



# Foreman Fabrication

QP Code: CON/Q1208

Version: 3.0

NSQF Level: 4.5

Construction Skill Development Council of India || CPB 103 & 104 (1st Floor), Block 4B, DLF Corporate Park, Phase III, MG Road  
Gurgaon-122002 || email:standards@csdcindia.org



# Contents

CON/Q1208: Foreman Fabrication .....	3
<i>Brief Job Description</i> .....	3
Applicable National Occupational Standards (NOS) .....	3
<i>Compulsory NOS</i> .....	3
<i>Qualification Pack (QP) Parameters</i> .....	3
CON/N1213: Ensure completion of joint preparation activities for fabrication .....	5
CON/N1214: Ensure completion of joint connection activities .....	12
CON/N0726: Supervise heavy lifting of structural assemblies at construction sites .....	17
CON/N0727: Execute erection works as per drawing/ specification .....	23
CON/N7001: Plan, arrange and manage resources for execution of relevant work .....	30
CON/N9002: Manage workplace for safe and healthy work environment .....	35
DGT/VSQ/N0102: Employability Skills (60 Hours) .....	40
Assessment Guidelines and Weightage .....	47
<i>Assessment Guidelines</i> .....	47
<i>Assessment Weightage</i> .....	48
Acronyms .....	50
Glossary .....	51



### CON/Q1208: Foreman Fabrication

#### Brief Job Description

A Foreman Fabrication is responsible for ensuring that the fabrication and erection activities are carried out as per the execution plan and that allocated resources are used optimally. The individual also ensures compliance with the applicable safety and quality standards.

#### Personal Attributes

The individual should be physically fit to work in varying locations and conditions. The person should be organized, diligent, methodical, safety-conscious, and a prompt decision-maker. In addition to being a team player, the individual should have good communication skills.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [CON/N1213: Ensure completion of joint preparation activities for fabrication](#)
2. [CON/N1214: Ensure completion of joint connection activities](#)
3. [CON/N0726: Supervise heavy lifting of structural assemblies at construction sites](#)
4. [CON/N0727: Execute erection works as per drawing/ specification](#)
5. [CON/N7001: Plan, arrange and manage resources for execution of relevant work](#)
6. [CON/N8001: Work effectively in a team to deliver desired results at the workplace](#)
7. [CON/N9002: Manage workplace for safe and healthy work environment](#)
8. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Construction
<b>Sub-Sector</b>	
<b>Occupation</b>	Fabrication
<b>Country</b>	India
<b>NSQF Level</b>	4.5



## Qualification Pack



<b>Credits</b>	19
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/3112.9900
<b>Minimum Educational Qualification &amp; Experience</b>	<p>Completed 1st year of UG (UG Certificate) (in Civil / Mechanical Engineering) OR Completed 3-year diploma (after 10th) (in Civil / Mechanical Engineering) OR Completed 2nd year diploma after 12th (in Civil / Mechanical Engineering) OR Pursuing 2nd year of 2-year diploma after 12th and continuous education (in Civil / Mechanical Engineering) OR 12th grade Pass with 1 Year of experience relevant industry OR 10th grade pass with 3 Years of experience relevant industry OR Previous relevant Qualification of NSQF Level (3.5) with 3 Years of experience relevant industry OR Previous relevant Qualification of NSQF Level (4) with 1.5 years of experience relevant industry</p>
<b>Minimum Level of Education for Training in School</b>	Not Applicable
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	30/04/2025
<b>Deactivation Date</b>	30/04/2025
<b>NSQC Approval Date</b>	31/03/2022
<b>Version</b>	3.0
<b>Reference code on NQR</b>	QG-4.5-CO-03384-2024-V1.1-CSDCI
<b>NQR Version</b>	3.0



# CON/N1213: Ensure completion of joint preparation activities for fabrication

## Description

This unit describes the skills and knowledge required to ensure completion of joint preparation activities for fabrication

## Scope

The scope covers the following :

- Supervise joint preparation and related activities

## Elements and Performance Criteria

### *Supervise joint preparation and related activities*

To be competent, the user/individual on the job must be able to:

- PC1.** identify sections and other materials required for fabrication work
- PC2.** check the compliance of identified materials with work requirement and specification such as grade, shape and size
- PC3.** check that the type of consumables, selection of process parameters, thermal treatment etc. as per welding procedure specification
- PC4.** check the quality certification marks on consumables and other tools and materials
- PC5.** ensure the plates and sections are free from damage and visible defects
- PC6.** ensure surface cleaning is done prior to cutting of section
- PC7.** check the approved drawing number and revisions.
- PC8.** ensure that markings and measurements are carried out using appropriate instruments and devices as per instructions and drawings
- PC9.** ensure the shrinkage allowance, cutting and grinding allowances are considered in marking of sections and plate
- PC10.** check the dimensions of the cut sections and identify the requirements of scalloping and edge preparation from shop drawings
- PC11.** ensure that prepared edge and scallop is as per design requirements shown in drawings
- PC12.** check the lifting accessories, tools and gears for proper working conditions
- PC13.** oversee preparatory works for platforms undertaken by subordinates and provide instructions and guidance as per requirement
- PC14.** estimate and cross-check the requirements of materials, tools or other resources as provided by subordinates and report the same to superiors
- PC15.** oversee the pre -heating/inter-pass temperature and post weld heat treatment if required and continuously monitor the heating parameters to ensure the quality and optimal utilization of resources
- PC16.** check the weld equipment calibration and ensure proper connections of electrode holder and earth connections
- PC17.** check the climate condition and wind speed before beginning of work



