



## Qualification Pack



# Shuttering Carpenter

System Formwork/ Conventional Formwork

QP Code: CON/Q3001

Version: 4.0

NSQF Level: 4

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



## Qualification Pack

### Contents

CON/Q3001: Shuttering Carpenter .....	3
<i>Brief Job Description</i> .....	3
Applicable National Occupational Standards (NOS) .....	3
<i>Compulsory NOS</i> .....	3
<i>Elective 1: System Formwork</i> .....	3
<i>Elective 2: Conventional Formwork</i> .....	3
<i>Qualification Pack (QP) Parameters</i> .....	3
CON/N0302: Make wooden shutters used in shuttering carpentry .....	5
CON/N0304: Carry out quality check for shuttering works .....	10
CON/N9001: Work according to personal health, safety and environment protocols at construction site .....	14
CON/N8001: Work effectively in a team to deliver desired results at the workplace .....	20
CON/N8002: Plan and organize work to meet expected outcomes .....	24
DGT/VSQ/N0101: Employability Skills (30 Hours) .....	29
CON/N0303: Assemble and dismantle system formwork for R.C.C structures .....	35
CON/N0315: Assemble and dismantle conventional shuttering / formwork for RCC structures .....	41
Assessment Guidelines and Weightage .....	46
<i>Assessment Guidelines</i> .....	46
<i>Assessment Weightage</i> .....	47
Acronyms .....	49
Glossary .....	51



## Qualification Pack

# CON/Q3001: Shuttering Carpenter

## Brief Job Description

A Shuttering Carpenter (System/ Conventional) is responsible for making shutters and assembling system/ conventional formwork for RCC structures such as columns, beams, slabs, walls, foundations and other similar structures.

## 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/N0302: Make wooden shutters used in shuttering carpentry](#)
2. [CON/N0304: Carry out quality check for shuttering works](#)
3. [CON/N9001: Work according to personal health, safety and environment protocols at construction site](#)
4. [CON/N8001: Work effectively in a team to deliver desired results at the workplace](#)
5. [CON/N8002: Plan and organize work to meet expected outcomes](#)
6. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

### Electives (mandatory to select at least one):

#### Elective 1: System Formwork

1. [CON/N0303: Assemble and dismantle system formwork for R.C.C structures](#)

#### Elective 2: Conventional Formwork

1. [CON/N0315: Assemble and dismantle conventional shuttering / formwork for RCC structures](#)

## Qualification Pack (QP) Parameters



## Qualification Pack

<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Shuttering Carpentry
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Credits</b>	19
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/7115.0201
<b>Minimum Educational Qualification &amp; Experience</b>	12th grade Pass OR Completed 2nd year of the 3-year diploma after 10 (in Civil Engineering) OR 11th grade pass with 1 Year of experience Relevant Experience OR 10th grade pass with 2 Years of experience Relevant Experience OR 8th grade pass with 4 Years of experience Relevant Experience OR Previous relevant Qualification of NSQF Level (Level 3 - Assistant Shuttering Carpenter) with 3 Years of experience Relevant Experience
<b>Minimum Level of Education for Training in School</b>	10th Class
<b>Pre-Requisite License or Training</b>	NIL
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	30/04/2028
<b>NSQF Approval Date</b>	08/05/2025
<b>Version</b>	4.0
<b>Reference code on NQR</b>	QG-04-CO-03963-2025-V2-CSDCI
<b>NQR Version</b>	4.0



## Qualification Pack

# CON/N0302: Make wooden shutters used in shuttering carpentry

## Description

This unit describes the skills and knowledge required to make wooden shutters used in shuttering carpentry

## Scope

The scope covers the following :

- Cutting, sizing, and planing of timber and plywood using appropriate tools.
- Make wooden shutter panel board.

## Elements and Performance Criteria

### *Cutting, sizing, and planing of timber and plywood using appropriate tools*

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

- PC1.** use regular hand tools such as hand saw, chisel, jack hammer, nailing hammer, hand drill and other tools efficiently
- PC2.** use power tools and machines such as circular saw, hand drill machine, table mounted saw, planing machine and power drilling machine for cutting, sizing and planing of timber and plywood
- PC3.** follow ergonomic principles while operating the tools and machines
- PC4.** store and maintain all the relevant tools and machines

