Syllabus For The Trade
of

HEALTH SAFETY AND ENVIRONMENT

(SEMESTER PATTERN)

UNDER

CRAFTSMAN TRAINING SCHEME

Designed in: 2013

By

Goverenment. of India
CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE
Directorate General of Employment & Training
Ministry of Labour & Employment
EN 81, SECTOR – V, SALT LAKE CITY,
Kolkata – 700 091.

List of members of the trade committee meeting for the trade of **"Health Safety and Environment"** under Craftsmen Training Scheme (CTS)

Sl No.	Name and Designation	Representing Organization	Remarks
1.	Mr. V K Garg, Chairman	DIFE, New Delhi	Chairman
2.	Capt Krishan Kumar, Vice Chairman	DIFE, New Delhi	Member
3.	Mr L K Mukherjee, Deputy Director	CSTRI, Kolkata	Member
4.	Mr. M C Sharma, Joint Director	CSTRI, Kolkata	Member
5.	Mr. N Nath, Assistant Director	CSTRI, Kolkata	Member
6.	Mr V P Jayarajan, Principal	DIFE, New Delhi	Member
7.	Col J N Pandey, Director Training	DIFE, New Delhi	Member
8.	Mrs Pushpa Jindal, Principal	Govt. Sr Sec School, N Delhi	Member
9.	Mr. Narender Krahana, Sr Instructor	DIFE, New Delhi	Member
10.	Mr M N Sharma, Principal	ITI, PUSA, New Delhi	Member
11.	Mr. B P Minocha, Engineer	ITI, PUSA, New Delhi	Member
12.	Mr. Praveen Chaudhary, HoD	DIFE, New Delhi	Member
13.	Mr. Manish Kumar, HoD (Admin)	DIFE, New Delhi	Member
14.	Mr. J S Beniwal, Office Superintendent	DIFE, New Delhi	Member
15.	Lt P S Bhadana, Deputy Director Training	DIFE, New Delhi	Member
16.	Mr. B L Chauhan, Assistant Director of Training	DIFE, New Delhi	Member
17.	Mr. Ashok Kumar Tiwari, Sr. Instructor	DIFE, New Delhi	Member
18.	Sub Vijay Singh, Sr Instructor	DIFE, New Delhi	Member
19.	Mr. Ram Ji Singh, AGM	GMR,IGI Airport	Member
20.	Mr. Sudesh Kumar Sharma	DIFE, New Delhi	Member
21.	Mr. Nepal Singh, Sr Instructor	DIFE, New Delhi	Member
22.	Mr. Jagdish Chander, Instructor	DIFE, New Delhi	Member
23.	Mr. Monu Singh, Jr Instructor	DIFE, New Delhi	Member
24.	Mr. Ranjan Prasad, Jr Instructor	DIFE, New Delhi	Member
25.	Mr. Anil Kumar, Jr Instructor	DIFE, New Delhi	Member

List of members attended the Workshop to finalize the syllabi of existing CTS into Semester Pattern held from 6th to 10th May'2013 at CSTARI, Kolkata.

