



# **Model Curriculum**

### **Fire-fighter**

SECTOR: MANAGEMENT, ENTREPRENEURSHIP & PROFESSIONAL SKILLS SUB-SECTOR: Security OCCUPATION: Fire-fighting REF ID: MEP/Q7301, v1.0 NSQF LEVEL: 5











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# **Fire-fighter**

#### **CURRICULUM / SYLLABUS**

This program is aimed at training candidates for the job of a "<u>Fire-fighter</u>", in the "<u>Management,</u> <u>Entrepreneurship and Professional Skills</u>" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Fire-fighter		
Qualification Pack Name & Reference ID. ID	MEP/Q7301, v1.0		
Version No.	1.0	Version Update Date	06/04/2019
Pre-requisites to Training	<ul> <li>10th standard passed, 18 years old</li> <li>For Male (Minimum) - Height: 165 cm (Relaxable by 5 cms in the case of Garhwalis, Assamese Gorkha and member of the Schedule tribes); Chest: 81 cm Unexpanded and 86 cm Expanded (Fully expanded with minimum of 5 cm Expansion); Weight: min. 50 kgs.</li> <li>For Female (Minimum) - Height: 157 cm (Relaxable by 2.5 cm in the case of Garhwalis, Assamese Gorkha and member of the Scheduled tribes); Weight: Assamese Gorkha and member of the Scheduled tribes); Weight: 46 kgs.</li> <li>Medical Standard - a) Visual: Better eye - 6/6 (Eligible vision - 6/6 only ) Worse eye- 6/12; b) Colour Vision :- No colour blindness.; c) The candidate must not have knock-nee, flat feet, squint eyes and stammering. d) Must be in good mental and bodily health and free from any physical defect. (Source: National Fire Service College, Nagpur)</li> </ul>		
Training Outcomes	<ul> <li>Nagpur)</li> <li>After completing this programme, participants will be able to: <ul> <li>Identify type of fire and response required.</li> <li>Use portable extinguisher to put out small fires.</li> <li>Keep big fires under control till arrival of help and equipment.</li> <li>Identify types and construction of firefighting systems.</li> <li>Respond to fires, hazards and other emergencies.</li> <li>Operate various firefighting systems.</li> <li>Respond to the fire incidents using fire-fighting systems.</li> <li>Carry out rescue operation at an incident site.</li> <li>Administer medical first-aid to victims.</li> <li>Inspect installed fire safety equipment and systems for operational readiness.</li> <li>Maintain health and safety of self and others as a fire-fighter.</li> <li>Work effectively in a team as a fire-fighter.</li> </ul> </li> </ul>		





This course encompasses <u>7</u> out of <u>7</u> National Occupational Standards (NOS) of "<u>Fire-fighter</u>" Qualification Pack issued by "<u>Management, Entrepreneurship and Professional Skills Council</u>".

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Introduction Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 00:00 Corresponding NOS Code Duidee Medule	<ul> <li>Describe various types of organisations that employ fire-fighters.</li> <li>Describe the organisational structure and key responsibilities fulfilled by the roles in the organisation</li> <li>State the roles and responsibilities of a fire-fighter.</li> <li>List career progression options for a fire-fighter.</li> <li>List common training and development opportunities available to a fire-fighter.</li> </ul>	Training kit (Trainer guide, Presentations, LCD Projector, whiteboard, etc).
2	Bridge Module Intimation and assessment of on-site fire and hazards Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 25:00 Corresponding NOS Code MEP/N7301	<ul> <li>Describe fire procedures at the workplace of different kinds of organisations that hire fire-fighters. Fire procedures: watch room procedures, fire-prevention procedures, fire-fighting procedures, fire-drill procedures, writing of occurrence book, maintenance of documents (duty register, fire reports, logbooks, hose book, stock registers), etc.</li> <li>Identify layout of premises, critical assets, areas and hazards in the assigned premises, in discussion with stakeholders and superiors.</li> <li>Identify fire points, fire alarms, location of hydrants, etc. in the assigned premises.</li> <li>Describe various types of automatic fire detection cum alarm systems. Automatic fire detector, light/ flame detector, gas detectors, quartzoid bulb type and fusible type sprinkler head detector.</li> <li>Describe the operation of fire alarm panel board and area annunciation panel board.</li> <li>Monitor fire alarm systems by interpreting alarm indicators.</li> <li>Recognize fire intimation indication from various sources with alertness. Sources: Fire alarm system indicator, control room, any person who has information of the location and extent of fire, own observation</li> <li>Follow communication sequence and procedures as per protocol for fire intimation.</li> </ul>	Training Kit, Fire alarm system, Hydrants, Security control room kit, Automatic Fire Detection cum Alarm System (Smoke detector, Heat detector, Light/ Flame detector, Gas Detectors, Quartzoid bulb type and fusible type sprinkler head detector).







Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul> <li>State the duties to be performed on the way to the location of the fire, after being intimated about it.</li> <li>State the fundamentals of fire like fire triangle, basics of fire tetrahedron, dynamics of spread of fires, classification of fire, flammable and combustible liquids and gases, flash point, ignition temperature, auto ignition temperature, flammability range, explosive limits.</li> <li>State the common types of matter and their physical properties.</li> <li>State the basics of heat and combustion and other physical properties of matter, measurement of temperature and conversion of their scales.</li> <li>Describe the three methods of fire extinguishment, i.e. cooling, smothering and starvation.</li> <li>Identify various types of fires.</li> <li>Recognize level of fire and type of fire after conducting a preliminary assessment of different types of fires situations: Electrical fire, chemical fire, forest fires, gas based fires, arson fire, explosives fire, industrial fires, port fires, oil terminal fires, oil refinery fires, oil platform fires, LPG bottling plant fires, thermal power station fires,</li> <li>Identify other hazards to life and assets in the assigned area.</li> </ul>	
3	Selection of appropriate response and equipment Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 20:00 Corresponding NOS Code	<ul> <li>Explain the principles of extinguishing fire.</li> <li>Identify various types of fire extinguishers and their application.</li> <li>State how dry chemical application extinguishes fire.</li> <li>Identify suitability of fire extinguishers as per type of fire and fire situation.</li> <li>List common control operations, containment and confinement operations for small fires as well as fire incidents.</li> <li>Deliver information to authorized personnel about the exact situation as observed while following organizational protocol. Authorized personnel: Control room or supervisor or management</li> <li>Identify response to the fire as per the level and type of fire, hazard situation and</li> </ul>	Training kit, Various types of fire extinguishers.