### *Make wooden shutter panel board*

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

- PC5.** carry out visual check to ensure that timber, plywood are as per quality and requirements for making shutters
- PC6.** prepare "cutting plan" for cutting of the plywood as per the sketches / schematic working drawing
- PC7.** check that all fixtures, consumables and materials are available for shutter making
- PC8.** measure and mark the plywood/ timber using appropriate tools as per requirement
- PC9.** measure and mark form sheathing and stiffeners according to instructions and sketches
- PC10.** cut form sheathing material (plywood) and stiffeners (timber) within the tolerance limit and as per instructions / specifications
- PC11.** make wooden shutter panels using suitable joints as per specifications
- PC12.** smooth corners and edges of panels using appropriate tools
- PC13.** carry out nailing work as per standard practice ensuring rigidity of joints
- PC14.** ensure that shutter board dimensions are as per sketch

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



## Qualification Pack

- KU1.** standard procedure for shuttering 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 & equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipments
- KU5.** procedure for maintenance of tools and equipment
- KU6.** basic sketches / schematic working drawing relevant to making shutters, frames and moulds
- KU7.** basic principles of measurement, geometry and arithmetic calculation
- KU8.** linear conversion of units
- KU9.** units of measurements
- KU10.** different types of plywood and timber with their specifications and quality checks, as per requirements
- KU11.** how to select & use different carpentry tools and appropriate materials
- KU12.** standard size of all carpentry tools, materials and components
- KU13.** how to mark and lay out form sheathing and stiffeners as per requirements
- KU14.** appropriate methodology for cutting of form sheathing and stiffeners
- KU15.** how to carry out visual checks for plywood and timber
- KU16.** different types of joints such as dovetail, tennon & mortise, lap joints
- KU17.** use of the measurement and marking tools relevant to formwork carpentry
- KU18.** electrical safety while using power tools for making shutters
- KU19.** handling of hand / power tools and basic maintenance of tools

## Generic Skills (GS)

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

- GS1.** write in one or more 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



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Cutting, sizing, and planing of timber and plywood using appropriate tools</i>	<b>15</b>	<b>35</b>	-	-
<b>PC1.</b> use regular hand tools such as hand saw, chisel, jack hammer, nailing hammer, hand drill and other tools efficiently	-	-	-	-
<b>PC2.</b> use power tools and machines such as circular saw, hand drill machine, table mounted saw, planing machine and power drilling machine for cutting, sizing and planing of timber and plywood	-	-	-	-
<b>PC3.</b> follow ergonomic principles while operating the tools and machines	-	-	-	-
<b>PC4.</b> store and maintain all the relevant tools and machines	-	-	-	-
<i>Make wooden shutter panel board</i>	<b>15</b>	<b>35</b>	-	-
<b>PC5.</b> carry out visual check to ensure that timber, plywood are as per quality and requirements for making shutters	-	-	-	-
<b>PC6.</b> prepare "cutting plan" for cutting of the plywood as per the sketches / schematic working drawing	-	-	-	-
<b>PC7.</b> check that all fixtures, consumables and materials are available for shutter making	-	-	-	-
<b>PC8.</b> measure and mark the plywood/ timber using appropriate tools as per requirement	-	-	-	-
<b>PC9.</b> measure and mark form sheathing and stiffeners according to instructions and sketches	-	-	-	-
<b>PC10.</b> cut form sheathing material (plywood) and stiffeners (timber) within the tolerance limit and as per instructions / specifications	-	-	-	-
<b>PC11.</b> make wooden shutter panels using suitable joints as per specifications	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> smooth corners and edges of panels using appropriate tools	-	-	-	-
<b>PC13.</b> carry out nailing work as per standard practice ensuring rigidity of joints	-	-	-	-
<b>PC14.</b> ensure that shutter board dimensions are as per sketch	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0302
<b>NOS Name</b>	Make wooden shutters used in shuttering carpentry
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Shuttering Carpentry
<b>NSQF Level</b>	4
<b>Credits</b>	2
<b>Version</b>	5.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025



## Qualification Pack

### CON/N0304: Carry out quality check for shuttering works

#### Description

This unit describes the skills and knowledge required to carry out quality checks for the shuttering works

#### Scope

The scope covers the following :

- Ensure the quality of shuttering works for proper functioning

#### Elements and Performance Criteria

*Ensure the quality of shuttering works for proper functioning*

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

- PC1.** examine the fixed shutters with respect to the survey layouts/ drawings
- PC2.** inspect if the release agent has been applied
- PC3.** check if the cover of reinforcement steel is as per the specifications
- PC4.** inspect joints of plywood and timber
- PC5.** check diagonal dimensions for its accuracy and take corrective action if a twist is observed
- PC6.** repair the damaged formwork boards / plates/ other components
- PC7.** ensure the water tightness of the whole shuttering / formwork system before concreting work
- PC8.** check plumb to ensure verticality is within tolerance limit
- PC9.** check dimensions according to sketches / instructions to ensure that they are within tolerance limit
- PC10.** check props for verticality, position and spacing in case of load bearing support
- PC11.** check lines and levels according to sketches / instructions to ensure that they are within tolerance limit
- PC12.** inspect the formwork supports for its stability
- PC13.** obtain approvals for the erected formwork from superiors and rectify errors if any

#### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard procedure for shuttering 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 & equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipments
- KU5.** procedure for maintenance of tools and equipment



## Qualification Pack

- KU6.** basic sketches / schematic working drawing relevant for erecting and dismantling system formwork
- KU7.** basic principles of measurement, geometry and arithmetic calculation
- KU8.** major types of system formwork (Cuplock, DOKA, PERI, Mivan, Aluform) and their appropriate applications
- KU9.** how to check for line, level and alignment
- KU10.** importance of quality checks in shuttering works
- KU11.** maximum tolerance limits for key quality checks for shuttering works as per IS / International codes
- KU12.** how to carry out rectification of shuttering works
- KU13.** basics and fundamentals of reinforcement works
- KU14.** basics and fundamentals of concreting works
- KU15.** materials and components used in shuttering works
- KU16.** suitability of release agent applied

### Generic Skills (GS)

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

- GS1.** write in one or more language, preferably the local language at 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 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



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure the quality of shuttering works for proper functioning</i>	<b>30</b>	<b>70</b>	-	-
<b>PC1.</b> examine the fixed shutters with respect to the survey layouts/ drawings	-	-	-	-
<b>PC2.</b> inspect if the release agent has been applied	-	-	-	-
<b>PC3.</b> check if the cover of reinforcement steel is as per the specifications	-	-	-	-
<b>PC4.</b> inspect joints of plywood and timber	-	-	-	-
<b>PC5.</b> check diagonal dimensions for its accuracy and take corrective action if a twist is observed	-	-	-	-
<b>PC6.</b> repair the damaged formwork boards / plates/ other components	-	-	-	-
<b>PC7.</b> ensure the water tightness of the whole shuttering / formwork system before concreting work	-	-	-	-
<b>PC8.</b> check plumb to ensure verticality is within tolerance limit	-	-	-	-
<b>PC9.</b> check dimensions according to sketches / instructions to ensure that they are within tolerance limit	-	-	-	-
<b>PC10.</b> check props for verticality, position and spacing in case of load bearing support	-	-	-	-
<b>PC11.</b> check lines and levels according to sketches / instructions to ensure that they are within tolerance limit	-	-	-	-
<b>PC12.</b> inspect the formwork supports for its stability	-	-	-	-
<b>PC13.</b> obtain approvals for the erected formwork from superiors and rectify errors if any	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0304
<b>NOS Name</b>	Carry out quality check for shuttering works
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Shuttering Carpentry
<b>NSQF Level</b>	4
<b>Credits</b>	3
<b>Version</b>	5.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025



## Qualification Pack

# CON/N9001: Work according to personal health, safety and environment protocols at construction site

## Description

This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocols at construction site

## Scope

The scope covers the following :

- Follow safety norms as defined by organization
- Adopt healthy & safe work practices
- Implement good housekeeping and environment protection process and activities
- Follow infection control guidelines as per applicability

## Elements and Performance Criteria

### *Follow safety norms as defined by the organization*

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

- PC1.** identify and report any hazards, risks or breaches in site safety to the appropriate authority
- PC2.** follow emergency and evacuation procedures in case of accidents, fires, natural calamities
- PC3.** follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable
- PC4.** follow all the protocols and safety techniques conveyed during safety awareness programs like Tool Box Talks, safety demonstrations and mock drills conducted at the site
- PC5.** select and operate different types of fire extinguishers corresponding to various types of fires as per EHS guideline
- PC6.** identify near miss, unsafe condition and unsafe act

### *Adopt healthy & safe work practices*

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

- PC7.** use appropriate Personal Protective Equipment (PPE) as per work requirements for : Head Protection, Ear protection, Fall Protection ,Foot Protection, Face and Eye Protection, Hand and Body Protection , and Respiratory Protection (if required)
- PC8.** handle all required tools, tackles, materials and equipment safely
- PC9.** follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines
- PC10.** check and install all safety equipment as per standard guidelines
- PC11.** follow safety protocols and practices as laid down by site EHS department
- PC12.** obtain "height pass" clearance for working at heights