Sl. No.	Name & Designation	Organisation	Remarks
1.	R.N. Bandyopadhyaya, Director	CSTARI, Kolkata-91	Chairman
2.	K. L. Kuli, Joint Director of Training	CSTARI, Kolkata-91	Member
3.	K. Srinivasa Rao, Joint Director of Training	CSTARI, Kolkata-91	Member
4.	L.K. Muhkerjee, Deputy Director of Training	CSTARI, Kolkata-91	Member
5.	Ashoke Rarhi, Deputy Director of Training	ATI-EPI, Dehradun	Member
6.	N. Nath, Assistant Director of Training	CSTARI, Kolkata-91	Member
7.	S. Srinivasu, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
8.	Sharanappa, Assistant Director of Training	ATI-EPI, Hyderabad-13	Member
9.	Ramakrishne Gowda, Assistant Director of Training	FTI, Bangalore	Member
10.	Goutam Das Modak, Assistant Director of Trg./Principal	RVTI, Kolkata-91	Member
11.	Venketesh. Ch. , Principal	Govt. ITI, Dollygunj, Andaman & Nicobar Island	Member
12.	A.K. Ghate, Training Officer	ATI, Mumbai	Member
13.	V.B. Zumbre, Training Officer	ATI, Mumbai	Member
14.	P.M. Radhakrishna pillai, Training Officer	CTI, Chennai-32	Member
15.	A.Jayaraman, Training officer	CTI Chennai-32,	Member
16.	S. Bandyopadhyay, Training Officer	ATI, Kanpur	Member
17.	Suriya Kumari .K , Training Officer	RVTI, Kolkata-91	Member
18.	R.K. Bhattacharyya, Training Officer	RVTI, Trivandrum	Member
19.	Vijay Kumar, Training Officer	ATI, Ludhiana	Member
20.	Anil Kumar, Training Officer	ATI, Ludhiana	Member
21.	Sunil M.K. Training Officer	ATI, Kolkata	Member
22.	Devender, Training Officer	ATI, Kolkata	Member
23.	R. N. Manna, Training Officer	CSTARI, Kolkata-91	Member
24.	Mrs. S. Das, Training Officer	CSTARI, Kolkata-91	Member
25.	Jyoti Balwani, Training Officer	RVTI, Kolkata-91	Member
26.	Pragna H. Ravat, Training Officer	RVTI, Kolkata-91	Member
27.	Sarbojit Neogi, Vocational Instructor	RVTI, Kolkata-91	Member
28.	Nilotpal Saha, Vocational Instructor	I.T.I., Berhampore, Murshidabad, (W.B.)	Member
29.	Vijay Kumar, Data Entry Operator	RVTI, Kolkata-91	Member

GENERAL INFORMATION

1. **Name of the Trade** : **HEALTH SAFETY AND ENVIRONMENT**

2. **NCO Code No.**

3. **Duration** : one year (2 semesters)

4. **Power Norms** : 2 KW

5. **Space Norm** : 1000 Sq Mtrs. for practical Training area

6. **Entry Qualification** : a) Passed class 10 Examination

   b) **The minimum physical requirements are**

   i. Height - 165 cm
   ii. Weight - 52 kg
   iii. Chest - Normal 81 cm - Expanded 85 cm
   iv. A registered MBBS doctor must certify that the candidate is medically fit to undertake the course

7. **Unit Strength** : 20 Trainees

8. **(A)Instructor's/Trainer's Qualification** : Degree in Fire & Safety Engineering/Degree in Fire Science with one year experience in the relevant field.

   OR

   Post Graduate Diploma in Industrial Safety Engineering/ Fire and Industrial Safety Engineering /Post Graduate Diploma in Health, Safety & Environment with two year experience in the relevant filed.

   OR

   Defence Officer JCOs/NCOs with 10 years of experience in the relevant field.

   OR

   National Examination Board Occupational Safety and Health (NEBOSH)/Occupational Safety and Health Administrator (OSHA) Certification-1 Yr Experience

   OR

   NTC/NAC in the trade of **HEALTH SAFETY AND** ENVIRONMENT with 3 years experience in the relevant field.

8. **(B) Desirable qualification** : Preference will be given to a candidate with Craft Instructor Certificate

Note: 1. Training area measuring 1000 Sq. Mtrs for Practical Training , common to all courses is required/ used for all the three courses Viz Health Safety and Environment, Firemen, Fire Technology and Industrial Safety Management, if an institute is running all the above mentioned trade courses.

2. Training Ground can be away from the Institute at the distance of maximum 20 kms in the safe zone. So that Environmental hazards don't affect the local population.

3. The stores marked with star are common and will be used for all the three courses.

SYLLABUS FOR THE TRADE OF "HEALTH SAFETY AND ENVIRONMENT" UNDER CTS.