## Qualification Pack



- PC18.** check the availability of quivers for storing of electrode
- PC19.** check clamping arrangements before beginning the fit-up
- PC20.** check the locations identified by fitter for erection of temporary anchorages and instruct any change required in same
- PC21.** check the joint configuration ( groove angle, root gap and root face) wherever applicable and inform the quality inspector for fit-up inspection if required
- PC22.** check that the grooves and adjacent surfaces are free from moisture, oil, grease, rust etc.
- PC23.** ensure qualified welder is engaged for tack weld and welding
- PC24.** ensure that sections are placed in proper position and correct orientation
- PC25.** check the location of tack weld for sufficiency
- PC26.** ensure the tack weld is free from defects and is of required length
- PC27.** oversee that the weld is deposited as per the approved welding procedure and monitor the welding process parameters
- PC28.** oversee the de-clamping of component to ensure safe working
- PC29.** ensure the de-slugging of weld joint after the completion of welding
- PC30.** ensure removal of spatters if any from the vicinity of weld joint
- PC31.** carry out checks for fitted components and sections to ensure that the dimensions of the components are complying with the drawings
- PC32.** complete work and inform superiors for the quality checking procedures
- PC33.** instruct subordinates for repair or removal of any divergences found by quality inspectors as per requirement
- PC34.** ensure that the work is completed safely in specified time with required quality
- PC35.** ensure the traceability of the fabricated component by using proper marking tool

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for fabrication works
- KU2.** safety rules and regulation for storing of gases for welding and cutting
- KU3.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU4.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU5.** service request procedures for tools, materials and equipment as per organizational norms
- KU6.** procedure for maintenance of tools and equipment
- KU7.** statutory compliance requirement related to workmen engagement
- KU8.** different materials required during joint preparation activities
- KU9.** how to read and interpret drawings and weld symbol.
- KU10.** method statement and work instruction
- KU11.** how to implement safety requirements for the workman and the fabrication location
- KU12.** welding procedure specification and welder qualification
- KU13.** different welding process



## Qualification Pack



- KU14.** selection of welding consumable as per welding procedure specification
- KU15.** different size and grades of fasteners
- KU16.** selection of the different bolt tightening methods for assembly as per method statement
- KU17.** quality certification marks, identification of their originality and their importance
- KU18.** various deformities found in sections and their causes
- KU19.** method of use of different measuring devices, their least count and area of application
- KU20.** equipment used for gas cutting, its settings and adjustments and there results, working principles, range of operation
- KU21.** safety considerations and parameters while working with gas cutting and beveling equipment
- KU22.** various equipment used for grinding, their settings and adjustments and there results, working principles, range of operation, different accessories and consumables
- KU23.** safety considerations and parameters while working with grinding equipment
- KU24.** various equipments used for load lifting, working principles, range of operation, different accessories
- KU25.** safety considerations and parameters while working with load lifting equipment
- KU26.** how to estimate the quantities of resources (men, materials and machines) used in a fabrication workshop
- KU27.** various equipment used for anchoring and clamping, their settings and adjustments and there results, working principles, range of operation, different accessories and consumables
- KU28.** safety considerations and parameters while working with anchoring and clamping equipment
- KU29.** need and importance of tack weld
- KU30.** how to carry out dimensional check of components consumables

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks
- GS10.** identify any violation of safety norms during the work



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Supervise joint preparation and related activities</i>	<b>30</b>	<b>70</b>	-	-
<b>PC1.</b> identify sections and other materials required for fabrication work	-	-	-	-
<b>PC2.</b> check the compliance of identified materials with work requirement and specification such as grade, shape and size	-	-	-	-
<b>PC3.</b> check that the type of consumables, selection of process parameters, thermal treatment etc. as per welding procedure specification	-	-	-	-
<b>PC4.</b> check the quality certification marks on consumables and other tools and materials	-	-	-	-
<b>PC5.</b> ensure the plates and sections are free from damage and visible defects	-	-	-	-
<b>PC6.</b> ensure surface cleaning is done prior to cutting of section	-	-	-	-
<b>PC7.</b> check the approved drawing number and revisions.	-	-	-	-
<b>PC8.</b> ensure that markings and measurements are carried out using appropriate instruments and devices as per instructions and drawings	-	-	-	-
<b>PC9.</b> ensure the shrinkage allowance, cutting and grinding allowances are considered in marking of sections and plate	-	-	-	-
<b>PC10.</b> check the dimensions of the cut sections and identify the requirements of scalloping and edge preparation from shop drawings	-	-	-	-
<b>PC11.</b> ensure that prepared edge and scallop is as per design requirements shown in drawings	-	-	-	-
<b>PC12.</b> check the lifting accessories, tools and gears for proper working conditions	-	-	-	-
<b>PC13.</b> oversee preparatory works for platforms undertaken by subordinates and provide instructions and guidance as per requirement	-	-	-	-





## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> estimate and cross-check the requirements of materials, tools or other resources as provided by subordinates and report the same to superiors	-	-	-	-
<b>PC15.</b> oversee the pre -heating/inter-pass temperature and post weld heat treatment if required and continuously monitor the heating parameters to ensure the quality and optimal utilization of resources	-	-	-	-
<b>PC16.</b> check the weld equipment calibration and ensure proper connections of electrode holder and earth connections	-	-	-	-
<b>PC17.</b> check the climate condition and wind speed before beginning of work	-	-	-	-
<b>PC18.</b> check the availability of quivers for storing of electrode	-	-	-	-
<b>PC19.</b> check clamping arrangements before beginning the fit-up	-	-	-	-
<b>PC20.</b> check the locations identified by fitter for erection of temporary anchorages and instruct any change required in same	-	-	-	-
<b>PC21.</b> check the joint configuration ( groove angle, root gap and root face) wherever applicable and inform the quality inspector for fit-up inspection if required	-	-	-	-
<b>PC22.</b> check that the grooves and adjacent surfaces are free from moisture, oil, grease, rust etc.	-	-	-	-
<b>PC23.</b> ensure qualified welder is engaged for tack weld and welding	-	-	-	-
<b>PC24.</b> ensure that sections are placed in proper position and correct orientation	-	-	-	-
<b>PC25.</b> check the location of tack weld for sufficiency	-	-	-	-
<b>PC26.</b> ensure the tack weld is free from defects and is of required length	-	-	-	-
<b>PC27.</b> oversee that the weld is deposited as per the approved welding procedure and monitor the welding process parameters	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC28.</b> oversee the de-clamping of component to ensure safe working	-	-	-	-
<b>PC29.</b> ensure the de-slugging of weld joint after the completion of welding	-	-	-	-
<b>PC30.</b> ensure removal of spatters if any from the vicinity of weld joint	-	-	-	-
<b>PC31.</b> carry out checks for fitted components and sections to ensure that the dimensions of the components are complying with the drawings	-	-	-	-
<b>PC32.</b> complete work and inform superiors for the quality checking procedures	-	-	-	-
<b>PC33.</b> instruct subordinates for repair or removal of any divergences found by quality inspectors as per requirement	-	-	-	-
<b>PC34.</b> ensure that the work is completed safely in specified time with required quality	-	-	-	-
<b>PC35.</b> ensure the traceability of the fabricated component by using proper marking tool	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N1213
<b>NOS Name</b>	Ensure completion of joint preparation activities for fabrication
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Fabrication
<b>NSQF Level</b>	4.5
<b>Credits</b>	2
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022



## CON/N1214: Ensure completion of joint connection activities

### Description

This unit describes the skills and knowledge required to ensure completion of joint connection activities

### Scope

The scope covers the following :

- Coordinate joint connection and related activities

### Elements and Performance Criteria

#### *Coordinate joint connection and related activities*

To be competent, the user/individual on the job must be able to:

- PC1.** check the joints prepared for accurate dimensions and smoothness
- PC2.** check the edge preparation nomenclature of the members
- PC3.** check the surface preparation of base metal before beginning of weld
- PC4.** extract weld specifications from drawings and other technical documents
- PC5.** interact and communicate with welders to identify the cause of improper welding
- PC6.** measure the weld bead profile by weld gauge
- PC7.** identify other defects in welds such as undercut, lack of fusion, cracks, craters, spatters etc. and suggest corrective measures for avoiding these defects in future
- PC8.** conduct dimensional checks of the connected assemblies or components
- PC9.** check bolt holes for their size, position, shape and grouping
- PC10.** ensure that required amount of nuts, bolts and washers are available and have cleared quality inspection before commencing the work
- PC11.** extract the bolting requirements from drawings, standards or specifications
- PC12.** monitor observation of safe working practices as per organizational norms within workplace
- PC13.** complete work and inform superiors for initiating the quality checking procedures
- PC14.** instruct subordinates for repair or removal of any divergences found by quality inspectors as per requirement

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for fabrication works
- KU2.** safety rules and regulations for handling and storing required fabrication tools, equipment and materials
- KU3.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment



## Qualification Pack



- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** welding terminologies like arc, flux, slag etc.
- KU8.** different materials used in fabrication
- KU9.** different welding parameters
- KU10.** correct calibration of welding Kit and various adjustments in the same
- KU11.** importance of proper joint finishing
- KU12.** how to read and interpret fabrication shop drawings
- KU13.** how to read and interpret various welding specifications from charts and tables
- KU14.** appropriate procedure for storage of electrodes
- KU15.** basics of SMAW, GMAW, GTAW, SAW and FCAW processes
- KU16.** effect of polarity on welding
- KU17.** correct handling and storage of gas cylinders for welding purposes
- KU18.** power ratings of welding equipment
- KU19.** relationship between wire feed, speed control and voltage
- KU20.** the gas regulation, rate of flow of shielding gas and its effects
- KU21.** components of welding gun, equipment and their functions
- KU22.** effects of welding fumes
- KU23.** consumable, their specification, types, usage, storage and handling
- KU24.** different types of shielding gases and their uses in different conditions
- KU25.** appropriate positions of welding, specific to requirements
- KU26.** patterns and position of welding and their application
- KU27.** grinding and gas cutting equipment specification and application

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks
- GS10.** identify any violation of safety norms during the work



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Coordinate joint connection and related activities</i>	<b>30</b>	<b>70</b>	-	-
<b>PC1.</b> check the joints prepared for accurate dimensions and smoothness	-	-	-	-
<b>PC2.</b> check the edge preparation nomenclature of the members	-	-	-	-
<b>PC3.</b> check the surface preparation of base metal before beginning of weld	-	-	-	-
<b>PC4.</b> extract weld specifications from drawings and other technical documents	-	-	-	-
<b>PC5.</b> interact and communicate with welders to identify the cause of improper welding	-	-	-	-
<b>PC6.</b> measure the weld bead profile by weld gauge	-	-	-	-
<b>PC7.</b> identify other defects in welds such as undercut, lack of fusion, cracks, craters, spatters etc. and suggest corrective measures for avoiding these defects in future	-	-	-	-
<b>PC8.</b> conduct dimensional checks of the connected assemblies or components	-	-	-	-
<b>PC9.</b> check bolt holes for their size, position, shape and grouping	-	-	-	-
<b>PC10.</b> ensure that required amount of nuts, bolts and washers are available and have cleared quality inspection before commencing the work	-	-	-	-
<b>PC11.</b> extract the bolting requirements from drawings, standards or specifications	-	-	-	-
<b>PC12.</b> monitor observation of safe working practices as per organizational norms within workplace	-	-	-	-
<b>PC13.</b> complete work and inform superiors for initiating the quality checking procedures	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> instruct subordinates for repair or removal of any divergences found by quality inspectors as per requirement	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N1214
<b>NOS Name</b>	Ensure completion of joint connection activities
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Fabrication
<b>NSQF Level</b>	4.5
<b>Credits</b>	3
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022





# CON/N0726: Supervise heavy lifting of structural assemblies at construction sites

## Description

This unit describes the skills and knowledge required to supervise the heavy lifting of structural assemblies at construction sites.

