



## MODEL CURRICULUM

QP Name : Fire Safety Officer

QP Code : SSD/Q1101

QP Version : 1.0

NSQF Level : 5

Model Curriculum Version : 1.0

**SAFETY SKILL DEVELOPMENT FOUNDATION**

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## Training Parameters

<b>Sectors</b>	Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemical & Petrochemical, and others.
<b>Sub-Sector</b>	-
<b>Occupation</b>	Fire Safety Engineering & Management
<b>Country</b>	India
<b>NSQF Level</b>	5
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/2141.2600 : Occupational Health and Safety Specialist.
<b>Minimum Educational Qualification and Experience</b>	Completed 4-year UG with science with 1 year of relevant experience or Completed 3-year UG with science with 2 year of relevant experience or Completed 3 year diploma after 10th with 3 year of relevant experience or Completed 2 year NTC after 10th with 4 year of relevant experience or Previous relevant qualification of NSQF level 4.5 with 1.5 years of relevant experience or Previous relevant qualification of NSQF level 4 with 3 years of relevant experience
<b>Pre-Requisite License or Training</b>	Nil
<b>Minimum Job Entry Age</b>	18 years
<b>Last Reviewed On</b>	27-08-2024
<b>Next Review Date</b>	27-08-2027
<b>Version</b>	1.0
<b>NSQC Approval Date</b>	27-08-2024
<b>Model Curriculum Creation Date</b>	27-08-2024
<b>Model Curriculum Valid Up to Date</b>	27-08-2027
<b>Model Curriculum Version</b>	1.0
<b>Minimum Duration of the Course</b>	600 Hours
<b>Maximum Duration of the Course</b>	600 Hours



## Program Overview

This section summarizes the end objectives of the program along with its duration.

### Training Outcomes

After completing the program, the participant will be able to:-

- Identify fire hazards at the workplace.
- Distinguish between different classes of fire.
- Understand flammable & combustible materials.
- Develop systematic approach in identifying and correcting probability of fire accidents and measure to minimize probability of fire accident.
- Perform Hazard and Operability Analysis (HAZOP), Fault Tree analysis & Event Tree Analysis, Failure modes and effect analysis, job safety analysis.
- Perform Hazard Identification and Risk Assessment (HIRA).
- Take preventive measures against fire hazard, decide fire extinguisher technique to be used.
- Understand fire safety equipment & its suitability, deployment of fire extinguishers and train people to use the fire extinguishers.
- Understand use of fire alarms & new technology.
- Learn PPEs used in fire-fighting.
- Emergencies & rescue plan, firefighting plan, evacuation plan.
- Planning of resources, communication, support, coordinating with co-workers and monitoring.
- Setting up emergency protocols and implementing them at working places to minimize the loss in case of any incident or accident.

## Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>SSD/N1101 v 1.0 : Understanding of Fire Accidents.</b>	<b>60:00 Hours</b>	<b>45:00 Hours</b>	<b>15:00 Hours</b>	<b>00:00 Hours</b>	<b>120:00 Hours</b>
Module 1: Introduction to Training Program, Overview, assessments, role of Fire Safety Officer, employment opportunities in Industries.	04:00 Hours	00:00 Hours	00:00 Hours	00:00 Hours	04:00 Hours
Module 2: Identify fire hazard at workplace, understand different classes of fire hazard, suggest firefighting methods to the management for office, industries, evacuations, and fire drills.	56:00 Hours	45:00 Hours	15:00 Hours	00:00 Hours	116:00 Hours
<b>SSD/N1102 v 1.0 : Accident Prevention Methodologies.</b>	<b>30:00 Hours</b>	<b>15:00 Hours</b>	<b>15:00 Hours</b>	<b>00:00 Hours</b>	<b>60:00 Hours</b>
Module 3: Learn to perform Hazard and Operability Analysis (HAZOP), Fault tree analysis, Event tree analysis, failure modes and effect analysis, Job safety analysis and perform Hazard Identification and Risk Assessment (HIRA).	30:00 Hours	15:00 Hours	15:00 Hours	00:00 Hours	60:00 Hours
<b>SSD/N1103 v 1.0: Fire Prevention, Fire Extinguishing Technique &amp; Fire Extinguisher.</b>	<b>45:00 Hours</b>	<b>30:00 Hours</b>	<b>15:00 Hours</b>	<b>00:00 Hours</b>	<b>90:00 Hours</b>
Module 4: Fire hazard areas, identification, steps for fire prevention, suitable fire extinguishing techniques and deployment of fire extinguisher.	5:00 Hours	30:00 Hours	15:00 Hours	00:00 Hours	90:00 Hours
<b>SSS/N1104 v 1.0: Fire safety equipment, Fire alarms &amp; PPE.</b>	<b>45:00 Hours</b>	<b>30:00 Hours</b>	<b>15:00 Hours</b>	<b>00:00 Hours</b>	<b>90:00 Hours</b>
Module 5: Fire safety equipments, fire alarms, fire hydrants, sprinklers and pressure requirements in fire hydrants, strategic places for deployment, new	45:00 Hours	30:00 Hours	15:00 Hours	00:00 Hours	90:00 Hours