Sr. No.	Module	Key Learning Outcomes	Equipment Required
4	Putting out small fires using portable	<ul> <li>Select equipment required for fire-fighting as per the type of response selected as well as availability.</li> <li>Seek approval from authorized personnel about the fire response suggestion as per organisational protocol.</li> <li>Gather equipment as per standard operating procedures for emergency response.</li> <li>Explain the meaning and purpose of first-aid fire-fighting.</li> </ul>	Training kit (Trainer guide, Presentations), Various types of fire
	using portable extinguishersTheory Duration (hh:mm) 20:00Practical Duration (hh:mm) 60:00Corresponding NOS Code MEP/N07302	<ul> <li>Describe the elements of fire control like ground cover fire components, vehicular fire components, flammable liquids fire components, flammable gases fire components.</li> <li>State the characteristics of first-aid fire-fighting equipment.</li> <li>Name the parts and components of first-aid fire-fighting equipment.</li> <li>Describe the process of fire extinguishment.</li> <li>Select suitable equipment for first-aid fire-fighting as per type of fire. First-aid fire-fighting equipment: portable fire-extinguishers, wet blankets, sand-bucket, etc.</li> <li>Extinguish small fires using suitable first-aid fire-fighting equipment.</li> <li>Demonstrate measures used to confine and control small fires.</li> <li>Ensure safety of self and others while fighting fires.</li> </ul>	extinguishers.
5	Controlling big fires till arrival of help Theory Duration (hh:mm) 30:00 Practical Duration (hh:mm) 80:00 Corresponding NOS Code MEP/N07302	<ul> <li>Report to supervisor about the incident.</li> <li>Describe watch room procedures and mobilization.</li> <li>Report fire details on call to control room or fire-brigade team.</li> <li>Raise alarm to personnel in the area using available means such as public address system, word of mouth, loudspeakers, etc.</li> <li>Describe the process of securing area of immediate emergency.</li> <li>Clear key assets, machinery and equipment from emergency area to where it is safe.</li> <li>Set up firefighting equipment available as per response selected.</li> <li>Take measures to contain and control a big fire using available fire-fighting equipment till arrival of help and equipment.</li> </ul>	Training kit (Trainer guide, Presentations), Public address system, firefighting equipment such as pumps, hose, various types of fire extinguishers.







Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Responding to the fire incidents using fire- fighting systems Theory Duration (hh:mm) 30:00 Practical Duration (hh:mm) 80:00 Corresponding NOS Code MEP/N7303	<ul> <li>Describe the role of water as an extinguishing agent and other extinguishing media.</li> <li>Describe the water supply and distribution system including direct pumping and gravity systems, main trunk, secondary and service lines.</li> <li>State various natural and manmade sources of water supply.</li> <li>Explain the impact of normal operating pressures, static pressures, floor pressures &amp; effective streams of water on water pipes.</li> <li>State function of hydraulics in water supply and distribution.</li> <li>State the units of measuring length, area and volume of regular and irregular shapes, pressure &amp; their conversion.</li> <li>Explain the principal characteristics of pressure and pressure head</li> <li>Calculate the capacity of tanks of different shapes &amp; sizes.</li> <li>Describe the various types of pump and primers used in fire services.</li> <li>Identify different types of hose, hose appliances, hose tools, connectors, breechings, nozzles and adapters used in fire service.</li> <li>Explain the role of foam as an extinguishing media, properties of foam and techniques of fire extinguishment by foam, foam making equipment.</li> <li>Describe the functioning of fixed firefighting systems such as hydrants, sprinklers, standpipe, deluge, fixed foam auto, semi-auto protection systems.</li> <li>Describe the use of various monitors used by fire fighters such as water monitors, self-aspirating foam monitors, portable ground monitors, elevated monitors, oscillating monitors.</li> <li>Identify fixed fire-fighting systems, foam making equipment and monitors.</li> <li>Identify fixed fire-fighting systems, foam making equipment and monitors.</li> <li>Identify procedure during fire-fighting.</li> <li>Perform rolling of hose in various methods as per standard procedure.</li> <li>Operate effective streams using hollow jet, spray, power jet, etc. as per the requirement of the fire situation.</li> </ul>	Training kit, Fire Extinguishers (Stored pressure Type Fire Extinguisher, Mechanical Foam type Fire Extinguisher, CO2 Type Extinguisher, BC Type Fire Extinguisher, ABC Type Fire Extinguisher); All types of Branches Or Nozzles; Fire Hose, Hose reel system, Nitrogen Cylinder, Hose Box, Suction Hose; Fire fighting Point complete set; Suction Wrench, Metal Strainer, Basket Strainer; All Types of small gears,; BA Set (Negative & Positive Pressure); Gas Cylinder; Steel Back plates; All types of Couplings; Hydrant- Stand Pipe Type; Fire Trays; Manual call point; Entry suit/Proximity Suit; Extension Ladder; Ropes 100 ft Long, Lines 100 ft Long, Lines 100 ft Long; Personal Protective Equipment; Personal Protective Clothing; Personal Fall Arrest System(PFAS); Tripod, Pulley, Suspended Scaffold; Plastic Tunnel(Sewer Rescue Drill); Body Harness, Collecting Breeching, Dividing Breeching(Hand control); Hydrant Key & Bar (with hydrant Spindle); Adapter for Air Store Pressure; Hydraulic Pressure Testing Machine; Sprinklers head; a water supply and distribution system; Fire alarm system; Security control room kit; Emergency rescue equipment; Body







Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul> <li>Operate manual, semi-automatic and automatic fire fighting systems as per the requirement of the fire situation while adhering to standard procedure.</li> <li>Operate nozzles and valves to control water as per as per the requirement of the fire situation.</li> <li>Operate non-hand controlled fire-fighting equipment.</li> <li>Describe safe evacuation procedures, evacuation of survivors and removal of bodies.</li> <li>List the duties after firefighting and salvage work.</li> <li>Ensure replacement/replenishment of fire equipment/material.</li> <li>Carry out salvage operation with safety considerations.</li> <li>Implement methods of protecting material goods.</li> <li>Ensure removal of damaged and deteriorated equipment and material.</li> </ul>	and respiratory protection gears (PPEs & SCBA); Pump and primers(Portable Fire Pump/TFP, Control Panel-Model-pump, centrifugal pumps, reciprocating primer and gas ejector primers); Manual, semi-automatic and automatic fire fighting systems; Standpipe; Deluge; Auto, semi-auto protection systems; Fire detector, systems; Fire detector, Heat detector, Light/ Flame detector, Gas Detectors, Quartzoid bulb type and fusible type sprinkler head detector);
7	Rescue operations Theory Duration (hh:mm) 30:00 Practical Duration (hh:mm) 60:00 Corresponding NOS Code MEP/N7304	<ul> <li>Perform fire drills.</li> <li>Describe various types of materials and their characteristics under fire conditions.</li> <li>State emergency scene safety measures and measures to be taken for various rescue situations.</li> <li>Describe the rescue procedures of trapped victims with low/ high probability of survival.</li> <li>Describe methods used to rescue trapped persons in high rise buildings, lifts, sewer, under vehicle, debris of collapsed building material and hazardous places.</li> <li>Obtain instructions about the rescue situation promptly and from reliable sources. Reliable sources: Control room, eyewitness, self-observation, etc.</li> <li>Assess the situation requiring rescue with respect to type of causality, number of people involved, criticality, condition of the area, etc.</li> <li>Identify the hazards associated with the situation.</li> <li>Plan rescue operation as per situation in line with standard operating procedures and instructions received.</li> <li>Ensure prompt communication to the relevant stakeholders.</li> <li>Select suitable rescue equipment for specific situations from the available rescue</li> </ul>	Training kit, Emergency rescue equipment, Body and respiratory protection gears (PPEs & SCBA). Hydraulic rescue tools like cutters, spreaders and rams; Mannequins for medical first responders







Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul> <li>Use cutting, lifting and other rescue equipment/tools as per standard operating procedure.</li> <li>Use body and respiratory protection gears (PPEs &amp; SCBA) as per standard operating procedure.</li> <li>Identify relevant characteristics of the overall premises and area.</li> <li>Analyse floor plan at each floor to identify important rescue and evacuation related information.</li> <li>Identify locations of assembly/muster points, escape exits, escape routes, etc.</li> <li>Interpret codes of various emergency alarms and signals.</li> <li>Apply rescue techniques as per standard operating procedures and organisational policies.</li> <li>Lower and lift self, equipment and casualities using ropes, lines and extension ladders.</li> <li>Deal with or avoid hazards and risks as per standard operating procedures and organisational policies.</li> <li>Assess situation to determine need for self evacuation or external assistance.</li> <li>Minimise risk of further injury to injured person, according to organisational policies and procedures.</li> <li>Carry out rescue on land, at heights and in water.</li> <li>Carry out rescue using fall protection equipment.</li> </ul>	
8	Administration of medical first aid Theory Duration (hh:mm) 15:00 Practical Duration (hh:mm) 30:00 Corresponding NOS Code MEP/N7304	<ul> <li>Describe different types of medical situations and related medical first-aid. Medical first-aid: Shock-sign and symptoms, asphyxia-sign and symptoms, wounds and haemorrhage, scalds and frost bites, heart attack, sprain; fractures and dislocation, snake bites, resuscitation.</li> <li>Evaluate surroundings and emergency situation correctly.</li> <li>Assess the condition of the casualty in order to identify medical emergencies and trauma conditions.</li> <li>Summarize contents usage of first aid box.</li> <li>Follow established process for clearing air way, breathing and circulation in the casualty with cardiac arrest.</li> <li>Give CPR and resuscitation (artificial respiration) as per established process.</li> <li>Administer first-aid as per medical standards.</li> </ul>	Training kit, First aid kit with all contents.







Sr. No. Module	Key Learning Outcomes	Equipment Required
9 Operational readiness of fire safety equipment and systems Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 35:00 Corresponding NOS Code MEP/N7305	<ul> <li>Identify parameters to be inspected to ensure operational readiness of fire safety equipment and systems.</li> <li>Conduct an inventory of fire safety equipment and systems in assigned area and tally with records.</li> <li>Inspect the condition of all fire safety equipment and systems. Condition: proper functioning, availability of consumables as per prescribed levels, cleanliness and properly maintained, proper storage, etc.</li> <li>Ensure proper functioning of fire safety equipment and systems by coordinating with maintenance team and procurement team. Coordinating: Promptly informing about the requirement in prescribed mode or format, following-up for timely resolution, providing full details about work to be done, checking for resolution, etc.</li> <li>Store safety equipment and systems at station level as per manufacturer's guidelines.</li> <li>Complete documentation for inventory, inspection and maintenance of fire safety equipment and systems in assigned area.</li> <li>Report tools and equipment deterioration and damages to superiors.</li> </ul>	Training kit, Fire Extinguishers (Stored pressure Type Fire Extinguisher, Mechanical Foam type Fire Extinguisher, CO2 Type Extinguisher, CO2 Type Fire Extinguisher, ABC Type Fire Extinguisher); All types of Branches Or Nozzles; Fire Hose, Hose reel system, Nitrogen Cylinder, Hose Box, Suction Hose; Fire fighting Point complete set; Suction Wrench, Metal Strainer, Basket Strainer; All Types of small gears,; BA Set (Negative & Positive Pressure); Gas Cylinder; Steel Back plates; All types of Couplings; Hydrant- Stand Pipe Type; Fire Trays; Manual call point; Entry suit/Proximity Suit; Extension Ladder; Ropes 100 ft Long, Lines 100 ft Long, Lines 100 ft Long; Personal Protective Equipment(Helmet(Type A,B,C), Laser Welding Safety Goggles, Face Shield, Face mask, Welding Shield, Ear Muff, Ear plug, Canal Caps, Safety Shoes, Asbestos Gloves, Hand Gloves(Rubber), Dust Mask); Personal Protective Clothing (Safety Shirt, Safety Trouser, Safety Jacket, Cooling Vest,Gum Boots, Safety Belt); Personal Fall Arrest System(PFAS); Tripod, Pulley, Suspended Scaffold; Plastic Tunnel(Sewer Rescue Drill); Body Harness, Collecting Breeching, Dividing







