Model Curriculum

QP Name: Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder

QP Code: CSC/Q0204

QP Version: 3.0

NSQF Level: 3

Model Curriculum Version: 3.0

Capital Goods Skill Council || 1st Floor, L-29, Outer Circle, Connaught PlaceNew Delhi – 110001 ||
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Training Parameters

Sector	Capital Goods
Sub-Sector	1. Machine Tools 2. Dies, Moulds and Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering Goods
Occupation	Welding and Cutting
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7212.0200
Minimum Educational Qualification and Experience	Ability to Read and Write with 5 years experience Or 5th Class Pass with 4 years experience Or 8th Class Pass with 1year experience Or 8th Class Pass + NTC (1year) Or Assistant Manual Metal Welder NSQF – Level 2 with 1 year experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 years
Last Reviewed On	31/03/2022
Next Review Date	31/03/2025
NSQC Approval Date	31/03/2022
QP Version	3.0
Model Curriculum Creation Date	31/03/2022
Model Curriculum Valid Up to Date	31/03/2025
Model Curriculum Version	3.0
Minimum Duration of the Course	450 Hours 00 Minutes
Maximum Duration of the Course	450 Hours 00 Minutes

Program Overview

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

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Perform preparatory activities such as identification of raw material, tools and equipment, lifting of workpiece, inspection of tools and equipment etc.
- Perform oxy gas cutting and MMAW process by following organisational procedure.
- Perform post-cutting and welding operations such as inspection, quality check, cleaning etc.
- Work effectively and efficiently as per schedules and timelines.
- Implement safety practices.
- Optimize the use of resources to ensure less wastage and maximum conservation.

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
CSC/N1335 – Follow the health and safety practices at work NOS Version- 2.0 NSQF Level- 3	**25:00**	**35:00**	**0:00**	**00:00**	**60:00**
Module 1: Introduction to the role of a Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder	05:00	0:00	0:00	00:00	06:00
Module 2: Health and safety practices	20:00	35:00	0:00	00:00	55:00
CSC/N1336 – Coordinate with co-workers to achieve work efficiency NOS Version-2.0 NSQF Level- 3	**10:00**	**20:00**	**0:00**	**00:00**	**30:00**
Module 3: Process of coordinating with co-workers to achieve work efficiency	10:00	20:00	0:00	00:00	30:00
CSC/N0204 – Manually weld carbon and low alloy steels by using Metal Arc Welding (MMAW)/ Shielded Metal Arc Welding (SMAW) NOS Version No. – 2.0 NSQF Level – 3	**75:00**	**90:00**	**45:00**	**00:00**	**165:00**
Module 4: Perform MMAW process	75:00	90:00	45:00	00:00	165:00
CSC/N0201 – Manually cut metal and metal alloys using	**40:00**	**65:00**	**15:00**	**00:00**	**105:00**

oxy-fuel gases NOS Version No. – 2.0 NSQF Level – 2					
Module 5: Perform oxy gas cutting operations	40:00	65:00	15:00	00:00	105:00
DGT/VSQ/N0101 - Employability Skills (30 hours) NOS Version No. – 1.0 NSQF Level – 2	**12:00**	**18:00**	**0:00**	**00:00**	**30:00**
Module 6: Introduction to Employability Skills	0.5:00	0.5:00	0:00	00:00	1:00
Module 7: Constitutional values - Citizenship	0.5:00	0.5:00	0:00	00:00	1:00
Module 8: Becoming a Professional in the 21st Century	0.5:00	0.5:00	0:00	00:00	1:00
Module 9: Basic English Skills	1:00	1:00	0:00	00:00	2:00
Module 10: Communication Skills	1.5:00	2.5:00	0:00	00:00	4:00
Module 11: Diversity & Inclusion	0.5:00	0.5:00	0:00	00:00	1:00
Module 12: Financial and Legal Literacy	1.5:00	2.5:00	0:00	00:00	4:00
Module 13: Essential Digital Skills	1:00	2:00	0:00	00:00	3:00
Module 14: Entrepreneurship	2.5:00	4.5:00	0:00	00:00	7:00
Module 15: Customer Service	1.5:00	2.5:00	0:00	00:00	4:00
Module 16: Getting ready for apprenticeship & Jobs	1:00	1:00	0:00	00:00	2:00
Total Duration	**162:00**	**228:00**	**60:00**	**00:00**	**450:00**

Module Details

Module 1: Introduction to the role of a Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder

Mapped to CSC/N1335 v2.0

Terminal Outcomes:

- Discuss the role and responsibilities of a Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder.