technologies in fire-fighting and personal protective equipments required in fire-fighting.					
<b>SSD/N1105 v 1.0: Emergencies, Rescue, Firefighting &amp; Fire Evacuation Plan.</b>	<b>60:00 Hours</b>	<b>40:00 Hours</b>	<b>20:00 Hours</b>	<b>00:00 Hours</b>	<b>120:00 Hours</b>
Module 6: Fire emergencies, rescue plan, firefighting plans, firefighting drills, safe evacuation plan and evacuation drills in case of fire accident.	60:00 Hours	40:00 Hours	20:00 Hours	00:00 Hours	120:00 Hours
<b>SSD/N1106 v 1.0 : Plan &amp; Organize Fire Emergency protocols</b>	<b>30:00 Hours</b>	<b>20:00 Hours</b>	<b>10:00 Hours</b>	<b>00:00 Hours</b>	<b>60:00 Hours</b>
Module 7: Planning and organizing to provide a safe working environment for workers and set emergency protocols and measure in case of any unforeseen and incidents or accidents to minimize the damages & losses.	30:00 Hours	20:00 Hours	10:00 Hours	00:00 Hours	60:00 Hours
<b>DGT/VSQ/N0102: Employability Skills</b>	<b>30:00 Hours</b>	<b>30:00 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>60:00 Hours</b>
Module 8: Understand scope in employment, financial dealing, digital literacy and communication with employer or customer.	30:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
<b>Total Duration</b>	<b>300:00 Hours</b>	<b>210:00 Hours</b>	<b>90:00 Hours</b>	<b>00:00 Hours</b>	<b>600:00 Hours</b>

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# Module Details

## Module 1: Introduction to Training Program, Overview, assessments, role of Fire Safety Officer, employment opportunities in Industries. Mapped to SSD/N1101, v1.0

### Terminal Outcomes:

- Discuss role of Fire Safety Officer, sectors & industries.
- Employment opportunities, career development & International opportunities.
- Course approach, duration, training & assessment processes.

<b>Duration:</b> 04:00	<b>Duration:</b> 00:00
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Role &amp; responsibilities of Fire Safety Officer.</li> <li>• Career progression in the occupation.</li> <li>• Industries for Employment &amp; international opportunities for employment.</li> <li>• Training approach &amp; methodology.</li> <li>• Assessment process &amp; Certification.</li> <li>• The assistance provided by AB/TP/LMIS in employment.</li> </ul>	
<b>Classroom Aids:</b>	
Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator’s Guide, Participant’s Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
Nil	



**Module 2: Identify fire hazard at workplace, understand different classes of fire hazard, suggest firefighting methods to the management for office, industries, evacuations, and fire drills.**  
Mapped to SSD/N1101, v1.0

**Terminal Outcomes:**

- Identifying fire hazards at the workplace.
- Distinguish between different classes of fire.
- Flammable & combustible materials.
- Development of systematic approach in identifying and correcting probability of fire accidents and measure to minimize probability of fire accident.