Duration : Six months

First Semester

Semester Code: HSE: SEM I

Week no	Practical	Theory
1-2	Familiarisation with the Institute, Documentation of Student, Issuance of Dress, Books, Hostel Accommodation (If required) and Store. Importance of trade training, Equipments used in the trade, types of work done by the trainees in the trade. Introduction to safety equipments and their uses. Introduction of first aid, Road safety, operation of Electrical mains. Knowledge of General Safety, Occupational health and hygiene.	HAZARD: Introduction to Hazard, Causes, Identification, Evaluation & Control of Hazard. HAZOP Analysis, Sources for Information on Hazard Evaluation
3	Site visit for Hazard identification and Evaluation Study of Risk at work site and preparation and initiation of reports.	RISK ANALYSIS: Definition of Risk, Risk Analysis, Introduction to Failure Mode & Effect Analysis (FMEA), Fault Tree Analysis (FTA), Event Tree Analysis (ETA).
4	Visit to accident prone area Practical usages of Safety belt helmets, gloves, and goggles	ACCIDENT : Definition of Accidents, Classification of Accidents, Need for the Analysis of Accidents, Methods Adopted for Reducing Accidents, Investigation of Accidents, Safety Slogans
5	Carry out the plant safety inspection with the help of check list. Visit to industrial unit and review of prevailing safety Practices	PREPARATION & ASSESSMENT OF SAFETY AUDIT : Introduction to Safety Checklist, Plant Safety Inspection, Safety Precautions adopted in the Plant, Safety Tag System, Safety Audit Report
6	Visit to industrial unit to observe prevailing safety provision, their condition, welfare measures include medical facilities, crèches and religious places.	SAFETY CONCEPT : Introduction to Safety Management, Safety Policy, Safety Committee, Safety Review, Responsibility of Management, Safety Officers Duties & Responsibilities, Safety Targets, Objectives, Standards, Practices and Performances. Motivation & Communication as part of Safety Programme.
7	Awareness about various compensations and Documentation	ILO CONVENTION : Introduction of ILO and Conventions

8-9	Display of explosives, their identification and marking as per explosives act. Hands on experience with Hand and power tools. Measurement of Heat, Illumination and Noise Demonstration and Determination of related electrical experiments	FACTORIES ACT 1948 (Amended) :- Health – Cleanness, Disposal of Waste , Ventilation and Temperatures, Dust & Fumes, Drinking Water, Lighting, Latrines & urinals. Safety - Fencing of machineries, Work on or near machinery in motion, Hoists and lifts, Pressure plants, Floors, Stairs and means of escape, Protection against fumes & gases, Safety offers. Welfare - Washing facilities in Dry clothing, Storing, Sitting, First Aid Appliances, Canteen, Shelters for rest & lunch, Crèches, Welfare offers, Right & Obligation of workers.
10	Visit to work shop and steel furniture houses to witness various processes during production and safety precaution adopted Visit to construction site to witness construction and safety precaution observed.	WELFARE & TRAINING: General Provision, Drinking Water, Sanitary & Washing, Cloakrooms, Facilities for Food & Drink, Shelters & Living Accommodation, Information & Training.
11	Construction Site Visit Practices of good House Keeping and Study of egress and safe access Construction Site Visit and identifying of causes of accident during material handling Construction Site Visit, Pitching of ladders, proper use of safety belt and preparation of work permit	ENVIRONMENT PROTECTION : Safety and Protection of existing environment, Principles & Practices in Prevention & Control of Pollution, Water Pollution, Introduction to Hazardous Waste Management.
12	Visit to excavation Site, identification and discussion with site engineer about safety precaution taken.	SOCIAL SECURITY LEGISLATION: Social Security Legislation, Introduction to Workman's Compensation Act, Contract Labour Regulation Act.
13	Demonstration of:- Various acids. Alkalis & Gases Organic flammable liquids and commonly used industrial chemical-	MISCELLANEOUS ACTS & RULES Explosives Act 1884 and Rules. General provision of Gas Cylinders Rules, The Building and other Construction Worker's Welfare Cess Act & Rules 1996. Environment Protection Legislation: Introduction to Prevention and Control of Pollution Act 1981 and 1982, Environment Protection Act 1986
14-15	Fire-fighting technique Drill I : Water CO2 Extinguisher Drill 9L	Basic Physics and Chemistry related to Fire - Definition of Matter and energy, Physical properties of matter like Density, specific