## Scope

The scope covers the following :

- Supervise heavy lifting activities
- Provide signals to equipment operator by hand or using electronic device

## Elements and Performance Criteria

### *Supervise heavy lifting activities*

To be competent, the user/individual on the job must be able to:

- PC1.** brief subordinates about heavy lifting plan and safety control measures prior to lifting
- PC2.** allocate activities to specified subordinates as per their level of expertise
- PC3.** analyze hazards related with lifting operations and report to concerned authority for any required action
- PC4.** conducting checks/trail runs on the equipment to ensure safe and desired functioning of lifting equipment
- PC5.** carry out physical checks on components, assemblies and its locations where sling is to be attached for lifting
- PC6.** check slinging tools and lifting tools for their usability and specifications according to load
- PC7.** ensure tightening of shackles, hooks, anchoring slings or belts during lifting of load
- PC8.** ensure exact locking of sling at hook of crane
- PC9.** ensure the use of tag line of adequate length to control motion of the suspended load
- PC10.** ensure free motion of crane boom load movement path is free from any static or mobile obstruction and is adequately illuminated
- PC11.** ensure erection of barricades surrounding heavy lifting location

### *Provide signals to equipment operator by hand or using electronic devices*

To be competent, the user/individual on the job must be able to:

- PC12.** maintain clear line of vision with the operator and suspended load while providing signal
- PC13.** provide appropriate verbal directions to equipment operator using communication devices
- PC14.** adhere to standard hand signal methods while providing signals
- PC15.** provide signals to guide suspended loads to appropriate location under critical conditions

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



## Qualification Pack



- KU1.** standard procedure for rigging works
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** how to read and interpret drawings, specifications relevant to task
- KU8.** agreed lifting plan and schedule for lifting operation
- KU9.** working mechanism of heavy lifting equipment like cranes, jacks, winches, derricks
- KU10.** load lifting capacity of lifting equipment under use
- KU11.** statutory requirements of lifting equipment and its operators for safe working at construction sites
- KU12.** preparatory works to be completed for using heavy lift equipment like area grading, base compaction, periodical maintenance
- KU13.** code of practices relevant to lifting operations
- KU14.** common hazards involved in heavy lifting and erection work
- KU15.** reporting procedures as per standard and organizational norms
- KU16.** factors influencing lifting and erection work like wind speed, visibility, shape and weight of object being lifted, presence of obstruction, counter weight etc.
- KU17.** load lifting capacity of the equipment under operation according to boom length and angle of boom
- KU18.** standard hand signals applicable to heavy load lifting operations by cranes
- KU19.** load chart applicable to lifting equipment
- KU20.** operation of communication devices
- KU21.** how to provide direction to lifting equipment operator using communication device

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks



## Qualification Pack



**GS10.** identify any violation of safety norms during the work



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Supervise heavy lifting activities</i>	<b>15</b>	<b>35</b>	-	-
<b>PC1.</b> brief subordinates about heavy lifting plan and safety control measures prior to lifting	-	-	-	-
<b>PC2.</b> allocate activities to specified subordinates as per their level of expertise	-	-	-	-
<b>PC3.</b> analyze hazards related with lifting operations and report to concerned authority for any required action	-	-	-	-
<b>PC4.</b> conducting checks/trail runs on the equipment to ensure safe and desired functioning of lifting equipment	-	-	-	-
<b>PC5.</b> carry out physical checks on components, assemblies and its locations where sling is to be attached for lifting	-	-	-	-
<b>PC6.</b> check slinging tools and lifting tools for their usability and specifications according to load	-	-	-	-
<b>PC7.</b> ensure tightening of shackles, hooks, anchoring slings or belts during lifting of load	-	-	-	-
<b>PC8.</b> ensure exact locking of sling at hook of crane	-	-	-	-
<b>PC9.</b> ensure the use of tag line of adequate length to control motion of the suspended load	-	-	-	-
<b>PC10.</b> ensure free motion of crane boom load movement path is free from any static or mobile obstruction and is adequately illuminated	-	-	-	-
<b>PC11.</b> ensure erection of barricades surrounding heavy lifting location	-	-	-	-
<i>Provide signals to equipment operator by hand or using electronic devices</i>	<b>15</b>	<b>35</b>	-	-
<b>PC12.</b> maintain clear line of vision with the operator and suspended load while providing signal	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> provide appropriate verbal directions to equipment operator using communication devices	-	-	-	-
<b>PC14.</b> adhere to standard hand signal methods while providing signals	-	-	-	-
<b>PC15.</b> provide signals to guide suspended loads to appropriate location under critical conditions	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0726
<b>NOS Name</b>	Supervise heavy lifting of structural assemblies at construction sites
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Rigging
<b>NSQF Level</b>	4.5
<b>Credits</b>	4
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022



## CON/N0727: Execute erection works as per drawing/ specification

### Description

This unit describes the skills and knowledge required to execute erection works as per drawing/ specification

### Scope

The scope covers the following :

- Carry out planning for basic erection work
- Execute erection work as per drawing/ specification

### Elements and Performance Criteria

#### *Carry out planning for basic erection work*

To be competent, the user/individual on the job must be able to:

- PC1.** interpret structural drawings to determine structural locations, orientations, critical erection points and resource required for executing the works
- PC2.** adhere to specified time line for completion of activities
- PC3.** sequence key activities related to lifting and erection of components or assemblies
- PC4.** manage required resources in coordination with superiors and other respective authorities
- PC5.** plan and establish safe access to the point of erection

#### *Execute erection work as per drawing/ specification*

To be competent, the user/individual on the job must be able to:

- PC6.** obtain key survey markings at appropriate locations
- PC7.** develop hand sketches and provide it to subordinates as per requirement
- PC8.** supervise lowering, placing and positioning of components or assemblies by providing instructions to the subordinates to achieve desired outcome
- PC9.** oversee erection activity and ensure the orientation of structural components and assemblies is within tolerance limit, as per relevant drawings or instructions
- PC10.**
  - check the verticality, level, location, centre to centre distance, diagonal,
  - orientation of transvers truss, column, flatness of end plate, splice plate (close mating of plate) etc of the erected truss/ member/ assembly
- PC11.** check the terminals, edges, holes and joints for compliance as per quality control checklists or guidelines
- PC12.** check the bolt tightening of the assembly as per requirement ( snug- tightening, torqueing and DTI)
- PC13.** check the stick-out of the bolt as per specification
- PC14.** check the matching of holes and inform the supervisor of any deviation
- PC15.** confirm that all bolts used in the existing or precast components are of proper length, diameter and grade for the connections ,as per erection drawing
- PC16.** carry out grouting (if required) as per the specification, approved drawings
- PC17.** check that centre line of the base plate coincides with foundation pedestal axis (X, Y)



- PC18.** check that the foundation of bolts are free from damage and foundation packets are free from debris and foreign material
- PC19.** check the bolt assembly and remove any deviations such as missing bolt/ nut/ washer, short bolt, damaged bolt, excessive stand-off distance, incompatibility of bolt hole/washer etc.
- PC20.** check the depth of threaded inserts in the existing structures or RCC precast units to ensure minimum acceptable engagement for the bolt threads
- PC21.** ensure placing of grout pad, cleaning of gaps for grouting and caulking as per requirement
- PC22.** check lateral stability of part erected components and provide instructions for bracings and supports at required locations
- PC23.** complete work as per set standards and offer for quality control checks by superior and other concerned authorities
- PC24.** observe adherence to housekeeping and safety practices as per standard/ organizational norms during all concerned activities

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard procedure for rigging works
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** specified level, orientation of the structure to be erected
- KU8.** technical details (related to erection) applicable to the component, assembly
- KU9.** different standard sections of structural steel
- KU10.** dimensional checks to be performed as per requirement
- KU11.** different types of welding according to welding material, method and criticality in position
- KU12.** different types of bolts as per diameter and their functions
- KU13.** welded joints, bolt joints and rivet joints and their use
- KU14.** gas cutting and grinding works
- KU15.** working mechanism of heavy lifting equipment like cranes, jacks, winches, derricks
- KU16.** load lifting capacity of lifting equipment under use
- KU17.** common hazards involved in heavy lifting and erection work
- KU18.** factors having influence in lifting and erection work like wind speed, visibility, shape and weight of object being lifted, presence of obstruction, counter weight etc.
- KU19.** load lifting capacity of equipment according to angle of boom
- KU20.** maximum boom length of the equipment
- KU21.** methods of linear, areal and volumetric measurement
- KU22.** simple geometry and conversion of units
- KU23.** standard hand signals applicable to heavy load lifting operations by cranes





## Qualification Pack



**KU24.** load chart applicable to lifting equipment

**KU25.** use of calculator, communication devices

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks
- GS10.** identify any violation of safety norms during the work



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out planning for basic erection work</i>	<b>15</b>	<b>35</b>	-	-
<b>PC1.</b> interpret structural drawings to determine structural locations, orientations, critical erection points and resource required for executing the works	-	-	-	-
<b>PC2.</b> adhere to specified time line for completion of activities	-	-	-	-
<b>PC3.</b> sequence key activities related to lifting and erection of components or assemblies	-	-	-	-
<b>PC4.</b> manage required resources in coordination with superiors and other respective authorities	-	-	-	-
<b>PC5.</b> plan and establish safe access to the point of erection	-	-	-	-
<i>Execute erection work as per drawing/ specification</i>	<b>15</b>	<b>32</b>	-	-
<b>PC6.</b> obtain key survey markings at appropriate locations	-	-	-	-
<b>PC7.</b> develop hand sketches and provide it to subordinates as per requirement	-	-	-	-
<b>PC8.</b> supervise lowering, placing and positioning of components or assemblies by providing instructions to the subordinates to achieve desired outcome	-	-	-	-
<b>PC9.</b> oversee erection activity and ensure the orientation of structural components and assemblies is within tolerance limit, as per relevant drawings or instructions	-	-	-	-
<b>PC10.</b> <ul style="list-style-type: none"> <li>• check the verticality, level, location, centre to centre distance, diagonal,</li> <li>• orientation of transvers truss, column, flatness of end plate, splice plate (close mating of plate) etc of the erected truss/ member/ assembly</li> </ul>	-	-	-	-
<b>PC11.</b> check the terminals, edges, holes and joints for compliance as per quality control checklists or guidelines	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> check the bolt tightening of the assembly as per requirement ( snug- tightening, torquing and DTI)	-	-	-	-
<b>PC13.</b> check the stick-out of the bolt as per specification	-	-	-	-
<b>PC14.</b> check the matching of holes and inform the supervisor of any deviation	-	-	-	-
<b>PC15.</b> confirm that all bolts used in the existing or precast components are of proper length, diameter and grade for the connections ,as per erection drawing	-	-	-	-
<b>PC16.</b> carry out grouting (if required) as per the specification, approved drawings	-	-	-	-
<b>PC17.</b> check that centre line of the base plate coincides with foundation pedestal axis (X, Y)	-	-	-	-
<b>PC18.</b> check that the foundation of bolts are free from damage and foundation packets are free from debris and foreign material	-	-	-	-
<b>PC19.</b> check the bolt assembly and remove any deviations such as missing bolt/ nut/ washer, short bolt, damaged bolt, excessive stand-off distance, incompatibility of bolt hole/washer etc.	-	-	-	-
<b>PC20.</b> check the depth of threaded inserts in the existing structures or RCC precast units to ensure minimum acceptable engagement for the bolt threads	-	-	-	-
<b>PC21.</b> ensure placing of grout pad, cleaning of gaps for grouting and caulking as per requirement	-	-	-	-
<b>PC22.</b> check lateral stability of part erected components and provide instructions for bracings and supports at required locations	-	-	-	-
<b>PC23.</b> complete work as per set standards and offer for quality control checks by superior and other concerned authorities	-	-	-	-
<b>PC24.</b> observe adherence to housekeeping and safety practices as per standard/ organizational norms during all concerned activities	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	30	70	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0727
<b>NOS Name</b>	Execute erection works as per drawing/ specification
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Rigging
<b>NSQF Level</b>	4.5
<b>Credits</b>	5
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022



