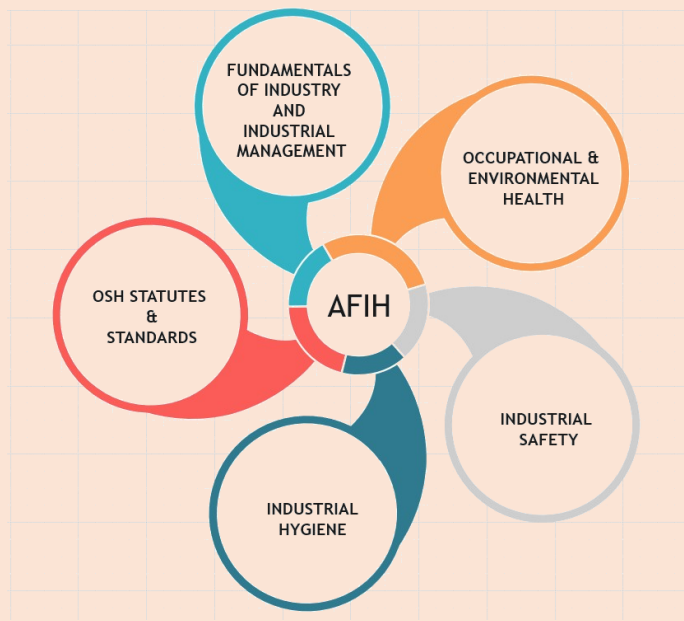
1. The AFIH delegates should be able to function as a part of a team, develop an attitude of cooperation and healthy interact with the workers, occupiers, management, law and order enforcement agencies and other colleagues to provide the best possible occupational service in the industry
2. The AFIH delegates should always adopt ethical principles and maintain proper etiquette in dealings with workers, patients, relatives, and other health personnel and to respect the rights of the workers/patient including the right to information and second opinion.
3. The AFIH delegates should develop communication skills to prepare reports and professional opinion as well as to interact with workers, patients, peers and paramedical staff, occupiers, management, law and order enforcement agencies in a professional way.

C. Psychomotor domain

1. Demonstrate clinical skills of preparing case history, examination, interpretation of laboratory results, provisional diagnosis, and medical management of occupational diseases
2. Conduct pre-medical examination, periodic medical examination and exit medical examination and necessary certification
3. Conduct epidemiological studies and surveys for assessment of health & morbidity profile of the workers, determinants of diseases, assessment of health needs, diseases surveillance, and Planning and implementation of prevention and control measures
4. Do data collection, compilation, tabular and graphical presentation, analysis and interpretation, applying appropriate statistical tests, using computer-based application

SUBJECT WISE SYLLABUS IN DETAILS:

Concept Map of the Syllabus:



TIME MANAGEMENT:

- One Working Day: 10 AM-6 PM
- Number of Sessions per Working Day: 5
- Duration of One Session: 1 Hrs and 15 Minutes (Min)/ 1 Hrs and 30 Minutes (Max)
- Lecture, Tutorial and Practical Training: 40 Working Days (200 Sessions)
- Project Work: 10 Working Days (50 Sessions). The project work is an essential component of the curriculum, the AFIH delegates should be informed and sensitized about it from the very beginning of the course.
- Educational/Industrial Visits/ Specialty Clinical Exposure: 10 Working Days (50 Sessions)
- Total Effective Course Duration: 60 Working Days (300 Sessions) [Min-375 Learning Hours]

STUDY SCHEME:

DOMAIN	NUMBER OF SESSIONS			
	LECTURE / GROUP DISCUSSION/PRESENTATION [L]	TUTORIAL/ DEMONSTRATION [T]	PRACTICAL [P]	TOTAL (200+50+50=300)
A) Fundamentals of Industry and Industrial Management	10	-	-	10
B) Occupational & Environmental Health	85	10	25	120
C) Industrial Safety	15	5	-	20
D) Industrial Hygiene	15	5	10	30
E) OSH Statutes and Standards	20	-	-	20
Lecture, Tutorial and Practical Training	145	20	35	200
Project Work	50			50
Educational/Industrial Visits & Specialty Clinical Exposure	50			50