<b>Duration: 56 Hours</b>	<b>Duration: 45 Hours</b>
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Basic definitions- Flammable materials solids/ liquids/gasses , combustible matters solids/liquids/gasses, electrical fire.</li><li>● Exothermic and endothermic reactions, oxygen percentage in air, flash point, fire point.</li><li>● Sources of fire hazards, sources for fueling fire and sources for igniting fire.</li><li>● Fire triangle and classification of fire.</li><li>● Common reasons for fire accidents and materials &amp; surroundings assisting spread of fire.</li><li>● Transmission of fire, heat transfer by conduction, convection, and radiation.</li><li>● The four development stages fire- incipient, growth, fully developed and decay.</li><li>● Causes of start of fire, probable heat point of fire spark areas.</li></ul>	<ul style="list-style-type: none"><li>● Identify fire hazards, flammable &amp; combustible materials.</li><li>● Explain exothermic and endothermic reactions, oxygen percentage in air, flash point, fire point.</li><li>● Develop systematic approach in identifying probability of fire accidents.</li><li>● Identify &amp; make presentations on common reasons for fire accidents, materials &amp; surroundings assisting spread of fire.</li><li>● Identify causes of start of fire, probable heat point of fire spark areas</li><li>● Explain transmission of fire, heat transfer by conduction, convection, radiation.</li><li>● Make a presentation on development stages of fire- incipient, growth, fully developed and decay.</li></ul>
<b>Classroom Aids:</b>	



Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator’s Guide, Participant’s Handbook.

**Tools, Equipment and Other Requirements**

Fire safety equipment, Water fire extinguisher, Stored pressure type fire extinguisher, Chemical foam type fire extinguisher, Mechanical foam type fire extinguisher, CO2 type fire extinguisher, BC type , ABC type, Extension ladder; All types of branches and Nozzles, Fire hoses, First aid box, All types of small gears, Breathing apparatus (Negative and Positive), Gas cylinders, Steel back plates, Face mask, Portable fire pump/TFP, All types of coupling; Hydrant –Stand pipe type; , Fire trays; , Manual call point; , Entry suit / Proximity suit; Hose reel system; Hose box, Suction hose; Suction wrench Metal strainer; Ropes 100 ft.; PPE; Cooling vest; Gum boost.

**Module 3: Learn to perform Hazard and Operability Analysis (HAZOP), Fault tree analysis, Event tree analysis, failure modes and effect analysis, Job safety analysis and perform Hazard Identification and Risk Assessment (HIRA).**

**Mapped to SSD/N1102, v1.0**

**Terminal Outcomes:**

- Perform Hazard and Operability Analysis (HAZOP).
- Fault Tree analysis & Event Tree Analysis.
- Failure modes and effect analysis.
- Job Safety Analysis.
- Perform Hazard Identification and Risk Assessment (HIRA).

<b>Duration: 30 Hours</b>	<b>Duration: 15 Hours</b>
<p><b>Theory–Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>● Introduction to basic safety terminologies- incident, accident, Injury, lost time injury, unsafe condition, unsafe Acts, dangerous occurrences, hazards, error, near miss.</li> <li>● Theories of accident causation- Heinrich’s Domino theory, "Heinrich 300-29-1 model", "Ferrell’s Human Factor Model", "Petersen’s Accident/Incident Model" and Reason’s Swiss Cheese Model".</li> <li>● Introduction to calculations: "Frequency rate &amp; Incident rate," "Lost time case rate," "DART rate," "Severity rate", "Fault tree analysis" and "Event tree analysis.</li> </ul>	<p><b>Practical–Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>● Perform Hazard and Operability Analysis (HAZOP).</li> <li>● Perform Tree analysis &amp; Event Tree Analysis</li> <li>● Carry out Job Safety Analysis.</li> <li>● Perform Hazard Identification and Risk Assessment (HIRA)</li> <li>● Examine the scene and gather information to establish the origin, cause and circumstances of an incident</li> <li>● Perform a real-time risk evaluation and grant access to individuals once the area has been deemed secure.</li> </ul>



- Introduction to accident prevention techniques: -“HAZOP- Hazard, operability analysis,” “Job safety analysis” and “Hazard Identification and risk assessment.” Learn how to evaluate chances of failure in a system.
- Introduction to hierarchy of controls, Importance of hierarchy of control & steps in hierarchy of control.
- Introduction to motivational theories: Maslow’s theory of Hierarchical Needs, Herzberg’s two-factor theory, McClelland’s theory of needs, Vroom’s Theory of Expectancy, McGregor’s theory X and theory Y and Alderfer’s ERG theory.
- Examine the scene and gather information to establish the origin, cause and circumstances of an incident.
- Perform a real-time risk evaluation and grant access to individuals once the area has been deemed secure.