Sr. No.	Module	Key Learning Outcomes	Equipment Required
			Breeching(Hand control); Hydrant Key & Bar (with hydrant Spindle); Adapter for Air Store Pressure; Hydraulic Pressure Testing Machine; Sprinklers head; a water supply and distribution system; Fire alarm system; Security control room kit; Emergency rescue equipment; Body and respiratory protection gears (PPEs & SCBA); First aid kit with all contents; Pump and primers(Portable Fire Pump/TFP, Control Panel-Model-pump, centrifugal pumps, reciprocating primer and gas ejector primers); Manual, semi-automatic and automatic fire fighting systems; Standpipe; Deluge; Auto, semi-auto protection systems; Fire detector, Heat detector, Light/ Flame detector, Light/ Flame detector, Light/ Flame detector, Gas Detectors, Quartzoid bulb type and fusible type sprinkler head detector); Self- contained breathing apparatus (SCBA), Fire breathers, resuscitation apparatus; Exercise and lifting equipment; Flux Meter, Dosi Meter; Cut model of fire Extinguisher/Fire Pump, Fire Suit, Fire tender(One for the institute); Rescue Van (One for the Institute); Foam Making equipment(Foam Making Branches, Inline inductor,MFG-5,MFG- 10,Medium/High Ex.







Sr. No.	Module	Key Learning Outcomes	Equipment Required
			Generator), fixed foam; Salvage Equipment;
10	Work area safety Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 40:00 Corresponding NOS Code MEP/N7306	<ul> <li>Identify the various hazards and risks in the workplace. Hazards and Risks: Fire, electric short circuit; electric shock and electrocution, Medical emergency, Inflammable &amp; toxic liquid/ gases, accidents, flooding, oil and lubricant spills in the premises, malfunctioning elevators; escalators; staircase and ladders, ventilation and suffocation, improper use of safety gear and non-adherence to safety norms, hygiene and sanitation.</li> <li>List the leading causes of injuries.</li> <li>Describe the three factors that influence the equipment portion of the safety triad.</li> <li>Describe the three factors that influence the personnel portion of the safety triad.</li> <li>State the partners that work together to achieve self (fire fighter's) safety.</li> <li>Elaborate on the key components of the safety triad.</li> <li>Elaborate on the five components that make up the accident chain.</li> <li>Describe accident prevention measures.</li> <li>Explain formal and informal procedures of basic industrial safety management.</li> <li>State what is safety management and response plan.</li> <li>State what is disaster management and response plan.</li> <li>State the Personal Protective Equipment (PPE) types used in industry, their function and their maintenance.</li> <li>Describe the types, components, functions, use, testing and maintenance of self-contained breathing apparatus (SCBA).</li> <li>Identify various safety signages and warnings.</li> <li>Explain the importance of training and mock drills.</li> <li>Carry out tasks to ensure safety of workplace in line with organisational procedures and within limits of authority.</li> <li>Keep emergency and escape routes free from obstructions.</li> </ul>	Training kit, Personal Protective Equipment(Helmet(Type A,B,C), Laser Welding Safety Goggles, Face Shield, Face mask, Welding Shield, Ear Muff, Ear plug, Canal Caps, Safety Shoes, Asbestos Gloves, Hand Gloves(Rubber), Dust Mask); Personal Protective Clothing (Safety Shirt, Safety Trouser, Safety Jacket, Cooling Vest,Gum Boots, Safety Belt); Personal Fall Arrest System(PFAS);







Sr. No.	Module	Key Learning Outcomes	Equipment Required
11	Personal health and hygiene Theory Duration (hh:mm) 10:00 Practical Duration (hh:mm) 80:00 Corresponding NOS Code MEP/N7306	<ul> <li>Wear personal safety gear and clothing as per organisational procedure.</li> <li>Check violators of defined safety and security instructions and report violations.</li> <li>Report to superiors and emergency service organisations for assistance in the event of emergencies. Emergency Service Organizations: Security team and sub-unit; police and emergency services.</li> <li>Respond appropriately for life safety of self and others.</li> <li>Demonstrate safety steps in an emergency.</li> <li>Ensure self and other's safety keeping in view basic industrial safety management.</li> <li>Perform physical exercises and activities commensurate with age such as PT, parade, squad drills, saluting</li> <li>Maintain good personal hygiene and habits as per organisational and professional standards.</li> <li>Maintain own professional standards at work by avoiding alcohol, tobacco, drugs and other intoxicants.</li> <li>Follow good and safe practices of personal behaviour to guard against sexually transmitted diseases and HIV, etc.</li> <li>Maintain dietary control.</li> <li>Undertake medical and physical check-up.</li> <li>Perform proper lifting techniques.</li> <li>Explain the importance of sound health, hygiene and good habits.</li> <li>Explain the importance and requirements of maintaining physical fitness, personal hygiene and good habits.</li> </ul>	Training kit, exercise and lifting equipment.
12	Working	<ul> <li>State the ill-effects of alcohol, tobacco and drugs.</li> <li>State the need to safeguard against sexually transmitted diseases and HIV.</li> </ul>	Training kit Various
12	Working effectively Theory Duration (hh:mm) 22:00	<ul> <li>Participate with team members in mock fire and emergency drills.</li> <li>Follow established protocol for working in a team during emergency situations.</li> <li>Describe procedures and standards relating to conduct.</li> <li>State cultural diversity principles that must be adhered to at the workplace.</li> <li>Describe procedures and standards relating.</li> </ul>	Training kit, Various communication systems (Telephone, Radio communication set, Loudspeaker and microphone, etc.), Computers with internet facility.
	Practical Duration (hh:mm) 50:00	<ul> <li>Describe organisational standards relating to harassment and anti-discrimination.</li> <li>Describe the dress codes of various workplaces.</li> </ul>	