Duration: 05:00	Duration: 00:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the role and responsibilities of a Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder. • Discuss the job opportunities of a Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder. • Describe the size and scope of the capital good industry and its sub-sectors. • Explain about Indian capital goods manufacturing market. • Discuss the standards and procedures involved in the different operations of welding.	
Classroom Aids:	
Whiteboard, marker pen, projector, standard checklists and schedules	
Tools, Equipment and Other Requirements	

Module 2: Health and safety Practices

Mapped to CSC/N1335 v2.0

Terminal Outcomes:

- Demonstrate ways to maintain personal health and safety.
- Describe the process of assisting in hazard management.
- Explain how to check the first aid box, firefighting and safety equipment.
- Describe the process of assisting in waste management.
- Explain the importance of following the fire safety guidelines.
- Explain the importance of following the emergency and first-aid procedures.
- Demonstrate the process of carrying out relevant documentation and review.

Duration: 20:00	Duration: 35:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the recommended practices to be followed to ensure protection from infections and transmission to others, such as the use of hand sanitiser and face mask. • Explain the importance and process of checking the work conditions, assessing the potential health and safety risks, and take appropriate measures to mitigate them. • Explain the importance and process of selecting and using the appropriate PPE relevant to the task and work conditions. • Explain the recommended techniques to be followed while lifting and moving heavy objects to avoid injury. • Explain the importance of following the manufacturer's instructions and workplace safety guidelines while working on heavy machinery, tools and equipment. • Explain the importance and process of identifying existing and potential hazards at work. • Describe the process of assessing the potential risks and injuries associated with the various hazards. • Explain how to prevent or minimise different types of hazards. • Explain how to handle and store hazardous materials safely. • Explain the importance of ensuring the first aid box is updated with the relevant first aid supplies. • Describe the process of checking and testing the firefighting and various safety equipment to ensure they are in a usable	• Demonstrate the use of appropriate Personal Protective Equipment (PPE) relevant to the task and work conditions. • Demonstrate how to handle hazardous materials safely. • Demonstrate the process of testing the firefighting and various safety equipment to ensure they are in usable condition. • Demonstrate the process of recycling and disposing different types of waste appropriately. • Demonstrate how to use the appropriate type of fire extinguisher to extinguish different types of fires safely. • Demonstrate how to administer appropriate first aid to the injured personnel. • Demonstrate the process of performing Cardiopulmonary Resuscitation (CPR) on a potential victim of cardiac arrest. • Demonstrate the process of carrying out appropriate documentation following a health and safety incident at work, including all the required information.

condition. • Explain the criteria for segregating waste into appropriate categories. • Describe the appropriate methods for recycling recyclable waste. • Describe the process of disposing of the non-recyclable waste safely and the applicable regulations. • Explain the use of different types of fire extinguishers to extinguish different types of fires. • State the recommended practices to be followed for a safe rescue during a fire emergency. • Explain how to request assistance from the fire department to extinguish a serious fire. • Explain the appropriate practices to be followed during workplace emergencies to ensure safety and minimise loss to organisational property. • State the common health and safety hazards present in a work environment, associated risks, and how to mitigate them. • State the safe working practices to be followed while working at various hazardous sites and using electrical equipment. • Explain the importance of ensuring easy access to firefighting and safety equipment. • Explain the appropriate preventative and remedial actions to be taken in the case of exposure to toxic materials, such as poisonous chemicals and gases. • Explain various causes of fire in different work environments and the recommended precautions to be taken to prevent fire accidents. • Describe different methods of extinguishing fire. • List different materials used for extinguishing fire. • Explain the applicable rescue techniques to be followed during a fire emergency. • Explain the importance of placing safety signs and instructions at strategic locations in a workplace and following them. • Explain different types of first aid treatment to be provided for different	

types of injuries. • State the potential injuries associated with incorrect manual handling. • Explain how to move an injured person safely. • State various hazards associated with the use of various machinery, tools, implements, equipment and materials. • Explain the importance of ensuring no obstruction and free access to fire exits. • Explain how to free a person from electrocution safely. • Explain how to administer appropriate first aid to an injured person. • Explain how to perform Cardiopulmonary Resuscitation (CPR). • Explain the importance of coordinating with the emergency services to request urgent medical assistance for persons requiring professional medical attention or hospitalisation. • State the appropriate documentation to be carried out following a health and safety incident at work, and the relevant information to be included. • Explain the importance and process of reviewing the health and safety conditions at work regularly or following an incident. • Explain the importance and process of implementing appropriate changes to improve the health and safety conditions at work.	
Classroom Aids	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask	