**Classroom Aids:**

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.

**Tools, Equipment and Other Requirements**

Fire safety equipment, Water fire extinguisher, Stored pressure type fire extinguisher, Chemical foam type fire extinguisher, Mechanical foam type fire extinguisher, CO2 type fire extinguisher, BC type , ABC type, Extension ladder; All types of branches and Nozzles, Fire hoses, First aid box, All types of small gears, Breathing apparatus (Negative and Positive), Gas cylinders, Steel back plates, Face mask, Portable fire pump/TFP, All types of coupling; Hydrant –Stand pipe type; , Fire trays; , Manual call point; , Entry suit / Proximity suit; Hose reel system; Hose box, Suction hose; Suction wrench Metal strainer; Ropes 100 ft.; PPE; Cooling vest; Gum boost.

## Module 4: Fire hazard areas, identification, steps for fire prevention, suitable fire extinguishing techniques and deployment of fire extinguisher.

### Mapped to SSD/N1103, v1.0

#### Terminal Outcomes:

- Identify fire hazards & take preventive measures against fire hazards.
- Decide fire extinguisher technique to be used.
- Deployment of fire extinguishers and training people to use the fire extinguishers.

Duration: 45 Hours	Duration: 30 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none"> <li>● Fire safety principles prevention, detection and communication, occupant protection, containment, and extinguishment.</li> <li>● Fire doors, Automatic Fire Suppression Systems (AFSS) Lightning protections, procedures &amp; SOPs.</li> <li>● Preventing fire and spread by controlling of fuel source, control of ignition source and control of oxygen.</li> <li>● Principles on which fire extinguishers work: cooling, smothering, starving or by interrupting the combustion process to extinguish the fire.</li> <li>● Types of extinguishing media-water, foam, dry chemical powder, carbon dioxide.</li> <li>● Types of fire-fighting equipment, its principle of operation, components in different fire extinguishers.</li> <li>● Fire extinguishing using PASS technique &amp; operation of fire hydrants.</li> <li>● Placement of fire extinguisher at workplace and learn maintenance of fire extinguisher with the help of checklist.</li> <li>● Demarcate fire zone &amp; Restriction on the construction of buildings in each fire zone.</li> </ul>	<ul style="list-style-type: none"> <li>● Identify fire hazards, preventive measures &amp; implementation process.</li> <li>● Explain fire safety principles prevention, detection and communication, occupant protection, containment, and extinguishment.</li> <li>● Decide fire extinguisher technique to be used.</li> <li>● Workout deployment of fire extinguisher and train people to use the fire extinguishers.</li> <li>● Explain PASS technique &amp; operation of fire hydrants, placement of fire extinguisher.</li> <li>● Apply Implementation of measures such as prohibition of combustible materials, elimination of open fires, utilization of portable fire extinguishers.</li> <li>● Apply Reduction of fire load on concrete, use non-combustible ladders, and construct sheds using fire-retardant materials.</li> <li>● Demarcate fire zone &amp; Restriction on the construction of buildings in each fire zone.</li> <li>● Prepare a fire plan based on occupancy type, height, and floor area &amp; install fire resistance requirements.</li> </ul>



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| <ul style="list-style-type: none"><li>● Implement measures such as prohibition of combustible materials, elimination of open fires, utilization of portable fire extinguishers.</li><li>● Reduce fire load on concrete, use non-combustible ladders, and construct sheds using fire-retardant materials.</li><li>● Prepare a fire plan based on occupancy type, height, and floor area &amp; install fire resistance requirements.</li><li>● Install fire fighting equipments &amp; fire detection and alarm systems</li><li>● Regulations for specific materials &amp; develop Emergency preparedness and evacuation plans.</li></ul> | <ul style="list-style-type: none"><li>● Install fire fighting equipments &amp; fire detection and alarm systems.</li><li>● Regulations for specific materials &amp; develop Emergency preparedness and evacuation plans.</li></ul> |
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**Classroom Aids:**

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.