Sr. No. Module	Key Learning Outcomes	Equipment Required
Corresponding NOS Code MEP/N7307	<ul> <li>State the factors which can affect work performance.</li> <li>State potential effects of not meeting commitments.</li> <li>State information about licensing and certification requirements for driving vehicles and providing emergency care.</li> <li>State the implications of change in the workplace on own job such as introduction of new porcesses; introduction of new personnel; introduction of new technology including new communication systems; implementation of new work practices and services; building restructure, etc.</li> <li>State the implications of external change on the organisation such as at an international, national or state/territory level changes in society, changes to legislation, changes to organisational policies and procedures; community expectations; political changes.</li> <li>State various communication modes for diverse situations.</li> <li>Describe effective non-verbal communication processes.</li> <li>Describe effective verbal communication techniques.</li> <li>Describe group communication techniques.</li> <li>State the basic principles of participating in meetings.</li> <li>Apply written communication skills in writing work related reports, emails and notes.</li> <li>Use communications system correctly to facilitate transmission and reception. Communications equipment and techniques: Verbal communications and voice procedures, are selected to best meet the task, context and needs of the situation, etc.</li> <li>Operate equipment safely to support communications as per organisational policies and procedures.</li> <li>Inspect communications equipment to ensure operational readiness.</li> <li>Transmit and receive communications concisely and clearly to facilitate accurate reception of the message as per organisational policies and procedures.</li> </ul>	







Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul> <li>Relay instructions clearly, concisely and accurately to co-workers and obtain confirmation of understanding.</li> <li>Give and receive instructions concisely and clearly.</li> <li>Seek responses from other team members in a constructive way.</li> <li>Deliver responses to other team members in a constructive way.</li> <li>Follow organisational procedures and standards relating to conduct and dress code at the workplace.</li> <li>Raise alarm/ make announcement/ speak over phone/ radio clearly, coherently and calmly.</li> <li>Receive fire/ emergency calls with alertness and promptness.</li> <li>Give clear, coherent instructions to people in a calm manner.</li> <li>Instruct occupants of premises as per the plan.</li> <li>Guide municipal fire and emergency service personnel.</li> <li>Implement crowd control procedures as per organisational protocol.</li> <li>Identify organisational priorities and key assets that have to be kept in mind during an emergency situation by discussing with stakeholders and seniors.</li> <li>Take measures to reduce confusion, lower emotional stress and organise people as per instructions.</li> <li>Recognize signs of stress in self and others and take action to manage it.</li> <li>Describe conflict resolution strategies.</li> <li>Deal with conflict in a calm manner as per established protocol.</li> <li>Identify need for additional support as per work load and communicate it clearly to</li> </ul>	
	Total Duration Theory Duration	appropriate person. <b>Unique Equipment Required:</b> Training kit (Trainer guide, Presentations, LCD P etc.); Fire Extinguishers (Stored pressure Type F Mechanical Foam type Fire Extinguisher, CO2 Ty Time Fire Futigraviate APC Time Fire Futigravia	ire Extinguisher, /pe Extinguisher, BC
	240:00 Practical Duration 560:00	Type Fire Extinguisher, ABC Type Fire Extinguish Branches Or Nozzles; Fire Hose, Hose reel syste Hose Box, Suction Hose; Fire fighting Point comp Metal Strainer, Basket Strainer; All Types of smal (Negative & Positive Pressure); Gas Cylinder; Ste of Couplings; Hydrant-Stand Pipe Type; Fire Tray Entry suit/Proximity Suit; Extension Ladder; Rope ft Long; Personal Protective Equipment(Helmet(T Welding Safety Goggles, Face Shield, Face mask Muff, Ear plug, Canal Caps, Safety Shoes, Asbes	em, Nitrogen Cylinder, blete set; Suction Wrench, ll gears,; BA Set eel Back plates; All types ys; Manual call point; es 100 ft Long, Lines 100 Type A,B,C), Laser k, Welding Shield, Ear







Sr. No.	Module	Key Learning Outcomes	Equipment Required
		Gloves(Rubber), Dust Mask); Personal Protective Safety Trouser, Safety Jacket, Cooling Vest,Gum Personal Fall Arrest System(PFAS); Tripod, Pulle Plastic Tunnel(Sewer Rescue Drill); Body Harnes Dividing Breeching(Hand control); Hydrant Key & Spindle); Adapter for Air Store Pressure; Hydraul Machine; Sprinklers head; a water supply and dis alarm system; Security control room kit; Emerger Body and respiratory protection gears (PPEs & S contents; Pump and primers(Portable Fire Pump, Model-pump, centrifugal pumps, reciprocating pri primers); Manual, semi-automatic and automatic Standpipe; Deluge; Auto, semi-auto protection sy alarm systems(Smoke detector, Heat detector, Li Detectors, Quartzoid bulb type and fusible type s Self-contained breathing apparatus (SCBA), Fire apparatus; Exercise and lifting equipment; Cut m Extinguisher/Fire Pump, Fire Suit, Fire tender(On Rescue Van (One for the Institute); Foam Making Making Branches, Inline inductor,MFG-5,MFG-10 Generator), fixed foam; Salvage Equipment; Vari systems (Telephone, Radio communication set, F loudspeaker and microphone, etc.); Computers w tower for conducting search rescue and medical first responders; Land required for PT, pa	a Boots, Safety Belt); ey, Suspended Scaffold; es, Collecting Breeching, Bar (with hydrant ic Pressure Testing stribution system; Fire hcy rescue equipment; CBA); First aid kit with all (TFP, Control Panel- mer and gas ejector fire fighting systems; rstems; Fire detection and ght/ Flame detector); breathers, resuscitation odel of fire te for the institute); g equipment(Foam 0,Medium/High Ex. ous communication Public address system, rith internet facility; Drill first responders drills; d rams; Mannequins for