Module 3: Process of coordinating with co-workers to achieve work efficiency

Mapped to CSC/N1336 v2.0

Terminal Outcomes:

- Demonstrate ways to work and communicate effectively with co-workers.
- Discuss ways to promote diversity and inclusion at the workplace.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance and process of effective communication in the workplace. • Explain the barriers to effective communication and how to overcome them. • Explain the importance of teamwork in an organisation's and individual's success. • Explain the importance of active listening in the work environment. • State the appropriate techniques to be followed for active listening. • Explain the importance of tone and pitch ineffective communication. • Explain the importance of avoiding casual expletives and unpleasant terms while communicating professional circles. • Explain the importance of maintaining discipline and ethical behaviour at work. • State the common reasons for interpersonal conflict and how to resolve them. • Explain the importance of developing effective working relationships for professional success. • Describe the process of expressing and addressing grievances appropriately and effectively. • Explain the importance and process of planning daily tasks to ensure their timely completion and efficient use of time. • Explain the importance of adhering to the limits of authority at work. • Explain the importance of following the applicable quality standards and timescales at work. • Explain the importance of coordinating with co-workers to achieve the work objectives efficiently. • Explain the relevant documentation requirements.	• Demonstrate the process of preparing the relevant documents and reports as per the supervisor's instructions, providing appropriate information clearly and systematically. • Demonstrate how to mentor and assist subordinates in the execution of their work responsibilities. • Demonstrate the process of using various resources efficiently to ensure maximum utilisation and minimum wastage. • Demonstrate how to communicate clearly and politely to ensure effective communication with co-workers. • Demonstrate appropriate verbal and non-verbal communication that is respectful of genders and disability.

• Explain the importance of providing appropriate information clearly and systematically in work documents. • State the escalation matrix to be followed to deal with out of authority tasks and concerns. • Explain the importance and process of mentoring and assisting subordinates in the execution of their work responsibilities. • Explain how to identify possible disruptions to work prevent them. • Explain how to use various resources efficiently to ensure maximum utilisation and minimum wastage. • Explain the recommended practices to be followed at work to avoid and resolve conflicts at work. • Explain the importance and process of efficient and timely dissemination of information to the authorised personnel. • Explain the procedure to report inappropriate behaviour e.g., harassment.	
Classroom Aids:	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 4: Perform MMAW process

Mapped to CSC/N0204, v2.0

Terminal Outcomes:

- Identify tools and equipment required for MMAW operations.
- Perform the steps to carry out preparatory activities such as lifting of workpiece, inspection of tools and equipment, selection of workpiece etc.
- Demonstrate the process of MMAW.
- Perform the steps to carry out post-welding activities.

Duration: 75:00	Duration: 90:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss basic principle of welding process. • Describe basic process of MMAW welding. • Describe different types of welds and welding joints. • Describe different welding positions. • Discuss the information derived from the job orders, Welding Procedure Specification (WPS) and engineering drawings and instructions received from supervisor. • List tools, measuring instruments, equipment, accessories, consumables and input material required during welding work. • Explain the selection criteria of tools, equipment, accessories, consumables, measuring instruments and input material for the welding work. • Discuss the organisational process of collecting and arranging tools, equipment, accessories, consumables, measuring instruments and input material from the store. • Summarise the steps to be performed for checking the input material, tools and equipment before use. • Discuss the importance of maintaining welding parameters as per the Work Instructions (WI) and their impact on quality and quantity of output product. • List the steps to be performed for joint preparation process. • Discuss the impact of unstable welding arc on final output. • List the steps to be performed for MMAW process. • Describe various MMAW operations to produce different joints on different forms	• Read the drawing, WPS and job orders for identifying work requirements. • Apply appropriate ways of checking the input material, tools and equipment for defects before use. • Demonstrate the standard operating procedure to use tools, equipment and measuring instruments required during job. • Show how to prepare the work area for welding activities. • Show how to prepare the materials and joint for welding process. • Show how to set the welding apparatus and its parameters as per the work instructions. • Show how to re-dry electrodes as per electrode classification requirement. • Demonstrate the procedure of installing the work pieces and fixture on the apparatus and aligning with the electrodes. • Demonstrate organisational procedure of verifying set up by running test weld specimen. • Apply appropriate methods to strike and maintain a stable welding arc. • Demonstrate organizational specified procedure of starting MMAW machine and performing MMAW process in all positions for producing different type of joints. • Apply appropriate ways to maintain proper bead sequence with respect to groove/fillet configurations and positions. • Show how to maintain correct angle of torch, travel speed, direction of weld and feed as per requirement during the