**Tools, Equipment and Other Requirements**

Fire safety equipment, Water fire extinguisher, Stored pressure type fire extinguisher, Chemical foam type fire extinguisher, Mechanical foam type fire extinguisher, CO2 type fire extinguisher, BC type , ABC type, Extension ladder; All types of branches and Nozzles, Fire hoses, First aid box, All types of small gears, Breathing apparatus (Negative and Positive), Gas cylinders, Steel back plates, Face mask, Portable fire pump/TFP, All types of coupling; Hydrant –Stand pipe type; , Fire trays; , Manual call point; , Entry suit / Proximity suit; Hose reel system; Hose box, Suction hose; Suction wrench Metal strainer; Ropes 100 ft.; PPE; Cooling vest; Gum boost

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## Module 5: Fire safety equipments, fire alarms, fire hydrants, sprinklers and pressure requirements in fire hydrants, strategic places for deployment, new technologies in fire-fighting and personal protective equipments required in fire-fighting

Mapped to SSD/N1104, v1.0

Terminal Outcomes:

- Understand fire safety equipment & its suitability.
- Understand use of fire alarms & new technology.
- Learn PPEs used in fire-fighting.

Duration: 45 Hours	Duration: 30 Hours
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Smoke detectors, fire alarm, NFPA72, emergency lighting, flashing lights working &amp; principles.</li> <li>• Sprinklers and pressure requirements in fire hydrants.</li> <li>• Fire Hoses, fire buckets, fire and welding blankets, flame Zorb, sand.</li> <li>• Requirement of firefighting equipment as per IS15683.</li> <li>• Use of smoke detectors, fire alarm, emergency lighting, flashing lights, its location and monitoring.</li> <li>• Technological intervention requirements in fire safety like water mist system, online hydrant pressure monitoring, wireless fire detection system etc.</li> <li>• Latest technological development in fire-prevention &amp; detection like, Thermal Imaging &amp; Augmented Reality (AR)</li> <li>• PPEs, use of PPEs in fire safety – Helmet, turnout gear, gloves &amp; boots etc.</li> <li>• SCBA (Self-contained breathing apparatus), respirators, gas masks.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan use of smoke detectors, fire alarm, NFPA72, emergency lighting, flashing lights</li> <li>• Work out requirement of fire fighting equipment as per IS15683, prepare list of fire safety equipment, differences, and usability with reasons.</li> <li>• Make a presentation on the latest technological developments in fire-prevention &amp; detection like, Thermal Imaging &amp; Augmented Reality (AR.)</li> <li>• List &amp; plan PPEs to be used in fire-fighting.</li> <li>• Implement measures such as storing flammable materials in designated areas, using explosion-proof electrical equipment &amp; fire suppression systems.</li> <li>• Ensure proper labeling &amp; handling of hazardous chemicals, ventilation of chemical facilities</li> </ul>



<ul style="list-style-type: none"><li>● Periodical maintenance and upkeep of PPEs</li><li>● Implement measures such as storing flammable materials in designated areas, using explosion-proof electrical equipment &amp; fire suppression systems.</li><li>● Ensure proper labeling &amp; handling of hazardous chemicals, ventilation of chemical facilities</li></ul>	
<b>Classroom Aids:</b>	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
Fire safety equipment, Water fire extinguisher, Stored pressure type fire extinguisher, Chemical foam type fire extinguisher, Mechanical foam type fire extinguisher, CO2 type fire extinguisher, BC type , ABC type, Extension ladder; All types of branches and Nozzles, Fire hoses, First aid box, All types of small gears, Breathing apparatus (Negative and Positive), Gas cylinders, Steel back plates, Face mask, Portable fire pump/TFP, All types of coupling; Hydrant –Stand pipe type; , Fire trays; , Manual call point; , Entry suit / Proximity suit; Hose reel system; Hose box, Suction hose; Suction wrench Metal strainer; Ropes 100 ft.; PPE; Cooling vest; Gum boost	

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## Module 6: Fire emergencies, rescue plan, firefighting plans, firefighting drills, safe evacuation plan and evacuation drills in case of fire accident Mapped to SSD/NQ1105, v1.0

### Terminal Outcomes:

- Emergencies & Rescue Plan
- Firefighting Plan
- Fire Evacuation plan.
- Firefighting & evacuation drills and training.