Grand Total Course Duration: **800 Hours, 0 Minutes** (*This syllabus/ curriculum has been approved by* <u>Management, Entrepreneurship and</u> <u>Professional Skills Council)</u>





### Trainer Prerequisites for Job role: "<u>Fire-fighter</u>" mapped to Qualification Pack: "<u>MEP/Q7301 v1.0</u>"

Sr. No.	Area	Details
1	Description	The Fire-fighter, also known as fireman, rescues and mitigates emergency and fire situations, by using appropriate fire-fighting equipments and safety devices. The Fire-fighter extinguishes fire, rescues trapped personnel and responds to various manmade and natural disasters.
2	Personal Attributes	The Fire-fighter should display courage, resilience and have healthy habits as well as have technical aptitude, commitment and proficiency in his duties. The role also requires effective communication skills. The Fire- fighter should also fulfil the following criteria: For Male (Minimum) - Height: 165 cm (Relaxable by 5 cms in the case of Garhwalis, Assamese Gorkha and member of the Schedule tribes); Chest: 81 cm Unexpanded and 86 cm Expanded (Fully expanded with minimum of 5 cm Expansion); Weight: min. 50 kgs. For Female (Minimum) - Height: 157 cm (Relaxable by 2.5 cm in the case of Garhwalis, Assamese Gorkha and member of the Scheduled tribes); Weight: 46 kgs. Medical Standard - a) Visual: Better eye - 6/6 (Eligible vision - 6/6 only) Worse eye- 6/12; b) Colour Vision:- No colour blindness.; c) The candidate must not have knock-nee, flat feet, squint eyes and stammering. d) Must be in good mental and bodily health and free from any physical defect.
3	Minimum Educational Qualifications	Graduate
4a	Domain Certification	Certified for Job Role: <u>"Fire-fighter</u> " mapped to QP: " <u>MEP/ Q7301, v1.0</u> ". Minimum accepted score is 80%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: " <u>Trainer</u> ", mapped to the Qualification Pack: " <u>MEP/ Q2601</u> ". Minimum accepted as per respective SSC guidelines is 80%.
5	Experience	NA





Assessment Criteria

#### Criteria For Assessment Of Trainees

Job Role: Fire-fighter

Qualification Pack: MEP/Q7301

Sector Skill Council: Management & Entrepreneurship and Professional Skills Council

#### **Guidelines for Assessment:**

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory

and Skills Practical for each PC.

The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
 Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below.)

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS. 6. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Total Marks: 1	Total Marks: 1000 Compulsory NOS			Marks Allocation			
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out of	Theory	Practical		
MEP/N7301 Identify type of fire and	PC1. identify layout of premises, critical assets, areas and hazards in the assigned area in discussion with stakeholders and superiors	150	10	4	6		
response required	PC2. identify fire points, fire alarms, location of hydrants, etc. in the assigned area	-	10	4	6		
	PC3. monitor fire alarm systems and interpret alarm indicators		10	4	6		
	PC4. recognize fire intimation indication from various sources with alertness		10	4	6		
	PC5. follow communication sequence and procedures as per protocol for fire intimation		11	4	7		
	PC6. assess and decide level of fire and hazardous situation		12	5	7		
	PC7. identify the type of fire		12	5	7		
	PC8. identify fire associated hazards in the assigned area		11	4	7		





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	PC9. identify other hazards to life and assets in				
	the assigned area		10	4	6
	PC10. inform authorized personnel the about the exact situation as observed while following organizational protocol		10	4	6
	PC11. identify response to the fire as per the level and type of fire and hazard situation		12	5	7
	PC12. identify equipment required for fire-fighting as per the type of response selected as well as availability		12	5	7
	PC13. inform authorized personnel about the fire response suggestion as per organisational				
	protocol PC14. mobilise resources as per procedures for emergency response		10 10	4	6
		Total			90
MEP/N7302	PC1. select a suitable equipment for first-aid fire-	200	150	00	90
Carry out first-aid fire	fighting as per type of fire	200	19	5	14
fighting using	PC2. extinguish small fires using suitable first-aid fire-fighting equipment PC3. take measures to confine and control small		19	5	14
portable extinguishers	fire PC4. ensure safety of self and others while		19	5	14
	fighting fires PC5. debrief and report to supervisor about the		19	5	14
	incident		18	5	13
	PC6. report fire details on call to control room or fire-brigade team		15	5	10
	PC7. raise alarm to personnel in the area using available means such as public address system,				
	word of mouth, loudspeakers, etc.		15	5	10
	PC8. secure area of immediate emergency		19	5	14
	PC9. remove machinery and equipment from area where safe to do so		19	5	14
	PC10. select and set up firefighting equipment available as per response selected Setup: placing of pumps, layout of hose, identify				
	methods of entry, etc.		19	5	14
	PC11. take measures to contain and control a big fire using available fire-fighting equipment till		40	F	
	arrival of help and equipment	Tatal	19	5	14
MEP/N7303	PC1 identify different types of base base	Total	200	55	145
Respond to	PC1. identify different types of hose, hose appliances, hose tools, connectors, breechings,	200			
the fire	nozzles and adapters		8	3	5
incidents	PC2. locate water supply, distribution system,	]			
using fire-	hydraulics and pumps & primers		7	2	5
fighting systems	PC3. identify fixed fire-fighting systems, foam making equipment and monitors		8	3	5
	PC4. identify automatic fire detection and alarm systems		8	3	5
	PC5. use proper personal protective equipment (PPE) as per the incident		8	3	5