## CON/N7001: Plan, arrange and manage resources for execution of relevant work

### Description

This unit describes the knowledge and the skills required for an individual to plan and organize work in order to meet expected outcome.

### Scope

The scope covers the following :

- Plan and prepare for work
- Arrange and manage manpower
- Arrange allocate and manage tools, material and equipment for completion of work, as per the plan

### Elements and Performance Criteria

#### *Plan and prepare for work*

To be competent, the user/individual on the job must be able to:

- PC1.** identify the targets and timelines for the work set by superiors
- PC2.** determine the work requirements corresponding to task(drawings/schedules/instructions/methodology), safety, tools and equipment prior to commencement of task
- PC3.** plan the work by analyzing the required outcomes, work procedures, allotted time, resource availability and known priorities
- PC4.** prepare the work areas in coordination with team members
- PC5.** plan for waste collection and disposal prior to and after completion of work

#### *Arrange and manage manpower*

To be competent, the user/individual on the job must be able to:

- PC6.** determine quantum and nature of work under assigned activity
- PC7.** calculate requirement of manpower for assigned activities
- PC8.** submit manpower requirement to superiors
- PC9.** allocate and extract work as per plan
- PC10.** provide clear instructions to workmen for execution of work
- PC11.** ensure optimum utilization of manpower resources
- PC12.** record the daily labor attendance and their daily productivity

#### *Arrange allocate and manage tools, material and equipment for completion of work, as per the plan*

To be competent, the user/individual on the job must be able to:

- PC13.** estimate requirement for material, components, fixtures, equipment, tools and accessories
- PC14.** submit material, equipment and tool requirement to superiors
- PC15.** allocate material, equipment and tools to workmen and extract the work as per plan
- PC16.** provide clear instructions for optimum use of resources
- PC17.** ensure the work processes adopted are in line with the specified standards and instructions



**PC18.** complete the work with the allocated resources within specified time

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for execution of relevant work
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** how to identify work activities that need to be planned and organized
- KU7.** how to undertake all aspect of planning and organizing the task, including interpretation of task, reading drawing/schedules, arranging resources, reporting problems etc.
- KU8.** manpower requirement on the basis of quantum of work and productivity
- KU9.** sequence and priority of activities
- KU10.** how to identify priority and critical activity of relevant task
- KU11.** method and technique on briefing team members about relevant work
- KU12.** different checks to evaluate progress and quality of relevant works
- KU13.** importance of daily productivity report
- KU14.** importance of daily attendance register
- KU15.** how to calculate quantum of relevant work
- KU16.** calculation of tools and material requirement
- KU17.** optimum use of available resources
- KU18.** computer basics

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks
- GS10.** identify any violation of safety norms during the work



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan and prepare for work</i>	<b>12</b>	<b>24</b>	-	-
<b>PC1.</b> identify the targets and timelines for the work set by superiors	-	-	-	-
<b>PC2.</b> determine the work requirements corresponding to task(drawings/schedules/instructions/methodology), safety, tools and equipment prior to commencement of task	-	-	-	-
<b>PC3.</b> plan the work by analyzing the required outcomes, work procedures, allotted time, resource availability and known priorities	-	-	-	-
<b>PC4.</b> prepare the work areas in coordination with team members	-	-	-	-
<b>PC5.</b> plan for waste collection and disposal prior to and after completion of work	-	-	-	-
<i>Arrange and manage manpower</i>	<b>12</b>	<b>24</b>	-	-
<b>PC6.</b> determine quantum and nature of work under assigned activity	-	-	-	-
<b>PC7.</b> calculate requirement of manpower for assigned activities	-	-	-	-
<b>PC8.</b> submit manpower requirement to superiors	-	-	-	-
<b>PC9.</b> allocate and extract work as per plan	-	-	-	-
<b>PC10.</b> provide clear instructions to workmen for execution of work	-	-	-	-
<b>PC11.</b> ensure optimum utilization of manpower resources	-	-	-	-
<b>PC12.</b> record the daily labor attendance and their daily productivity	-	-	-	-
<i>Arrange allocate and manage tools, material and equipment for completion of work, as per the plan</i>	<b>6</b>	<b>22</b>	-	-
<b>PC13.</b> estimate requirement for material, components, fixtures, equipment, tools and accessories	-	-	-	-





## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> submit material, equipment and tool requirement to superiors	-	-	-	-
<b>PC15.</b> allocate material, equipment and tools to workmen and extract the work as per plan	-	-	-	-
<b>PC16.</b> provide clear instructions for optimum use of resources	-	-	-	-
<b>PC17.</b> ensure the work processes adopted are in line with the specified standards and instructions	-	-	-	-
<b>PC18.</b> complete the work with the allocated resources within specified time	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N7001
<b>NOS Name</b>	Plan, arrange and manage resources for execution of relevant work
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Generic, Real Estate and Infrastructure construction
<b>Occupation</b>	Generic 1
<b>NSQF Level</b>	5
<b>Credits</b>	1
<b>Version</b>	4.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025



# CON/N9002: Manage workplace for safe and healthy work environment

## Description

This unit describes the skill and knowledge required to maintain a healthy & safe working environment for the group of people working under an individual.