Duration: 60 Hours	Duration: 40 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Emergencies and emergency evacuations.</li> <li>• Requirements of escape route as per IS1644.</li> <li>• Fire door, emergency directional signages, assembly point, evacuation, evacuation of differently abled, evacuation procedure, role of “Fire Marshals.”</li> <li>• Firefighting SOPs, drills, equipment deployment, periodical maintenance, and mock drills.</li> <li>• Local firefighting resources, authority, assistance call from firefighting resources &amp; authorities, communication, assistance to other/neighboring organizations.</li> <li>• Firefighting drills and fire fighting equipments</li> <li>• Evacuation &amp; rescue plan and drills, deployment of fire marshals during evacuation &amp; rescue.</li> <li>• Responsibility, control &amp; hierarchy in evacuation, evacuation of differently abled, &amp; deployment of fire marshals during evacuation process.</li> <li>• Emergency evacuation drills, fire exit and assembly areas.</li> <li>• Maintain a vehicle as per manufacturer's specification, multipurpose fire</li> </ul>	<ul style="list-style-type: none"> <li>• Plan evacuation &amp; rescue Plan</li> <li>• Plan Firefighting Fire door, emergency directional signages, assembly point, evacuation, evacuation of differently abled, evacuation procedure, role of “Fire Marshals.”</li> <li>• Carryout fire fighting &amp; evacuation drills and training</li> <li>• Develop firefighting SOPs &amp; hierarchy of controls.</li> <li>• Identify firefighting resources, assistance call from firefighting resources &amp; authorities, communication, assistance to other/neighboring organizations</li> <li>• Carry firefighting training.</li> <li>• Maintain a vehicle as per manufacturer's specification, multipurpose fire extinguishers, and ensure easy recognition &amp; accessibility.</li> <li>• Adhere to the codes and regulations regarding automobile fire safety, safe driving and materials transportation</li> </ul>



<p>extinguishers, and ensure easy recognition &amp; accessibility.</p> <ul style="list-style-type: none"><li>• Adhere to the codes and regulations regarding automobile fire safety, safe driving and materials transportation.</li></ul>	
<b>Classroom Aids:</b>	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
Fire safety equipment, Water fire extinguisher, Stored pressure type fire extinguisher, Chemical foam type fire extinguisher, Mechanical foam type fire extinguisher, CO2 type fire extinguisher, BC type , ABC type, Extension ladder; All types of branches and Nozzles, Fire hoses, First aid box, All types of small gears, Breathing apparatus (Negative and Positive), Gas cylinders, Steel back plates, Face mask, Portable fire pump/TFP, All types of coupling; Hydrant –Stand pipe type; , Fire trays; , Manual call point; , Entry suit / Proximity suit; Hose reel system; Hose box, Suction hose;Suction wrenchMetal strainer; Ropes 100 ft.; PPE; Cooling vest; Gum boost.	

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## Module 7: Planning and organizing to provide a safe working environment for workers and set emergency protocols and measure in case of any unforeseen and incidents or accidents to minimize the damages & losses

Mapped to SSD/N1106, v1.0

### Terminal Outcomes:

- Planning of resources for own work and communication to concerned subordinates, co-workers, and superiors.
- Provide necessary support to subordinates, coordinate with co-workers and liaise with superiors and monitor.
- Setting up emergency protocols and implementing them at working places to minimize the loss in case of any incident or accident.

Duration: 30 Hours	Duration: 20 Hours
<p><b>Theory–Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>● Introduction to planning of resources; communication subordinates, co-workers, and superiors.</li> <li>● Introduction to hierarchy of organization and modes of communication to team members.</li> <li>● Introduction to identifying the task and distribution among subordinates, supervision, and coordination among the team members for readiness in sync with overall task &amp; timelines.</li> <li>● Introduction to supervision and monitoring of a task to ensure timely completion of such work.</li> <li>● Setting up emergency protocols and implementing them at working places to minimize the loss in case of any incident or accident.</li> <li>● Setting up evacuation plans, evacuation drills, assembly area emergency communication &amp; guidance.</li> <li>● Analyze root causes behind major fire accidents happening around India.</li> <li>● Incorporate insights gained from major incidents like avoiding unauthorized construction, utilization of non-combustible materials, adherence to safety regulations, and creation of emergency response strategies.</li> </ul>	<p><b>Practical–Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>● Make a presentation on planning of resources and communication to subordinates, co-workers and superiors.</li> <li>● Prepare necessary support to subordinates, coordinate with co-workers and liaison with superiors and monitoring.</li> <li>● Set up emergency protocols and implement them at working places to minimize loss in case of any incident or accident.</li> <li>● Analyze root causes behind major fire accidents happening around India.</li> <li>● Incorporate insights gained from major incidents like avoiding unauthorized construction, utilization of non-combustible materials, adherence to safety regulations, and creation of emergency response strategies.</li> </ul>
<p><b>Classroom Aids:</b></p>	
<p>Black/White Board, Computer, Projection Equipment, MS office &amp; Design &amp; drafting software, Facilitator’s Guide, Participant’s Handbook.</p>	