of metal. • Discuss the importance of monitoring process parameters during the welding and correcting them as per the requirements. • Describe finishing processes such as dimensions check, removing extra material, hammering workpiece into desired shape etc. as per the required specifications. • Discuss post welding processes like inspection, cleaning, maintenance etc. • Explain methods of inspecting the quality of welded workpieces. • List the commonly occurring defects and their remedies in the welded workpieces. • Describe various testing techniques like visual, destructive and non-destructive. • Discuss the process of segregating, tagging and storing of damaged and ok workpieces as per organisational guidelines. • List different methods for disposing off waste material and scrap. • Discuss the necessary precautions to avoid any hazard and accident during welding activities.	welding operation. • Read the measurement gauges and monitor the process parameters to maintain the quality standards. • Employ appropriate ways of measuring and comparing welded piece dimensions with the specified dimensions in the job orders. • Apply appropriate ways to check and repair the extra material and bulges from the hammered welded piece to get the desired shape as per the required specifications. • Show how to shut down the welding equipment and remove the workpiece after completion of welding activities. • Demonstrate appropriate inspection method to check the quality of welded workpieces. • Employ appropriate testing methods like destructive and non-destructive tests for checking the quality of welded workpiece. • Demonstrate procedure to segregate, tag and store welded pieces as per organisational guidelines. • Demonstrate organisational procedure of cleaning and storing all the tools, machine and equipment after completion of work. • Show how to dispose waste as per organisational guidelines.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	
• Basic tool box, Work bench with vice • Hammer, Chisel set, Centre punch 9mm x 127mm, Dividers 20 cm, Wire brush 15 cm x 3.7 mm, Spark lighter, Number punch 6 mm and letter punch 6 mm, Scriber 15 cm, Tongs holding • Steel rule, Screw driver set, Hacksaw frame adjustable 30 cm, Magnifying glass 15 cm, Weld measuring gauge fillet and butt, file set, Steel tape 182 cm flexible in case, Try square • Rubber hose clips, Spindle key (for opening cylinder valve), Pressure regulator oxygen double stage, Pressure regulator acetylene regulator, Tip cleaner, Outfit spanner • Power hacksaw, Portable grinder • Power source, MMAW welding set • Dye penetrant test kit, Ultrasonic testing kit, Magnetic particle testing kit, X-ray testing kit • Hand book, job orders, work order, completion material requests, and Technical Reference Books. • **Safety materials**: Fire extinguisher, welding helmet, Leather sleeves, leather safety gloves, leather aprons, safety glasses with side shields, ear plug, safety shoes and first-aid kit • **Cleaning material**: Tip cleaner, wire brush (M.S.), cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel	

Module 5: Perform oxy gas cutting operations

Mapped to CSC/N0201, v2.0

Terminal Outcomes:

- Identify tools and equipment required for oxy gas cutting operations.
- Perform the steps to carry out preparatory activities such as lifting of workpiece, inspection of tools and equipment, selection of workpiece etc.
- Demonstrate the process of oxy gas cutting process.
- Perform the steps to carry out post-cutting activities.