Course contents In Details:

A. FUNDAMENTALS OF INDUSTRY AND INDUSTRIAL MANAGEMENT: L-10, T-0, P-0

ALLOTTED SESSIONS: 15 SESSIONS		
LECTURE (L)/ GROUP DISCUSSION/PRESENTATION	TUTORIAL (T)/ DEMONSTRATION	PRACTICAL (P)
10	0	0

1. FUNDAMENTALS OF INDUSTRY: L-5, T-0, P-0

What is Industry , its types and Sectors, Industries of India, Industrial Economics, Indices (GDP/GNP etc), The need for industries in country's development, The Factors of Production in industries (Labour, Land, Capital, Enterprise), What is Labour, Its types, issues, solutions, Organized and Unorganized labour issues, Migrant Workers, Seasonal Workers, Gig Workers, Industry as Organization, Its Hierarchy, the need of doctors in industry, Basic knowledge on the functioning of the different Industries, Interrelation for OSH with Industry's department of Safety, HR, Welfare, Commerce, Market, Trade Unions, Govt agencies, Community around industry, Importance of Occupational Health for Sustainable Development in Industries, Industry 1.0/2.0/3.0/4.0/5.0, Effect of technical advancement in industrial hazards

2. INDUSTRIAL MANAGEMENT FOR OCCUPATIONAL SAFETY AND HEALTH: L-5, T-0, P-0

General principles of Management, Management Theories, Components: Planning, Organizing, Staffing, Directing, Coordinating, Reporting and Budgeting, Management Structure, Roles and Responsibilities, Authority, Information flow, Reporting Mechanism, Delegation of Power, Public Relation, Concept of productivity, Concepts of Material Management, inventory control & techniques, Concept of Quality, PDCA Cycle, principles of Kaizen, Total Quality Management, Assessment of training needs, Design & development of training programmes, Training methods and strategies, Training programmes for new entrants, Evaluation of training programmes, Communication, Principles, tools and techniques of Effective Communication, IEC & BCC, Occupational Health Audit, Incentives, motivation, leadership traits, skill and types

B. OCCUPATIONAL AND ENVIRONMENTAL HEALTH: L-85, T-10, P-25

ALLOTTED SESSIONS: 110 SESSIONS		
LECTURE (L) / GROUP DISCUSSION/PRESENTATION	TUTORIAL (T)/ DEMONSTRATION	PRACTICAL (P)
85	10	25

1. Concepts of Health & Diseases and History of Occupational Health: L-10, T-0, P-0

Definitions, Determinants of Health, Concepts of Health and Diseases, Basic socio-economic and demographic factors pertinent to occupational health, **Occupational Sociology**, History and development of Occupational Health, International and National Organisations of OSH (MoL&E, DGFASLI, AIIH&PH, ILO, WHO, CDC, ICMR-NIOH, ICOH etc), ILO Conventions, Recommendations, Ratifications, Status of occupational health globally and in India, Sustainable Development Goals, Epidemiology, Epidemiological triad, Theory of Disease Causation, Multifactorial Causation of Occupational Diseases, Association and Causal Relationship, Level of Prevention and Mode of Interventions, Role of Nutrition in Occupational Health. etc

2. Healthcare Delivery System for Community and Industry: L-10, T-0, P-0

Principle and Elements of Primary Health Care, Primary Health Care Approach in Occupational Health (Basic Occupational Health Service), Health Service in India, Role of Governments, Employers, Trade Unions and Employees in OHS, Reportable Diseases and Notifiable Diseases, Functioning of Occupational Health Centre, First Aid Services in Industries, Ambulance service, Medical emergency

response & planning, Role and Responsibilities during in Onsite & Offsite Emergencies, Triage and Reverse Triage, Health Programmes for Prevention of Communicable and Non-Communicable diseases, Hearing Conservation Programme, Prevention of Addiction, Rehabilitation, etc