### Tools, Equipment and Other Requirements

Fire safety equipment, Water fire extinguisher, Stored pressure type fire extinguisher, Chemical foam type fire extinguisher, Mechanical foam type fire extinguisher, CO2 type fire extinguisher, BC type , ABC type, Extension ladder; All types of branches and Nozzles, Fire hoses, First aid box, All types of small gears, Breathing apparatus (Negative and Positive), Gas cylinders, Steel back plates, Face mask, Portable fire pump/TFP, All types of coupling; Hydrant –Stand pipe type; , Fire trays; , Manual call point; , Entry suit / Proximity suit; Hose reel system; Hose box, Suction hose; Suction wrench Metal strainer; Ropes 100 ft.; PPE; Cooling vest; Gum boost

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## Module 8: Understand scope in employment, financial dealing, digital literacy and communication with employer or customer Mapped to DGT/VSQ/N0102

### Terminal Outcomes:

- Describe the traits of individual at workplace
- Demonstrate apply employability and entrepreneurship skills at workplace

<b>Duration: 30:00</b>	<b>Duration: 30:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>• Discuss the importance of Employability Skills in meeting the job requirements.</li><li>• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.</li><li>• Discuss 21st century skills.</li><li>• Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations.</li><li>• Discuss the significance of reporting sexual harassment issues in time</li><li>• Discuss the significance of using financial products and services safely and securely.</li><li>• Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws.</li><li>• Explain the importance of managing expenses, income, and savings.</li><li>• Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely.</li><li>• Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges.</li><li>• Differentiate between types of customers.</li><li>• Explain the significance of identifying customer needs and addressing them.</li></ul>	<ul style="list-style-type: none"><li>• Show how to practice different environmentally sustainable practices</li><li>• Use appropriate basic English sentences/phrases while speaking</li><li>• Demonstrate how to communicate in a well -mannered way with others</li><li>• Demonstrate working with others in a team</li><li>• Show how to conduct oneself appropriately with all genders and PwD</li><li>• Show how to operate digital devices and use the associated applications and features, safely and securely</li><li>• Create a biodata</li><li>• Use various sources to search and apply for jobs</li></ul>



<ul style="list-style-type: none"><li>• Discuss the significance of maintaining hygiene and dressing appropriately.</li><li>• Discuss the significance of dressing up neatly and maintaining hygiene for an interview.</li><li>• Discuss how to search and register for apprenticeship opportunities.</li></ul>	
<b>Classroom Aids:</b>	
<ul style="list-style-type: none"><li>• Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.</li></ul>	
<b>Tools, Equipment and Other Requirements</b>	
<ul style="list-style-type: none"><li>• Laptop/computer, internet, mobile</li></ul>	

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## On The Job Training Plan : Fire Safety Officer

<b>Understanding of Fire Accidents : 15 Hours</b>
<b>Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Identify fire hazards, flammable &amp; combustible materials at work place.</li><li>● Develop systematic approach in identifying probability of fire accidents.</li></ul>
<b>Accident Prevention Methodologies. : 15 Hours</b>
<b>Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Perform Hazard and Operability Analysis (HAZOP).</li><li>● Perform Tree analysis &amp; Event Tree Analysis</li><li>● Carry out Job Safety Analysis.</li><li>● Perform Hazard Identification and Risk Assessment (HIRA).</li></ul>
<b>Fire Prevention, Fire Extinguishing technique &amp; Fire Extinguisher : 15 Hours</b>
<b>Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Identify fire hazards, preventive measures &amp; implementation process.</li><li>● Decide fire extinguisher technique to be used.</li><li>● Workout deployment of fire extinguishers and train people to use the fire extinguishers.</li></ul>
<b>Fire safety equipments, Fire alarms &amp; PPE : 15 Hours</b>
<b>Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Prepare fire safety equipment.</li><li>● Prepare &amp; plan fire alarms &amp; intervention of new technology.</li><li>● Plan PPEs used in fire-fighting.</li></ul>
<b>Emergencies, Rescue, Firefighting &amp; Fire Evacuation Plan : 20 Hours</b>
<b>Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Plan Emergencies &amp; Rescue Plan.</li><li>● Plan Fire Fighting and evacuation plan.</li><li>● Carryout fire fighting &amp; evacuation drills and training.</li></ul>