Duration: 40:00	Duration: 65:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss basic principle of oxy gas cutting process. • Describe various cutting operations. • Describe properties of various materials such as mild steel, high tensile/special steel and other appropriate metal and used for gas cutting. • Discuss the information derived from the job orders, Welding Procedure Specification (WPS) and engineering drawings and identify the final product. • List tools, measuring instruments, equipment, accessories, consumables and input material required during oxy gas cutting work. • Explain the selection criteria of tools, equipment, accessories, consumables, measuring instruments and input material for the oxy gas cutting work. • Discuss the organisational process of collecting and arranging tools, equipment, accessories, consumables, measuring instruments and input material from the store. • Summarise the steps to be performed for checking the input material, tools and equipment before use. • Discuss the importance of maintaining cutting parameters as per the Work Instructions (WI) and their impact on quality and quantity of output product. • Discuss the need of flashback arrestor in the gas cutting setup. • Describe various types of flame such as neutral, carburizing and oxidizing and their impact on cutting. • Discuss effect of oil, grease, scale or dirt	• Read the drawing, WPS and job orders for identifying work requirements. • Apply appropriate ways of checking the input material, tools and equipment for defects before use. • Demonstrate the standard operating procedure to use tools, equipment and measuring instruments required during job. • Show how to prepare the work area for cutting activities. • Show how to set the oxy-gas cutting apparatus and cutting parameters as per the work instructions. • Perform steps to light, adjust and extinguish the cutting arc. • Apply appropriate ways to mark the correct measurements on the workpiece as specified in drawing or WPS. • Demonstrate organizational specified procedure of starting gas cutting machine and performing oxy gas cutting process. • Show how to adjust cylinder valves and regulator for operating pressure to achieve required specifications. • Demonstrate various cutting operations correctly and produce thermal cuts in various forms of material. • Employ appropriate ways of measuring and comparing cut piece dimensions with the specified dimensions in the job orders. • Show how to shut down the cutting equipment and remove the workpiece after completion of cutting activities. • Demonstrate appropriate inspection method to check the quality of cut workpieces.

on the cutting process. • Describe methods to mark the measurements on the workpiece. • List the steps to be performed for oxy gas cutting process. • Describe various cutting operations or techniques to produce cuts on different forms of metal. • Explain the process of evaluating the irregularities of cut work piece as per the specified quality standards. • Discuss post cutting processes like inspection, cleaning, maintenance etc. • Explain methods of inspecting the quality of cut workpieces. • List the commonly occurring defects and their remedies in the cut workpieces. • Discuss effect of oil, grease, scale or dirt on the cutting process. • Discuss the process of segregating, tagging and storing of damaged and ok workpieces as per organisational guidelines. • List different methods for disposing off waste material and scrap. • Discuss emergency procedures for backfires, flashback and other fires. • Discuss the necessary precautions to avoid any hazard and accident during cutting activities.	• Demonstrate procedure to segregate, tag and store cut pieces as per organisational guidelines. • Demonstrate organisational procedure of cleaning and storing all the tools, machine and equipment after completion of work. • Employ appropriate ways for checking the machine operations for any defects in the component. • Show how to dispose waste as per organisational guidelines. • Perform steps to report to the supervisor about any problems faced or anticipated during the complete process.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	
• Basic tool box, Work bench with vice • Oxygen cylinder - 7m^3, acetylene cylinder 6m^3, oxygen pressure regulator; acetylene pressure regulator; flashback arrestors; cutting torch; rubber hoses; cutting nozzles; trolley to secure oxygen and acetylene cylinders; chain to secure oxygen and acetylene cylinders; lighter/ flint; spanner set; spindle key; non-return valves; spade guides; radius guide; bevel guide; gas welding/ cutting table 822 cm x 92 cm x 60 cm; surface plate; scriber - 15 cm; dividers 20 cm; calliper outside 15 cm; prick punch; chisel cold flat - 19 mm; centre punch – 9 mm x 127 mm; rule 60 cm; two fold; brass toped to read inches and mm; hammer scaling 0.25 kg with handle; steel rule - 30 cm to read inch and millimetre; Vernier calliper - digital - 0- 150 mm; ball peen hammer with handle - 0.25 kg; cross peen hammer with handle - 0.25 kg; holding tongs - 30 cm; wire brush – 15 cm x 3.7 cm and double ended spanner • Hand book, job orders, work order, completion material requests, and Technical Reference Books. • **Safety materials**: Fire extinguisher, welding helmet, Leather sleeves, leather safety gloves, leather aprons, safety glasses with side shields, ear plug, safety shoes and first-aid kit • **Cleaning material**: Tip cleaner, wire brush (M.S.), cleaning agents, cleaning cloth, waste container, dust pan and brush set, liquid soap, hand towel	

Module 6: Introduction to Employability Skills

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements

Duration: *<0.5:00>*	**Duration**: *<0.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of Employability Skills in meeting the job requirements	• Demonstrate Employability Skills
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 7: Constitutional values - Citizenship

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Discuss about constitutional values to be followed to become a responsible citizen

Duration: *<0.5:00>*	**Duration**: *<0.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.	• Show how to practice different environmentally sustainable practices
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 8: Becoming a Professional in the 21st Century

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Demonstrate professional skills required in 21st century

Duration: *<0.5:00>*	**Duration**: *<0.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss 21st century skills.	• Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 9: Basic English Skills

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Practice basic English speaking.