### *Implement good housekeeping practices*

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

- PC13.** collect, segregate and deposit construction waste into appropriate containers based on their toxicity or hazardous nature



## Qualification Pack

**PC14.** apply ergonomic principles wherever required

*Follow infection control guidelines as per applicability*

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

**PC15.** follow recommended personal hygiene, workplace hygiene and sanitization practices

**PC16.** clean and disinfect all materials, tools and supplies before and after use

**PC17.** report immediately to concerned authorities regarding signs and symptoms of illness of self and others

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines
- KU2.** types of safety hazards at construction sites
- KU3.** basic ergonomic principles as per applicability
- KU4.** the procedure for responding to accidents and other emergencies at site
- KU5.** use of appropriate personal protective equipment based on various working conditions
- KU6.** importance of handling tools, equipment, and materials as per applicable norms
- KU7.** effect of construction material on health and environments as per applicability
- KU8.** various environmental protection methods as per applicability
- KU9.** storage of waste including non-combustible scrap material and debris, combustible scrap material and debris, general construction waste and trash (non-toxic, non-hazardous), any other hazardous wastes and any other flammable wastes at the appropriate location
- KU10.** how to keep the workplace neat and tidy so as to be safe
- KU11.** how to use hazardous material in a safe and appropriate manner as per applicability
- KU12.** types of fire
- KU13.** procedure of operating different types of fire extinguishers
- KU14.** safety relevant to tools, tackles, and equipment as per applicability
- KU15.** housekeeping activities relevant to task
- KU16.** ways of transmission of infection
- KU17.** ways to manage infectious risks at the workplace
- KU18.** different methods of cleaning, disinfection, sterilization, and sanitization
- KU19.** symptoms of infection like fever, cough, redness, swelling, and inflammation

## 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.** fill safety formats for near miss, unsafe conditions and safety suggestions
- GS3.** read in one or more language, preferably in the local language of the site



## Qualification Pack

- GS4.** speak in one or more language, preferably in one of the local language of the site
- GS5.** listen to instructions/communication shared by site EHS and superiors regarding site safety, and conducting the toolbox talk
- GS6.** identify potential safety risks and report to the appropriate authority
- GS7.** assess and analyze areas which may affect health, safety and environment protocol on the site



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow safety norms as defined by the organization</i>	<b>5</b>	<b>15</b>	-	-
<b>PC1.</b> identify and report any hazards, risks or breaches in site safety to the appropriate authority	-	-	-	-
<b>PC2.</b> follow emergency and evacuation procedures in case of accidents, fires, natural calamities	-	-	-	-
<b>PC3.</b> follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable	-	-	-	-
<b>PC4.</b> follow all the protocols and safety techniques conveyed during safety awareness programs like Tool Box Talks, safety demonstrations and mock drills conducted at the site	-	-	-	-
<b>PC5.</b> select and operate different types of fire extinguishers corresponding to various types of fires as per EHS guideline	-	-	-	-
<b>PC6.</b> identify near miss, unsafe condition and unsafe act	-	-	-	-
<i>Adopt healthy &amp; safe work practices</i>	<b>15</b>	<b>35</b>	-	-
<b>PC7.</b> use appropriate Personal Protective Equipment (PPE) as per work requirements for : Head Protection, Ear protection, Fall Protection ,Foot Protection, Face and Eye Protection, Hand and Body Protection , and Respiratory Protection (if required)	-	-	-	-
<b>PC8.</b> handle all required tools, tackles, materials and equipment safely	-	-	-	-
<b>PC9.</b> follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines	-	-	-	-
<b>PC10.</b> check and install all safety equipment as per standard guidelines	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> follow safety protocols and practices as laid down by site EHS department	-	-	-	-
<b>PC12.</b> obtain "height pass" clearance for working at heights	-	-	-	-
<i>Implement good housekeeping practices</i>	<b>5</b>	<b>15</b>	-	-
<b>PC13.</b> collect, segregate and deposit construction waste into appropriate containers based on their toxicity or hazardous nature	-	-	-	-
<b>PC14.</b> apply ergonomic principles wherever required	-	-	-	-
<i>Follow infection control guidelines as per applicability</i>	<b>5</b>	<b>5</b>	-	-
<b>PC15.</b> follow recommended personal hygiene, workplace hygiene and sanitization practices	-	-	-	-
<b>PC16.</b> clean and disinfect all materials, tools and supplies before and after use	-	-	-	-
<b>PC17.</b> report immediately to concerned authorities regarding signs and symptoms of illness of self and others	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N9001
<b>NOS Name</b>	Work according to personal health, safety and environment protocols at construction site
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Generic Safety
<b>NSQF Level</b>	4
<b>Credits</b>	1
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025