3. Research Methodology and Biostatistics in Occupational Health: L-10, T-3, P-0

Methods of occupational health studies-descriptive studies, analytical studies, case control and cohort studies, experimental studies, Preparation of questionnaire, Measurements of Mortality and Morbidity: Incidence, prevalence, mortality rate, morbidity rate, man-days lost, absenteeism rate, sampling, sample size, sampling methods, standardization, concept of normal distribution, descriptive statics, inferential statistics, mean, median, mode, standard deviation, inter quartile range, concept of p value, significance testing, Chi2 testing, t- tests, correlation, Application of computers and statistical software of occupational health data analysis, representation of the research results in tables and diagrams, preparation of reports, Reference management, Plagiarism, Research Publication, Important Database and Repository for Occupational health Practice

4. Screening and Diagnosis for Occupational Health: L-10, T-2, P-0

Concept of Screening Tests and Diagnostics Tests, Sensitivity, Specificity, Accuracy, Precision, Positive Predictive Value, Negative Predictive Value, Biomonitoring and exposure assessment for occupational diseases, Occupational Toxicology, Occupational Health Surveillance, Different Diagnostics Modalities in Occupational Health, Imaging Modalities for Occupational Health, Evidence Based Decision Making for Occupational Health Practice, Pre-Employment Medical Examination, Periodic Medical Examination, Pre-Retirement/Exit Medical Examination, Special Medical Examination, Maintenance of health registers and records, Medical Certification to employees (employment, sickness, injuries, return to work) etc

5. Management of Occupational Disorders, Injuries, and Illness: L-25, T-5, P-20

List of Occupational Diseases as per ILO, List of Notifiable Diseases in Factory, Ports, and Mines, Medical Management of Diseases Caused by Chemical Agents: Toxic Gases, Vapours, Toxic Liquids, Metals, Solvents, Organochlorine and organophosphorus compounds, Hydrocarbons, Acids, Alkalis etc , Medical Management of Diseases Caused by Physical factors or Agents: Heat, Noise, Vibration, Humidity, compressed or decompressed Air, Electricity, Radiation, Electromagnetic Waves, Work at Height, Work at High Altitude, Work under Water, Medical Management of Diseases Caused by Biological Agents: Anthrax, Brucellosis, Leptospirosis, Tetanus, Tuberculosis, Hepatitis, HIV, Fungal Infections, Occupational diseases by target organ systems: Occupational Lung Diseases, Occupational Skin Disorder, Occupational Musculo-Skeletal Disorders, Occupational Cancers, Occupational Eye Disorders, behavioural toxicology, Occupational Injuries and Illness Classification, Management of Occupational Injuries and Emergencies, BLS, ACLS, Management of Insect, Animal and Snake Bite, Disability Assessment, etc

6. Environmental Health: L-5, T-0, P-2

Introduction and definitions in Environmental Health, Air Pollution and Workers Health, Air Quality Index, Water Pollution, Environmental Sanitation, Food Safety, Pests and Pesticides, General sanitation, purification of water, water quality assessment, Criteria of Potable Wholesome Drinking water, drinking water supply, Solid waste management, Bio-Medical Waste Management, Environmental Management System, etc

7. Work Physiology, Ergonomics, and Industrial Psychology: L-7, T-0, P-3

Work Physiology, Physical fitness, Heat Stress, Fundamentals of Biomechanics, Introduction to ergonomics, cumulative trauma disorders, stress performance, application of ergonomics in occupational health, anthropometry, principles of work station designing, Introduction to industrial psychology, occupational stress & its management, shift work, Occupational Mental and Neuro-behavioural disorders, occupational health disorders of psychological origin, etc

8. Important National Health Programmes and Recent Advancement in Occupational Health: L-8, T-0, P-0

Brief Introduction to National Health Mission (NHM), Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), and Important National Programme for TB, HIV, Vector Borne Diseases, Integrated Disease Surveillance Programme (IDSP), National Programme for prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & stroke (NPCDCS), National Mental Health Programme, Recent Diagnostics in Occupational health, Adult Immunization, One Health Approach, Immunologic and genetic biomarkers in occupational health practice, Application of Artificial Intelligence in Occupational Health Practice, Aging and Work, Women at Work, Nanotechnology and Occupational Health, Industrial Automation and Occupational Health, Occupational Health Information Management System, Ethics in Occupational Health, Green House Gases, Carbon footprint, Climate Changes, etc