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1	PC6. locate the place of fire	1	7	2	5
	PC7. decide entry point and method of entry		8	3	5
	PC8. assess hazards and precautions to be		0	3	5
	taken while working in the prevailing smoky and				
	dark conditions		8	3	5
	PC9. select proper fire extinguishment	-			
	appliances as per the fire type and environment		8	3	5
	PC10. place pumps and lay hoses as per				
	standard procedure	-	8	3	5
	PC11. carry out firefighting following all				
	necessary precautions and mandatory		•		0
	procedures	-	9	3	6
	PC12. search premises and rescue people				
	following all necessary precautions and mandatory procedures		8	3	5
	PC13. operate hoses and hand lines effectively	-	0	5	5
	during fire-fighting		9	3	6
	PC14. lift the hose, lower the hose and perform	1			
	under running with the hose as per standard				
	procedure		9	3	6
	PC15. perform rolling of hose in various fashion				
	as per standard procedure	-	9	3	6
	PC16. operate effective streams		8	3	5
	PC17. use hollow jet, spray, power jet, etc. as				
	per the requirement of the fire situation	-	8	3	5
	PC18. operate manual, semi-automatic and				
	automatic fire fighting systems as per the				
	requirement of the fire situation while adhering to standard procedure		9	3	6
	PC19. operate nozzles and valves to control	-	9	5	0
	water as per as per the requirement of the fire				
	situation		9	3	6
	PC20. operate hand controlled and non-hand		_	-	
	controlled fire fighting equipment		9	3	6
	PC21. carry out salvage operation with safety				
	considerations	1	7	2	5
	PC22. stop water from sprinkler heads and		_		
	remove water	-	7	2	5
	PC23. implement methods of protecting material		7	2	5
	goods PC24. remove damaged and deteriorated	1	- 1	2	5
	equipment and material		7	2	5
	PC25. replace/replenish fire equipment/material	1	7	2	5
		t			
		Total	200		1.5.0
MFP/N7304	PC1 identify location of the injured and	Total	200	68	132
MEP/N7304 Carry out	PC1. identify location of the injured and causalities	Total 150			
MEP/N7304 Carry out rescue	PC1. identify location of the injured and causalities PC2. obtain information about the situation		<b>200</b> 5	<b>68</b> 2	<b>132</b> 3
Carry out	causalities				
Carry out rescue operation and	causalities PC2. obtain information about the situation promptly and from reliable sources PC3. identify and assess the situation requiring		5	2	3
Carry out rescue operation and administer	causalities PC2. obtain information about the situation promptly and from reliable sources PC3. identify and assess the situation requiring rescue with respect to type of causality, number		5	2	3
Carry out rescue operation and administer medical first-	causalities PC2. obtain information about the situation promptly and from reliable sources PC3. identify and assess the situation requiring rescue with respect to type of causality, number of people involved, criticality, condition of the		5	2	3
Carry out rescue operation and administer	causalities PC2. obtain information about the situation promptly and from reliable sources PC3. identify and assess the situation requiring rescue with respect to type of causality, number of people involved, criticality, condition of the area, etc.		5	2	3
Carry out rescue operation and administer medical first-	causalities PC2. obtain information about the situation promptly and from reliable sources PC3. identify and assess the situation requiring rescue with respect to type of causality, number of people involved, criticality, condition of the area, etc. PC4. identify and assess the hazards associated		5	2 2 2	3 3 4
Carry out rescue operation and administer medical first-	causalities PC2. obtain information about the situation promptly and from reliable sources PC3. identify and assess the situation requiring rescue with respect to type of causality, number of people involved, criticality, condition of the area, etc.		5	2	3





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PC6. communicate to the relevant stakeholders		4	1	3
PC7. identify available rescue equipment at the	F			-
assigned premises		5	2	3
PC8. identify suitable rescue equipment for	F			
specific situations		5	2	3
PC9. use and operate cutting, lifting and other	Ē			
rescue equipment/tools as per standard				
operating procedure		5	2	3
PC10. use body and respiratory protection gears	-			
(PPEs & SCBA) as per standard operating				
procedure		5	2	3
PC11. identify relevant characteristics of the	Ē			
overall premises and area		4	1	3
PC12. analyse floor plan at each floor to identify	_			
important rescue and evacuation related				
information		5	2	3
PC13. identify locations of assembly/muster	-			
points		4	1	3
PC14. locate escape route	F	4		3
-	_	4	1	3
PC15. interpret notification and evacuation		_	0	0
system	-	5	2	3
PC16. interpret codes of various emergency		-	0	0
alarms and signals	_	5	2	3
PC17. apply rescue techniques as per relevant				
legislation and organisational policies and		•		
procedures.	_	6	2	4
PC18. Negotiate or avoid hazards and risks				
safely according to relevant legislation and		_	_	_
organisational policies and procedures	_	5	2	3
PC19. assess situation to determine need for				
self-evacuation or external assistance.		5	2	3
PC20. minimise risk of further injury to injured				
person, according to organisational policies and				
procedures		6	3	3
PC21. carry out rescue on land, at heights and in				
water		6	3	3
PC22. carry out rescue using rope and allied	Γ			
accessories and fall protection equipment		6	2	4
PC23. evaluate surroundings and situation	Γ			
correctly		5	2	3
PC24. assess the condition of the casualty and	F			
identify medical emergencies and trauma				
conditions		6	3	3
PC25. summarize contents usage of first aid box	Γ	5	2	3
PC26. assess air way, breathing and circulation	F	<u> </u>	-	L Ŭ
in the casualty		6	3	3
PC27. give CPR and resuscitation (artificial	F	0	0	<u> </u>
respiration)		6	2	4
PC28. administer first-aid as per medical	F	0	2	
standards		6	2	4
PC29. call for professional medical help where	F	U	2	4
		4	1	3
own competence is not adequate			-	
	Total	150	57	93