Duration: *<1:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss need of basic English skills.	• Use appropriate basic English sentences/phrases while speaking
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 10: Communication Skills

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Practice basic communication skills.

Duration: *<1.5:00>*	**Duration**: *<2.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss need of communication skills • Describe importance of team work	• Demonstrate how to communicate in a well -mannered way with others. • Demonstrate working with others in a team
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 11: Diversity & Inclusion

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Describe PwD and gender sensitisation.

Duration: *<0.5:00>*	**Duration**: *<0.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of reporting sexual harassment issues in time	• Show how to conduct oneself appropriately with all genders and PwD
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 12: Financial and Legal Literacy

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Describe ways of managing expenses, income, and savings.

Duration: *<1.5:00>*	**Duration**: *<2.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of using financial products and services safely and securely. • Explain the importance of managing expenses, income, and savings. • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws	• Demonstrate ways of managing expenses, income, and savings.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 13: Essential Digital Skills

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Demonstrate procedure of operating digital devices and associated applications safely.

Duration: *<1:00>*	**Duration**: *<2:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely	• Show how to operate digital devices and use the associated applications and features, safely and securely
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 14: Entrepreneurship

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Describe opportunities as an entrepreneur.

Duration: *<2.5:00>*	**Duration**: *<4.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges	• Demonstrate ways for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 15: Customer Service

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Describe ways of maintaining customer.

Duration: *<1.5:00>*	**Duration**: *<2.5:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Differentiate between types of customers. • Explain the significance of identifying customer needs and addressing them. • Discuss the significance of maintaining hygiene and dressing appropriately.	• Show how to maintain hygiene and dressing appropriately.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 16: Getting ready for apprenticeship & Jobs

Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Describe ways of preparing for apprenticeship & Jobs appropriately.

Duration: *<1:00>*	**Duration**: *<1:00>*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities	• Create a biodata • Use various sources to search and apply for jobs
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Diploma	Mechanical	3	Welding	1	Welding	NA
B.E/B.Tech	Mechanical	2	Welding	1	Welding	NA
CITS Certificate	Welder	0	Welding	0	Welding	NA
CITS Certificate	Welder (Pipe)	0	Welding	0	Welding	NA
CITS Certificate	Welder (Structural)	0	Welding	0	Welding	NA
CITS Certificate	Welder (GMAW & GTAW)	0	Welding	0	Welding	NA

Trainer Certification	
Domain Certification	**Platform Certification**
"Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder, CSC/Q0204, version 3.0". Minimum accepted score is 80%.	"Trainer, MEP/Q2601 v1.0" Minimum accepted score is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Diploma	Mechanical	3	Welding	1	Welding	NA
B.E/B.Tech	Mechanical	2	Welding	1	Welding	NA

Assessor Certification	
Domain Certification	**Platform Certification**
"Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder, CSC/Q0204, version 3.0". Minimum accepted score is 80%.	"Assessor; MEP/Q2701 v1.0" Minimum accepted score is 80%.

Assessment Strategy

1. Assessment System Overview:
    - Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
    - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
    - Assessment agency deploys the ToA certified Assessor for executing the assessment
    - SSC monitors the assessment process & records

2. Testing Environment:
    - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
    - Check the duration of the training.
    - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
    - If the batch size is more than 30, then there should be 2 Assessors.
    - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
    - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
    - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
    - Check the availability of the Lab Equipment for the particular Job Role.

3. Assessment Quality Assurance levels / Framework:
    - Question papers created by the Subject Matter Experts (SME)
    - Question papers created by the SME verified by the other subject Matter Experts
    - Questions are mapped with NOS and PC
    - Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
    - Assessor must be ToA certified & trainer must be ToT Certified
    - Assessment agency must follow the assessment guidelines to conduct the assessment

4. Types of evidence or evidence-gathering protocol:
    - Time-stamped & geotagged reporting of the assessor from assessment location
    - Centre photographs with signboards and scheme specific branding
    - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
    - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:
    - Surprise visit to the assessment location
    - Random audit of the batch
    - Random audit of any candidate

6. Method for assessment documentation, archiving, and access
    - Hard copies of the documents are stored
    - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
    - Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order 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).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	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.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	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

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
SOP	Standard Operating Procedure
WI	Work Instructions
PPE	Personal Protective equipment