	Drill II :Chemical Foam Extinguishing 9 L Drill III : Mechanical Foam Extinguisher 9L Drill IV : Stored Pressure Water Extinguisher 9 L Drill V : Dry Chemical Powder 5 Kg Drill VI : Dry Chemical Powder 10 Kg Drill VII : ABC Extinguisher 5 Kg/ 10 Kg Drill VIII : CO2 Extinguisher 4.5 Kg	gravity, Relative density, Vapour density, Melting & Boiling point, flammable limits, latent heat, etc, Effects of density on behavior of gases, , Basics of oxidizing and reducing agents, Acids. Flammable liquids-classification and types of tanks, Dust and Explosion, Liquid and Gas Fires, LPG.
16-17	Drill I : Water CO2 Extinguisher Drill 9L Drill II :Chemical Foam Extinguishing 9 L Drill III : Mechanical Foam Extinguisher 9L Drill IV : Stored Pressure Water Extinguisher 9 L Drill V : Dry Chemical Powder 5 Kg Drill VI : Dry Chemical Powder 10 Kg Drill VII : ABC Extinguisher 5 Kg/ 10 Kg Drill VIII : CO2 Extinguisher 4.5 Kg	Anatomy of Fire: Definition of Combustion, Elements of Combustion, Products of Combustion, Heat of reaction and calorific value, Flash point, Fire point, Ignition temperature and spontaneous combustion.
18	Familiarization and demonstration of Hose and Hose fittings Drill – I : Hose pick up Drill Drill – II : Hose Running Drill with one hose Drill – III : Hose Running with two hose Drill – IV : Hose Running with Three hose	Classification of Fire & Extinguishers : Classification of Fire and types of extinguishers, maintenance, method of operation, Halon and its detrimental effect on environment. Alternatives of Halon.
19	Familiarization and demonstration of Water tender	HOSE & PUMPS, WATER TENDER : Fire Service Hose & Hose Fittings, Fixed Fire Fighting Installations Ropes & lines, Practical Firemanship, Small & Special Gears, Water Tender.
20	Water tender drill with close water. Drill I : L-2 Drill with ladder and water tender Drill II :Foam Drill with FBI0X single delivery Drill III : Foam Drill with FB5X single delivery Drill IV : Wet Drill with double delivery Drill V :Dry Drill with double delivery	HYDRANT, DETECTORS & LADDERS: Introduction to Hydrant & Hydrant Fittings, Water Supply requirements for fire fighting, Introductions to pump & Primers, Detectors & Ladders.
21	Familiarization and demonstration of Hydrant and its associated equipments. Hydrant Drill I : Opening of single line of three hoses. Hydrant Drill II : Change of burst hose Hydrant Drill III : Increase one length hose Hydrant Drill IV : Decrease one length hose Hydrant Drill V : Use of Collecting, breaching Hydrant Drill VI : Disconnect collecting breaching Hydrant Drill VII : Use of Dividing Breaching Hydrant Drill VIII : Disconnect of Dividing Breaching	BREATHING SETS: Classification of Respiratory Personal Protective Devices, Selection of Respiratory Personal Protective Devices, Instruction & Training in the use, Maintenance and Care of Self Containing Breathing Apparatus.

22	Familiarization and Demonstration of working detector Smoke Heat Flame detectors	RESUSCITATION & FIRST AID: Burns, Fractures, Toxic Ingestion, Bleeding, Wounds and Bandaging, Artificial Respiration, Techniques of Resuscitation.
23-24	Demonstration and familiarization of Extension Ladder Introduction of parts of extension ladder Rescue Operation from buildings. Drill I : Pitching of ladder Drill II : Climbing the ladder Drill III : Use leg Lock Drill IV : Ladder Drill with Fireman Lift Drill V : L2 Drill	PERSONAL PROTECTIVE EQUIPMENT : Need for Personal Protection Equipment, Selection, Use, Care & Maintenance of Respiratory and Non-respiratory Personal Protective Equipment, Non-respiratory Protective Devices- Head Protection, Ear Protection, Face and Eye Protection, Hand Protection, Foot Protection, Body Protection.
25	Project work / Industrial visit (optional)	
26	Examination	

SYLLABUS FOR THE TRADE OF "HEALTH SAFETY AND ENVIRONMENT" UNDER CTS.

Duration : Six months

Second Semester

Semester Code: HSE: SEM II

Week no	Practical	Theory
1-2	Familiarization and Demonstration of Parts of BA Set. Drill I : Donning, running and Rescue of casualty through tunnel. Hose Keeping facilities.	BASIC PHILOSOPHY OF SAFETY: Peculiarities & Parameters governing the safety in construction e.g. Site Planning, Layout, Safe Access / Egress.
3	Demonstration of health and environment effect through chart	CONSTRUCTION INDUSTRY: General safety precautions related to construction industry, Safety in the use of Construction Machinery.
4	Measurement of Noise, Heat and Illumination	INDUSTRIAL LIGHTING: Introduction to Lighting, Ventilation, Heat Stress, Cold Stress, Noise & Vibration.
5	Familiarization and study First Aid Box Stretcher Drill Fireman Lift Drill Use Bandage Standard drills on Ambulance	MATERIAL HANDLING: Safety related to Mechanical and Manual Material Handling, Lifting Appliances & Gear, Transport / Earthmoving & Material Handling Equipments – Cranes, Forklift Truck, Hoists, and Conveyors.
6	Techniques of CPR One Sitter Two Sitter Three Sitter Four Sitter	ELECTRICAL SAFETY: Electrical Hazards, Static Electricity.
7	Fireman lift CPR drill Choking Shaffer's Method Rescue drill Sylvester's Method	WORKING AT HEIGHT, CONFINED SPACE & COMPRESSED AIR: Safety precaution related to Scaffolds, Ladders, Work at height including Roof Work, Fall arrestors, Cofferdams, Confined Space, Work in Compressed Air. Introduction to Work Permit System