**Plan & Organize Fire Emergency protocols : 10 hours**

**Key Learning Outcomes**

- Planning of resources and communication to concerned subordinates, co-workers, and superiors.
- Prepare necessary support to subordinates, coordinate with co-workers and liaison with superiors and monitoring.
- Set up emergency protocols and implement them at working places to minimize loss in case of any incident or accident.

**Total Duration of OJT – 90 Hours ( 2 weeks)**

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## Annexure

### Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI/12 <sup>th</sup> Pass	Science domain	12	Relevant Domain	0	-	
Graduate in any discipline / Diploma in Engineering	Science domain	7	Relevant Domain	0	-	
M. Tech/ B. Tech	Science domain	4	Relevant Domain	0	-	

Trainer Certification	
Domain Certification	Platform Certification
Certified as Trainer for the Qualification “SSD/Q1101 : Fire Safety Officer” or higher qualification as per career progression by SSDF. The minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: “Trainer (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2601 v2.0”. The minimum score of 80%.

## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI/12 <sup>th</sup> Pass	Science domain	12	Relevant Domain	0	-	
Graduate in any discipline / Diploma in Engineering	Science domain	7	Relevant Domain	0	-	
M. Tech/ B. Tech	Science domain	4	Relevant Domain	0	-	

Assessor Certification	
Domain Certification	Platform Certification
Certified as assessor for the Qualification “SSD/Q1101 : Fire Safety Officer or higher qualification as per career progression by SSDF. The minimum accepted score is 80%.	Recommended that the Assessor is certified for the Job Role: “Assessor (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2701 v2.0”. The minimum accepted score is 80%.





## Assessment Strategy

The assessment will be based on the concept of third-party assessments through certified assessors with empaneled Assessment Agencies of NCVET. The certification of each assessor will be done by SSDF through a process of selection, training, assessment & certification through training of the assessor's program.

The assessments will include both formative & summative. The progressive assessments will be through a trainer during the progress of the training. The summative assessments will be carried by the assessor through assessment agencies.

The assessment process will find whether the candidate or professional is competent or not to perform the job as per expected performance criteria. The assessment plan contains the following information:

- a) Assessment elements – Competencies based on performance criteria of each NOS.
- b) Methods of assessment – Written test (online/offline), viva and practical/ field exercises.
- c) Time of assessment – The assessment will be done both formative and summative (post orientation/training) of candidates.
- d) Place i.e., context of the assessment - The assessment will be conducted through theory, viva voce and practical/ field exercises, on simulators and will be both online and offline modes.
- e) The criteria for decision making– It will be based on assessment criteria & guidelines as given the qualification pack.
- f) Questions – The written questions, viva & practical questions will be set to cover all aspects of performance criteria and would have been validated from experts in the subject matter.



## Glossary

Term	Description
<b>Declarative Knowledge</b>	Declarative knowledge refers to facts, concepts and principles that need to Be known and/or understood to accomplish or to solve a problem.
<b>Key Learning Outcome</b>	Key learning outcome is the statement of what a learner needs to know, understand and be able to do to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training Outcome is specified in terms of knowledge, understanding(theory)and skills (practical application).
<b>OJT(M)</b>	On-the-job training(Mandatory);trainees are mandated to complete specified hours of training on site.
<b>OJT(R)</b>	On-the-job training(Recommended);trainees are recommended the specified hours of training on site.
<b>Procedural Knowledge</b>	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work or produce a tangible work output by applying cognitive, affective, or psychomotor skills.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.



## Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standard
AB	Awarding Body
AA	Assessment Agency
TP	Training Partner

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