C. INDUSTRIAL SAFETY: L-15, T-5, P-0

ALLOTTED SESSIONS: 20 SESSIONS		
LECTURE (L)/ GROUP DISCUSSION/PRESENTATION	TUTORIAL (T)/ DEMONSTRATION	PRACTICAL (P)
15	5	0

Definition, Importance, Applicability, Accident causation, Accident and Injury Prevention, safety committee, Control of industrial heat, ventilation, noise, vibration, illumination & color, Radiation Safety, Fire Safety, Electrical Safety, Work Permit System, Safety during Work at Height and Confined Space, Accident investigation & Reporting, Fundamentals of Safety Audit, Introduction to Behavioral Based Safety (BBS), Hazard Identification, Risk Assessment & Mitigation (HIRAM), Case studies of following major accidents- Bhopal, Mexico, Flixborough, Seveso, Chernobyl and Feyzin disasters

D. INDUSTRIAL HYGIENE: L-15, T-5, P-10

ALLOTTED SESSIONS: 30 SESSIONS		
LECTURE (L)/ GROUP DISCUSSION/PRESENTATION	TUTORIAL (T)/ DEMONSTRATION	PRACTICAL (P)
15	5	10

Introduction to Industrial hygiene, organizing Industrial hygiene service, Hierarchy of Control, Concepts of safe working limits (TLV –TWA, STEL, PEL, REL, BEI, IDLH, LC 50, LD50, etc), MSDS, Workplace Airborne contaminants and monitoring, Assessment and monitoring of Industrial ventilation, heat & heat stress indices, humidity, noise, illumination & color, vibration, radiation, Respiratory and Non-Respiratory Personal Protective Equipment-Types, Standards and Selection

E. OCCUPATIONAL SAFETY & HEALTH STATUTES & STANDARDS: L-20, T-0, P-0

ALLOTTED SESSIONS: 20 SESSIONS		
LECTURE (L)/ GROUP DISCUSSION/PRESENTATION	TUTORIAL (T)/ DEMONSTRATION	PRACTICAL (P)
20	0	0

National Policy on OSH, Factories Act 1948 and The Factories Rules, The Dock Workers (Safety, Health & Welfare) Act and Regulations, Building and other construction work Act & Rules, Environmental Protection Act 1986-MSIHC Rules, CIMAH Rules, ESI Act, The Mines Act, Employees Compensation Act, Maternity Benefit Act, Insecticides Act, The Child and Adolescent Labour (Prohibition & Regulation) Act and Introduction to New Labour Codes, Introduction to National and International Standards, BIS, OISD, ISO, OSHA, NIOSH

PROJECT WORK: 50 Sessions

The Project work shall be original work in the field of occupational health domain involving workers as study participants in registered Factory, Mines, Dock Works, Construction Work and Plantation Work under the respective statutes. Project work may include secondary data analysis of occupational health domain in the above-mentioned establishments. Narrative reviews, Systematic reviews, and case reports, etc. will not be considered as Project Work. The Project work shall commence from the first working day of the third month of the programme in all the institutions all over India and duration shall be 10 working days. The project work shall be duly approved by the Course Coordinator/Course Director. There shall not be any violation of ethical principles of biomedical and health research and it is to be ensured by the respective institution. The final project work report shall be within 5000 words and printed hardbound copy with black cover and golden embossing. The project report shall be duly checked, approved, and duly signed by the course coordinator/course director/head of institute. At least two copies of the project report should be prepared out of which one shall be submitted to the Institute during final examination.