	Holgar Nielsen Method Eve Rocking Stretcher Method Emerson Method Mouth to Mouth Respiration.	
8-9	Demonstration and use of Helmet Face Shield BA Set Body Harness Gloves Safety Goggles Ear Protective Equipment (Ear muffs, Ear Plug Safety Shoes BA set, donning, running.	EXCAVATIONS, DEMOLITIONS & STRUCTURAL FRAMES: Safety related to Excavation, Demolitions Frame Work & Concrete Work, Pile Driving and Work over Water
10	Demonstration of prevailing condition in industry about Drinking Water Sanitary & Washing, Cloakrooms Facilities for Food & Drink Shelters & Living Accommodation	SAFETY IN MELTING, BOILERS: Hazards in process of melting (Furnaces), Casing, and Forging. Automatic Manufacturing Activity – Machining, Chipping, Grinding, Safety Precautions in use of Boilers.
11	Water Pollution Check	PRECAUTIONS IN PROCESSES: Precautions in processes and operations involving Explosive, Toxic Substances, Dusts, Gases, Vapour Clouds Formation and Combating, Workplace Exposure Limit, Control Measures.
12	Visit to Hazardous Waste Management System Site in Industry	SAFETY IN THE ENGINEERING INDUSTRY: Introduction to Machine Operations & Guarding, Safety in the use of Machines, Safety precautions while using Hand Tools & Power Tools, Selection, Maintenance & Care of Hand and power too
13	Familiarization with the Chemicals used in Industry	CHEMICALS & COLOUR CODES: UN & other classification of chemicals & colour coding, Safety in chemical industry.
14-15	Risk Analysis Exercise	CHEMICAL-COMPATIBILITY & TRANSPORTATION: Chemicals Compatibility considerations,

		Transportation of Chemicals, Toxic / Flammable / Explosive / Radioactive Substances by all modes – safety precautions, Use of material Safety Data Sheets.
16-17	Study of different MSDS to understand nature of toxics/ flammables/ explosives.	EMISSION & DISPERSION: Safety in case of Emissions and Dispersion, Liquid Discharge, Gas Discharge, Vapours – Liquids Discharge.
18	Adoption of safety practices during leakage of toxic gases.	HOUSE KEEPING & WASTE DISPOSAL: Introduction to Good House Keeping & Maintenance, Disposal of Waste Material
19	Visit to LPG/ CNG storage Site	BULK STORAGE: General Consideration, Types of Storage, Layout of storages with specific reference to LPG, CNG, Chlorine, Ammonia.
20-24	Preparation of Case study of Major Chemical Disasters	OCCUPATIONAL HAZARDS & DANGEROUS CHEMICALS: Introduction to Occupational Health Hazards & Dangerous Properties of Chemicals, Dust, Gases, Fumes, Mist, Vapours, Smoke and Aerosols, Concepts of Threshold Limit Values, Classification of Hazards CHEMICALS ACCIDENT PREVENTION & MAJOR CASE STUDIES: Major Industrial Accidents due to Chemicals (Bhopal Gas Tragedy) Emergency Planning, Major Industrial Disaster Case Studies.
25	Revision	
26	Examination	