## Scope

The scope covers the following :

- Ensure effective implementation of health, safety and environment policies and procedures
- Identify and respond to risks / fire and emergencies associated with the work practices and workplace
- Ensure sanitization and infection control guidelines are followed at construction site

## Elements and Performance Criteria

### *Ensure effective implementation of health, safety and environment policies and procedures*

To be competent, the user/individual on the job must be able to:

- PC1.** implement safe handling and stacking methods at workplace /store
- PC2.** ensure the adequate availability and placing of safety and protection installations at site
- PC3.** ensure that safe access ways are available at work place for movement of workers and materials
- PC4.** ensure the safe use of tools and tackles by teammates as per work requirements
- PC5.** ensure ergonomic principles are adopted by the teammates while lifting and shifting of construction materials, tools and equipment
- PC6.** ensure appropriate use of following Personal Protective Equipment (PPE) as per work requirement of head protection, ear protection, fall protection, foot protection, face and eye protection, hand and body protection, respiratory protection
- PC7.** maintain entry and exit pathways from confined spaces, excavated pits and other location as per safety parameters/instructions
- PC8.** ensure proper housekeeping at workplace
- PC9.** ensure that subordinates adhere to health and safety plans

### *Identify and respond to risks / fire and emergencies associated with the work practices and workplace*

To be competent, the user/individual on the job must be able to:

- PC10.** identify any hazard at workplace and report/notify the same to appropriate authorities.
- PC11.** follow procedures for accident recording and reporting as per organizational and statutory requirements
- PC12.** ensure effective adherence to emergency response procedures / protocols
- PC13.** select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline
- PC14.** obtain 'height pass' clearance as per EHS guideline
- PC15.** implement control measures to reduce risks ,meeting legislative requirements within the scope of own role and expertise, as per organizational policies

### *Ensure sanitization and infection control guidelines are followed at construction site*



## Qualification Pack



To be competent, the user/individual on the job must be able to:

- PC16.** promote awareness about latest hygiene and sanitation regulations
- PC17.** ensure disinfection procedure related to material, tools and supplies are followed properly
- PC18.** respond to infection prevention and control and its non-compliance , within scope of own role or report to required personnel

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the policies, procedures and protocol set up by the EHS Department with respect to Health , Safety and Environment at the respective construction site
- KU2.** reporting procedures in cases of breaches or hazards in site safety, accidents or emergency situations
- KU3.** safe working practices for tools, tackles and equipment
- KU4.** workplace policies and health and safety requirements for dealing with potential risks as defined by the EHS department
- KU5.** how to respond to accidents and emergencies
- KU6.** the appropriate personal protective equipment to be used based on various working conditions
- KU7.** how to use necessary material ,tools, tackles and equipment in a safe and appropriate manner as specified by site EHS for each level and respective workman gang
- KU8.** ways of transmission of infection
- KU9.** ways to manage infectious risks at the workplace
- KU10.** different methods of cleaning, disinfection, sterilization and sanitization
- KU11.** symptoms of infection like fever, cough, redness, swelling and inflammation
- KU12.** actions be taken during a medical emergency
- KU13.** current guidelines, national legislation, local policies and protocols regarding spread of infectious disease.

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** listen and follow instructions shared by site EHS and superiors regarding site safety
- GS5.** communicate reporting of site conditions, hazards, accidents, etc.
- GS6.** analyze the safety aspect of the workplace
- GS7.** identify any violation of safety norms during the work



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure effective implementation of health, safety and environment policies and procedures</i>	<b>15</b>	<b>40</b>	-	-
<b>PC1.</b> implement safe handling and stacking methods at workplace /store	-	-	-	-
<b>PC2.</b> ensure the adequate availability and placing of safety and protection installations at site	-	-	-	-
<b>PC3.</b> ensure that safe access ways are available at work place for movement of workers and materials	-	-	-	-
<b>PC4.</b> ensure the safe use of tools and tackles by teammates as per work requirements	-	-	-	-
<b>PC5.</b> ensure ergonomic principles are adopted by the teammates while lifting and shifting of construction materials, tools and equipment	-	-	-	-
<b>PC6.</b> ensure appropriate use of following Personal Protective Equipment (PPE) as per work requirement of head protection, ear protection, fall protection, foot protection, face and eye protection, hand and body protection, respiratory protection	-	-	-	-
<b>PC7.</b> maintain entry and exit pathways from confined spaces, excavated pits and other location as per safety parameters/instructions	-	-	-	-
<b>PC8.</b> ensure proper housekeeping at workplace	-	-	-	-
<b>PC9.</b> ensure that subordinates adhere to health and safety plans	-	-	-	-
<i>Identify and respond to risks / fire and emergencies associated with the work practices and workplace</i>	<b>10</b>	<b>20</b>	-	-
<b>PC10.</b> identify any hazard at workplace and report/notify the same to appropriate authorities.	-	-	-	-
<b>PC11.</b> follow procedures for accident recording and reporting as per organizational and statutory requirements	-	-	-	-
<b>PC12.</b> ensure effective adherence to emergency response procedures / protocols	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline	-	-	-	-
<b>PC14.</b> obtain 'height pass' clearance as per EHS guideline	-	-	-	-
<b>PC15.</b> implement control measures to reduce risks ,meeting legislative requirements within the scope of own role and expertise, as per organizational policies	-	-	-	-
<i>Ensure sanitization and infection control guidelines are followed at construction site</i>	<b>5</b>	<b>10</b>	-	-
<b>PC16.</b> promote awareness about latest hygiene and sanitation regulations	-	-	-	-
<b>PC17.</b> ensure disinfection procedure related to material, tools and supplies are followed properly	-	-	-	-
<b>PC18.</b> respond to infection prevention and control and its non-compliance , within scope of own role or report to required personnel	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N9002
<b>NOS Name</b>	Manage workplace for safe and healthy work environment
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic Safety
<b>NSQF Level</b>	5
<b>Credits</b>	1
<b>Version</b>	4.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025