The Project Work should consist of following sections:

- I. Title:
Times New Roman, 14 font size, Bold, Line Spacing 1.5, Justify
- II. Structured Abstract (Max 300 Words): Introduction, Methodology, Result and Discussion.
Times New Roman, 12 font size, Line Spacing 1.5, Justify
- III. Keywords (Max 5 Keywords in MeSH Terminology):
Times New Roman, 12 font size, Italic
- IV. Introduction:
Times New Roman, 12 font size, Line Spacing 1.5, Justify, Single Column, A-4, Equations, Tables and Figures (colored) shall be numbered chronologically, starting from Introduction to Conclusion. In text citation as numbers in chronologically in square brackets [] as cross linked to corresponding reference
- V. Review of Literature:
Times New Roman, 12 font size, Line Spacing 1.5, Justify, Single Column, A-4
- VI. Materials and Methods
Times New Roman, 12 font size, Line Spacing 1.5, Justify, Single Column, A-4
- VII. Results and Analysis
Times New Roman, 12 font size, Line Spacing 1.5, Justify, Single Column, A-4
- VIII. Discussion
Times New Roman, 12 font size, Line Spacing 1.5, Justify, Single Column, A-4
- IX. Conclusion
Times New Roman, 12 font size, Line Spacing 1.5, Justify, Single Column, A-4
- X. References:
In Vancouver format with in text citation as square brackets []

Plagiarism Prevention: The project report prior to submission should be checked by the candidate for plagiarism. The similarity content should not exceed 10% & not more than 2% from any single source. In this regard, a self-declaration by the candidate shall be included in the report.

EDUCATIONAL/INDUSTRIAL VISITS & SPECIALTY CLINICAL EXPOSURE: 50 Sessions

I. Educational/Industrial Visits: 30 Sessions

At least 9 field visits must be conducted in registered factories specially in the industries involving hazardous process as mentioned in the First Schedule of the Factories Act, Construction sites, dock works (if nearby), mines (if nearby), Plantation work (if nearby) to study occupational health hazards, control measures and the functioning of occupational health services there. One educational visit may be conducted in any specialized or advanced center for management of occupational health problems or dealing with occupational rehabilitation services or occupational toxicity or occupational research organization.

II. Specialty Clinical Exposure: 20 Sessions

Specialty Clinical exposure in nearby ESI Hospitals/Any Tertiary Care Hospital/Medical Collage in the department of Respiratory Medicine/ENT/Eye/Dermatology/Orthopedics/Physical Medicine and Rehabilitation (PMR)/Community Medicine/Psychiatry or discussion of different topics by the specialists from the above departments to get exposure in recent advancement in the respective discipline with respect to occupational health issues.

N.B: A notebook is to be prepared by every AFIH delegate, containing brief description of educational/industrial visits and specialty clinical exposure and the same is to be submitted at the institute during examination

TUTORIAL/DEMONSTRATION & PRACTICAL TRAINING: 55 Sessions

At the end of the course, the AFIH delegates should acquire the following practical skills:

OCCUPATIONAL AND ENVIRONMENTAL HEALTH: 35 Sessions

- a. Medical examination - proficiency in collection of proper occupational exposure history, general examination, recognition and demonstration of physical finding, pre-employment/pre-placement, periodic, exit medical examination and special examination.
- b. ILO International Classification of Radiographs of Pneumoconioses, CT scan for Occupational Lung Diseases
- c. Lung function tests
- d. Audiometry
- e. Vision testing
- f. E.C.G.
- g. Bio-chemical & pathological investigations, routine & special
- h. Research Methodology, Biostatistics, & Data Analytics
- i. First Aids, BLS & ACLS, Use of AED
- j. Evaluation of physiological work stress
- k. Exercise stress test
- l. Test for Vertigo
- m. Techniques for different anthropometric measurements, biomechanics

INDUSTRIAL SAFETY: 5 Sessions

- a. Practical/Video Demonstration of Machine Safety
- b. Practical/Video Demonstration of Fire Fighting Equipment
- c. Practical/Video Demonstration of Work at Height Safety Equipment
- d. Case discussion Bhopal, Mexico, Flixborough, Seveso, Chernobyl and Feyzin disasters

INDUSTRIAL HYGIENE: 15 Sessions

- a. Assessment of workplace airborne contaminants, Sampling, analytical techniques, and their interpretation.
- b. Monitoring of workplace ventilation, heat, humidity, noise, illumination & color, vibration, radiation
- c. Respiratory and Non-Respiratory Personal Protective Equipment