TRADE: HEALTH SAFETY & ENVIRONMENT

LIST OF TOOLS & EQUIPMENTS

LIST OF TOOLS & EQUIPMENTS FOR 20 TRAINEES

S.No	NAME OF THE TOOLS & EQUIPMENTS			QUANTITY
1.	Water CO2 Type Fire Extinguisher (9 Ltrs)		*	06 nos
2.	Stored pressure Type Fire Extinguisher (9 Ltrs)	*		06 nos
3.	Chemical Foam type Fire Extinguisher (9Ltrs)	*		06 nos
4.	Mechanical Foam type Fire Extinguisher 9Ltrs	*		06 nos
5.	CO2 Type Fire Extinguisher (4.5 Kg)		*	06 nos
6.	BC Type Fire Extinguisher 5/10 Kg		*	04 nos
7.	ABC Type Fire Extinguisher 5/10 Kg		*	04 nos
8.	Extension Ladder (Size)45/35 ft	*		02 nos
9.	All types of Branches or Nozzles	*		04 nos
10.	Fire Hose	*		
	15m			10 nos
	30m			04 nos
11.	First Aid Box	*		02 nos
12.	All Types of small gears	*		1 Set
13.	BA Set (Negative & Positive Pressure)	*		02 nos
	Gas Cylinders			02 nos
	Steel Back Plates			02 nos
	Face Masks			02 nos
14.	Portable Fire Pump / TFP	*		02 nos
15.	All types of couplings	*		1 Set
16.	Hydrant-Stand Pipe Type	*		02 nos
17.	Fire Trays	*		02 nos
18.	Manual call point	*		01 nos
19.	Entry Suit/ Proximity Suit	*		02 nos
20.	Hose reel system	*		01 no
21.	Nitrogen Cylinder	*		01 no
22.	Hose Box	*		01 no
23.	Fire Fighting Point complete Set		*	01 no
24.	Section Hose 10 ft		*	02 nos
25.	Section Wrench		*	02 nos
26.	Metal Strainer		*	02 nos
27.	Basket Strainer		*	01 no
28.	Sprinkler		*	02 nos
29.	Ropes 100 ft Long		*	01 no
30.	Lines 100 ft Long		*	01 no
31.	Control Panel – Model		*	01 no
32.	Personal Protective Equipment			As required
33.	Helmet (Type A,B,C)			20 nos
34.	Laser Welding Safety Goggles			10 nos
35.	Face Shield			10 nos
36.	Welding Shield			10 nos
37.	Ear Muff			10 nos

38.	Ear Plug		10 nos
39.	Canal Caps		10 nos
40.	Safety Shoes		20 nos
41.	Asbestos Gloves		10 nos
42.	Electrical Hand Gloves		10 nos
43.	Hand Gloves (Rubber)		10 nos
44.	Dust Mask		10 nos
45.	Personal Protective Clothing for men		
	a) Safety Shirt		10 nos
	b) Safety Trouser		10 nos
	c) Safety Jacket		10 nos
	d) Cooling Vest		10 nos
	e) Gum Boots		10 nos
46.	Personal Fall Arrest System (PFAS)	*	02 nos
47.	Tripod	*	02 nos
48.	Pulley	*	02 nos
49.	Suspended Scaffold	*	02 nos
50.	Gas Detector	*	02 nos
51.	Plastic Tunnel (Sewer Rescue Drill)	*	04 nos
52.	Body Harness		01 no
53.	Collecting Breeching	*	02 nos
54.	Dividing Breeching	*	02 nos
55.	Hydrant Flange	*	02 nos
56.	Hydrant Key & Bar (With hydrant Spindle)	*	01 no
57.	Adopter for Air Store Pressure	*	02 nos
58.	Hydraulic Pressure Testing Machine	*	01 no
59.	Sprinklers Head (Bulb Type, Fusible Type)	*	02 nos
60.	Safety Belt		01 no
61.	Computer System	*	06 nos
62.	Computer Table	*	06 nos
63.	Computers Chairs	*	06 nos
64.	White Board	*	01 no
65.	L.C.D. Projectors	*	02 nos
66.	UPS 650 VA offline	*	06 nos
67.	All types of Detectors 1 Pcs. of each	*	04 nos
68.	Flux meter	*	06 nos
69.	Dosi meter	*	01 no
70.	Cut model of Fire Extinguisher	*	02 nos
71.	Fire Suit	*	02 nos
72.	Fire Tender (For the Institute)	*	01 no
73.	Rescue Van (For the Institute)	*	01 no

*Note :In the above list of tools and equipments, the items bearing star mark are meant to be used for three courses viz Health Safety and Environment, Fireman, Fire Technology and Industrial Safety Management. If a institute is running all the above mentioned trades , items bearing star mark are not required to be purchased separately .