### DGT/VSQ/N0102: Employability Skills (60 Hours)

#### Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

#### Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

#### Elements and Performance Criteria

##### *Introduction to Employability Skills*

To be competent, the user/individual on the job must be able to:

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

##### *Constitutional values - Citizenship*

To be competent, the user/individual on the job must be able to:

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

##### *Becoming a Professional in the 21st Century*

To be competent, the user/individual on the job must be able to:

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

##### *Basic English Skills*

To be competent, the user/individual on the job must be able to:





## Qualification Pack



- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

### *Career Development & Goal Setting*

To be competent, the user/individual on the job must be able to:

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

### *Communication Skills*

To be competent, the user/individual on the job must be able to:

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

### *Diversity & Inclusion*

To be competent, the user/individual on the job must be able to:

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

### *Financial and Legal Literacy*

To be competent, the user/individual on the job must be able to:

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

### *Essential Digital Skills*

To be competent, the user/individual on the job must be able to:

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

### *Entrepreneurship*

To be competent, the user/individual on the job must be able to:

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

### *Customer Service*

To be competent, the user/individual on the job must be able to:

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.
- PC28.** follow appropriate hygiene and grooming standards



### *Getting ready for apprenticeship & Jobs*

To be competent, the user/individual on the job must be able to:

- PC29.** create a professional Curriculum vitae (Résumé)
- PC30.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively
- PC31.** apply to identified job openings using offline /online methods as per requirement
- PC32.** answer questions politely, with clarity and confidence, during recruitment and selection
- PC33.** identify apprenticeship opportunities and register for it as per guidelines and requirements

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** need for employability skills and different learning and employability related portals
- KU2.** various constitutional and personal values
- KU3.** different environmentally sustainable practices and their importance
- KU4.** Twenty first (21st) century skills and their importance
- KU5.** how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up
- KU6.** importance of career development and setting long- and short-term goals
- KU7.** about effective communication
- KU8.** POSH Act
- KU9.** Gender sensitivity and inclusivity
- KU10.** different types of financial institutes, products, and services
- KU11.** how to compute income and expenditure
- KU12.** importance of maintaining safety and security in offline and online financial transactions
- KU13.** different legal rights and laws
- KU14.** different types of digital devices and the procedure to operate them safely and securely
- KU15.** how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.
- KU16.** how to identify business opportunities
- KU17.** types and needs of customers
- KU18.** how to apply for a job and prepare for an interview
- KU19.** apprenticeship scheme and the process of registering on apprenticeship portal

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** read and write different types of documents/instructions/correspondence
- GS2.** communicate effectively using appropriate language in formal and informal settings
- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode



## Qualification Pack



- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> identify employability skills required for jobs in various industries	-	-	-	-
<b>PC2.</b> identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values – Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC3.</b> recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
<b>PC4.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>2</b>	<b>4</b>	-	-
<b>PC5.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC6.</b> practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
<b>PC7.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
<b>PC8.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC9.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> understand the difference between job and career	-	-	-	-
<b>PC11.</b> prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC12.</b> follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
<b>PC13.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>2</b>	-	-
<b>PC14.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC15.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC16.</b> select financial institutions, products and services as per requirement	-	-	-	-
<b>PC17.</b> carry out offline and online financial transactions, safely and securely	-	-	-	-
<b>PC18.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC19.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC20.</b> operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
<b>PC21.</b> use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
<b>PC22.</b> use basic features of word processor, spreadsheets, and presentations	-	-	-	-
<i>Entrepreneurship</i>	<b>2</b>	<b>3</b>	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC23.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC24.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC25.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	<b>1</b>	<b>2</b>	-	-
<b>PC26.</b> identify different types of customers	-	-	-	-
<b>PC27.</b> identify and respond to customer requests and needs in a professional manner.	-	-	-	-
<b>PC28.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>2</b>	<b>3</b>	-	-
<b>PC29.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC30.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC31.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC32.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC33.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0102
<b>NOS Name</b>	Employability Skills (60 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	08/09/2025
<b>Next Review Date</b>	08/09/2030
<b>NSQC Clearance Date</b>	08/09/2025

### Assessment Guidelines and Assessment Weightage

#### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC)/ element 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/ element.
2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.
5. The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of



## Qualification Pack



improper performance, with a deduction of marks for each iteration.

8. After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.

9. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified timeframe set by SSC.

10. Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

### Minimum Skill Aggregate Passing % at QP Level : 70

**(Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

### Minimum Passing % at NOS Level: 70

**(Please note:** A Trainee must score the minimum percentage for each NOS separately as well as on the QP as a whole.)

## Assessment Weightage

### Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N1213.Ensure completion of joint preparation activities for fabrication	30	70	-	-	100	20
CON/N1214.Ensure completion of joint connection activities	30	70	-	-	100	15
CON/N0726.Supervise heavy lifting of structural assemblies at construction sites	30	70	-	-	100	10
CON/N0727.Execute erection works as per drawing/ specification	30	70	-	-	100	15
CON/N7001.Plan, arrange and manage resources for execution of relevant work	30	70	0	0	100	15
CON/N8001.Work effectively in a team to deliver desired results at the workplace	30	70	-	-	100	5





## Qualification Pack



National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N9002.Manage workplace for safe and healthy work environment	30	70	0	0	100	15
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
<b>Total</b>	<b>230</b>	<b>520</b>	<b>0</b>	<b>0</b>	<b>750</b>	<b>100</b>



## Qualification Pack



### Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training



### Glossary

<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
<b>Knowledge and Understanding (KU)</b>	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.



## Qualification Pack



<b>Organisational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.