N.B: A notebook is to be prepared by every AFIH delegate containing brief description of the practical works and the same is to be submitted at the institute during examination

TEACHING - LEARNING METHODS:

Principles

Acquisition of practical competencies being the keystone of any post graduate medical education, AFIH training should be skills oriented. Learning in AFIH programme should be essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

Teaching Learning methodology:

Teaching methodology includes:

1. Didactic lectures by the experts
2. Presentations and Group Discussions on topics as per the syllabus
3. Self-Directed Learning
4. Hands on training during tutorials and practical sessions
5. Practical or Video based Demonstration
6. Supervised Project Work
7. Supervised Industrial/Educational Visits
8. Specialty Clinical Exposure/Discussion

ASSESSMENT:

SUMMATIVE ASSESSMENT, i.e.at the end of the AFIH training

The summative examination would be carried out as per the guidelines of DGFASLI, Mumbai

1. Theory Examination:

The examination shall be in MCQ Type: 100 marks*.

Every correct answer will be of 1 mark and every wrong answer will be of minus ¼ marks.

Marks Distribution (Suggestive) in the Final Theory Examination:

Domain	Marks
A) Fundamentals of Industry and Industrial Management	05
B) Occupational & Environmental Health	50
C) Industrial Safety	10
D) Industrial Hygiene	15
E) OSH Statutes and Standards	20
Total	100

*Candidates securing 50 marks shall be declared to have passed in this section (Theory). Decision of the AFIH Academic Council in this regard shall be final.

2. Practical/Oral/Clinical/Project Work examination: 100 marks**

SECTION: i (50 Marks)

- I. Practical/Demonstration: 40 marks
- II. Evaluation of Practical Note Book and Visit Work Book: 10 marks

SECTION: ii (50 Marks)

- I. Oral/Clinical Examination: 40 marks
- II. Evaluation of Project Work: 10 marks

**Candidates securing minimum of 50 marks [25 marks in Section: i and 25 marks in Section: ii separately] shall be declared to have passed in this section (Clinical/Practical and oral examination)

N.B.: To qualify for the award of certificate, a candidate must pass in both the sections as mentioned in 1 (Theory Examination) and 2 (Practical/Oral/Clinical/Project Work examination) separately

The training participants to be assessed by the Course Coordinator/Course Director as per the appraisal form (Annexure I) and copy of the same is to be submitted to the AFIH Academic Council.

RECOMMENDED READING

Books (latest edition)

1. Parkes WR - Occupational lung disorders, Butterworths, London.
2. International Labour Organisation – Encyclopaedia of Occupational Safety and Health, Geneva.
3. National Institute of Occupational Safety and Health – Occupational respiratory diseases, US Dept. of Health and Human Service, Washington D C (Revised), USA.
4. World Health Organisation - Harmful exposure to mineral dusts, World Health Forum, 15(2).
5. Gardner AW - Current approaches to Occupational Health 2, John Wright & Sons Ltd, Bristol, London, Boston.
6. International Labour Organisation - Guidelines for the use of ILO International classification of Radiographs of Pneumoconiosis, Geneva.
7. Hunter's Diseases of Occupations, Hodder and Stoughton, London/Toronto.
8. Occupational Health - Harrington and Gill, Blackwell Scientific Publication, Oxford.
9. Epidemiology of Occupational Health – WHO, European Series No 20.
10. Monitoring for Health Hazards at Work - Gill and Ashton, Grant McIntyre, London.
11. Recent Advances in Occupational Health - MacDonald, Churchill Livingstone, London.
12. Occupational Diseases: A Guide to Their Recognition - National Institute of Occupational Safety and Health, NIOSH, Cincinnati.
13. Occupational Health Practice - Schilling, Butterworths, London.
14. Current Approaches to Occupational Medicine - Ward Gardner, J. Wright, Bristol.
15. Occupational Medicine - Zenz, Yearbook Publication, Chicago.
16. Epidemiology in Medical Practice - Barker and Rose, Churchill Livingstone, Edinburgh.
17. Occupational Epidemiology - Monson, CRC Press, Boca Raton.
18. Early Detection of Occupational Diseases -WHO, Geneva.
19. Epidemiology: Principle and Methods – Mac Mohan and Pugh, Little Brown, Boston.
20. Park's Textbook of Preventive and Social Medicine- Banarsidas Bhanot Publishers
21. Oxford Handbook of Occupational Health, OUP-UK
22. Harrison's Principles of Internal Medicine, Mc Graw Hill
23. Industrial Safety Handbook-Handley- Mc Graw Hill
24. Industrial Hygiene Simplified, Spellman, Bernan Press
25. Patty's Industrial Hygiene, Wiley