सत्यमेव जयते VERNMENT OF INDIA Y OF SKILL DEVELOPMENT



MEP/N7305 Inspect	PC1. identify the parts and components of the first-aid fire-fighting equipment available and	130			
installed fire	their parts and components		7	2	5
safety equipment and systems	PC2. identify different types of hose, hose appliances, hose tools, connectors, breechings,	-			
for operational	nozzles and adapters PC3. identify different types of ladders and their use	-	8	3	5
readiness	PC4. identify different tools and special gears used by Fire-fighter				
	PC5. interpret working of fire and foam tenders		8 7	3	5
	PC6. Identify location of water supply, distribution system, hydraulics and pumps &				
	primers		7	2	5
	PC7. identify fixed fire-fighting systems, foam making equipment and monitors		8	3	5
	PC8. identify automatic fire detection and alarm systems	_	7	2	5
	PC9. obtain list of and access to fire safety equipment and systems allocated to assigned area		7	3	4
	PC10. identify parameters to be inspected to ensure operational readiness of fire safety equipment and systems		7	4	3
	PC11. conduct an inventory of fire safety equipment and systems in assigned area and tally with records		7	2	5
	PC12. inspect the condition of all fire safety equipment and systems		8	3	5
	PC13. ensure proper functioning of fire safety equipment and systems by coordinating with maintenance team and procurement team		7	2	5
	PC14. store safety equipment and systems at station level as per manufacturer's guidelines		7	2	5
	PC15. complete documentation for inventory, inspection and maintenance of fire safety				
	equipment and systems in assigned area PC16. report tools and equipment deterioration and damages to superiors	-	7	2	5
	PC17. discard tools and equipment at or before their service life	1	7	2	5
	PC18. prepare testing schedule and testing report	1	7	3	4
		Total	130	46	84
MEP/N7306 Maintain	PC1. identify and report risks and hazards at the workplace	100	5	2	3
health and safety of self and others as	PC2. carry out tasks to ensure safety of workplace in line with organisational procedures and within limits of authority	-	6	2	4
a fire-fighter	PC3. keep emergency and escape routes free from obstructions	1	5	2	3
	PC4. report violation to appropriate authority in a timely manner where violation is not addressable	-			
	within limits of own authority,		6	2	4





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	PC5. wear personal safety gear and clothing as		4	1	3
	per organisational procedure		4	<u>_</u>	3
	PC6. check violators of defined safety and		6	2	4
	security instructions and report violations PC7. report to superiors and emergency service		0		4
	organisations for assistance in the event of emergencies		4	1	3
	PC8. assess and respond for life safety of self and others		6	2	4
	PC9. practice safety steps in an emergency		6	2	4
	PC10. use body protection and respiratory protection gear		6	2	4
	PC11. ensure self and other's safety keeping in		0		4
	view basic industrial safety management	-	6	2	4
	PC12. perform physical exercises and activities (commensurate with age) regularly	-	5	1	4
	PC13. maintain good personal hygiene and habits as per organisational and professional standards		6	2	4
	PC14. maintain own professional standards at work by avoiding alcohol, tobacco, drugs and				
	other intoxicants		6	2	4
	PC15. follow good and safe practices of personal behaviour to guard against sexually transmitted diseases and HIV, etc.		6	2	4
	PC16. maintain dietary control		6	2	4
	PC17. undergo regular medical and physical				
	check-up		6	2	4
	PC18. practice proper lifting techniques		5	1	4
		Total	100	32	68
MEP/N7307 Work	PC1. ensure instructions received are clearly understood, acknowledged and implemented	70	3	1	2
effectively as a fire-fighter	PC2. relay instructions clearly, concisely and accurately to co-workers and obtain confirmation		2	1	2
	of understanding PC3. identify organisational priorities and key assets that have to be kept in mind during an emergency situation by discussing with		3	1	2
	stakeholders and seniors		3	1	2
	PC4. identify need for additional support as per work load and communicate it clearly to appropriate person		3	1	2
	PC5. participate with team members in mock fire and emergency drills	-	4	1	3
	PC6. follow established protocol for working in a	1	4	1	3
	team during emergency situations PC7. identify signs of stress in self and team	-			
	members and take action to manage it PC8. give and receive instructions concisely and	-	3	1	2
	clearly PC9. seek and provide responses from and to,	-	3	1	2
	other team members in a constructive way PC10. follow organisational procedures and	-	3	1	2
	standards relating to conduct and dress code at	1	1	1	1





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PC11. raise alarm/ make announcement/ speak				
over phone/ radio clearly, coherently and calmly		4	1	3
PC12. receive fire/ emergency calls with				
alertness and promptness		3	1	2
PC13. give clear, coherant instructions to people				
in a calm manner		3	1	2
PC14. instruct and guide occupants of premises				
as per the plan		3	1	2
PC15. guide municipal fire and emergency				
service personnel		3	1	2
PC16. implement crowd control procedures as				
per organisational protocol		3	1	2
PC17. take measures to reduce confusion, lower				
emotional stress and organise people as per				
instructions		3	1	2
PC18. deal with conflict in a calm manner as per				
established protocol		3	1	2
PC19. use communications system correctly to				
facilitate transmission and reception		3	1	2
PC20. operate equipments safely to support				
communications as per organisational policies				
and procedures		4	2	2
PC21. inspect communications equipment to				
ensure operational readiness		3	1	2
PC22. transmit and receive communications				
concisely and clearly to facilitate accurate				
reception of the message as per organisational				
policies and procedures		3	1	2
	Total	70	23	47