Journals and Important Organizations & Repositories:

1. Safety and Health at Work, <https://www.sciencedirect.com/journal/safety-and-health-at-work>
2. Journal of Occupational Health, <https://onlinelibrary.wiley.com/journal/13489585>
3. Occupational and Environmental Medicine, <https://oem.bmj.com/>
4. Occupational Medicine, <https://academic.oup.com/occmed>
5. Indian Journal of Occupational and Environmental Medicine, <https://www.ijoem.com/>
6. International Journal of Occupational Medicine and Environmental Health, <https://link.springer.com/journal/13382/volumes-and-issues>
7. PubMed, <https://pubmed.ncbi.nlm.nih.gov/>
8. International Labour Organization, <https://www.ilo.org>
9. International Training Centre-ILO, <https://www.itcilo.org/>
10. World Health Organization, <https://www.who.int/>
11. Occupational Safety and Health Administration, USA, <https://www.osha.gov/>
12. European Agency for Safety and Health at Work, <https://osha.europa.eu/en>
13. Agency for Toxic Substances and Disease Registry (ATSDR), <https://www.atsdr.cdc.gov/>
14. Centre for Disease Control, USA, <https://www.cdc.gov/>
15. International Agency for Research on Cancer, <https://www.iarc.who.int/>
16. International Commission on Occupational Health, <https://www.icohweb.org/>
17. National Health Mission, <https://nhm.gov.in/>
18. National Digital Library of India, <https://ndl.iitkgp.ac.in/>
19. CSIR-Indian Institute of Toxicology Research, <http://iitrindia.org>
20. Central Pollution Control Board, <https://cpcb.nic.in/>
21. All India Institute of Hygiene and Public Health, MOHFW, GOI, <http://aiihph.gov.in/>
22. ICMR-National Institute of Occupational Health, <https://www.nioh.org/>
23. Online Learning Platform by Government of India, <https://swayam.gov.in/>
24. Directorate General Factory Advice Service and Labour Institutes, <https://dgfasli.gov.in>
25. Ministry of Labour and Employment, GOI, <https://labour.gov.in/>

Annexure I

AFIH DELEGATE APPRAISAL REPORT

Name of the Institute :
 Name of the AFIH delegates :
 Period of Training : FROM.....TO.....

No.	PARTICULARS	Not Satisfactory			Satisfactory			More Than Satisfactory				Remarks
		1	2	3	4	5	6	7	8	9	10	
1.	Presentation/Group Discussion Involvement											
2.	Practical /Laboratory or Skill based learning											
3.	Self-directed learning											
4.	Communication Skill & Inter-Personal Behavior											
5.	Project Work											
Total Score												

Publications

Yes/ No

Remarks*

*REMARKS: Any significant positive or negative attributes of a postgraduate AFIH delegates to be mentioned. For a score less than 4 in any category, remediation must be suggested. Individual feedback to AFIH delegate is strongly recommended.

N.B: If, total score obtained by a AFIH delegate is less than 25, he or she may not be allowed to sit for the final examination. The decision of the competent authority of AFIH Academic Council shall be final in such cases.

SIGNATURE OF COURSE DIRECTOR

SIGNATURE OF COURSE COORDINATOR



To download this document please scan the QR Code or visit DGFASLI website: www.dgfasli.gov.in