## Qualification Pack

# CON/N8001: Work effectively in a team to deliver desired results at the workplace

## Description

This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results

## Scope

The scope covers the following :

- Interact and communicate in an effective manner
- Support co-workers to execute the project requirements
- Practice inclusion

## Elements and Performance Criteria

### *Interact and communicate in an effective manner*

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

- PC1.** pass on work related information/ requirement clearly to the team members
- PC2.** inform co-workers and superiors about any kind of deviations from work
- PC3.** report any unresolved problem to the supervisor immediately
- PC4.** obtain instructions from superiors and respond on the same
- PC5.** communicate to team members/subordinates for appropriate work technique and method
- PC6.** seek clarification and advice as per the requirement

### *Support co-workers to execute the project requirements*

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

- PC7.** hand over the required material, tools, tackles, equipment and work fronts timely to interfacing teams
- PC8.** work together with co-workers in a synchronized manner

### *Practice inclusion*

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

- PC9.** maintain cultural inclusivity at work place
- PC10.** maintain disability friendly work practices
- PC11.** follow gender neutral practices at workplace
- PC12.** address discriminatory and offensive behaviour in a professional manner as per organizational policy

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** own roles and responsibilities



## Qualification Pack

- KU2.** importance of effective communication
- KU3.** the consequence of poor teamwork on project outcomes, timelines, safety at the construction site, etc.
- KU4.** different modes of communication used at workplace
- KU5.** importance of creating healthy and cooperative work environment among the gangs of workers
- KU6.** different activities within the work area where interaction with other workers is required
- KU7.** applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement
- KU8.** importance of proper and effective communication and the expected adverse effects in case of failure relating to quality, timeliness, safety, risks at the construction project site
- KU9.** importance and need of supporting co-workers facing problems for the smooth functioning of work
- KU10.** the fundamental concept of gender equality
- KU11.** how to recognise and be sensitive to issues of disability, culture and gender
- KU12.** legislation, policies, and procedures relating to gender sensitivity and cultural diversity including their impact on the area of operation

## 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 the communication regarding work completion, materials used, tools and tackles used, the resource required, etc,
- GS3.** speak in one or more languages, preferably in one of the local language of the site
- GS4.** listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes
- GS5.** communicate orally and effectively with co-workers considering their educational and social background
- GS6.** decide on what information is to be shared with co-workers within the team or to the interfacing gang of workers
- GS7.** plan work and organize the required resources in coordination with team members
- GS8.** complete all assigned task in coordination with team members
- GS9.** take initiative in resolving issues among co-workers or report the same to superiors
- GS10.** ensure best ways of coordination among team members
- GS11.** evaluate the complexity of task and determine if any guidance is required from superiors



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interact and communicate in an effective manner</i>	<b>20</b>	<b>40</b>	-	-
<b>PC1.</b> pass on work related information/ requirement clearly to the team members	-	-	-	-
<b>PC2.</b> inform co-workers and superiors about any kind of deviations from work	-	-	-	-
<b>PC3.</b> report any unresolved problem to the supervisor immediately	-	-	-	-
<b>PC4.</b> obtain instructions from superiors and respond on the same	-	-	-	-
<b>PC5.</b> communicate to team members/subordinates for appropriate work technique and method	-	-	-	-
<b>PC6.</b> seek clarification and advice as per the requirement	-	-	-	-
<i>Support co-workers to execute the project requirements</i>	<b>5</b>	<b>15</b>	-	-
<b>PC7.</b> hand over the required material, tools, tackles, equipment and work fronts timely to interfacing teams	-	-	-	-
<b>PC8.</b> work together with co-workers in a synchronized manner	-	-	-	-
<i>Practice inclusion</i>	<b>5</b>	<b>15</b>	-	-
<b>PC9.</b> maintain cultural inclusivity at work place	-	-	-	-
<b>PC10.</b> maintain disability friendly work practices	-	-	-	-
<b>PC11.</b> follow gender neutral practices at workplace	-	-	-	-
<b>PC12.</b> address discriminatory and offensive behaviour in a professional manner as per organizational policy	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N8001
<b>NOS Name</b>	Work effectively in a team to deliver desired results at the workplace
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Generic 2
<b>NSQF Level</b>	4
<b>Credits</b>	1
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025



## Qualification Pack

### CON/N8002: Plan and organize work to meet expected outcomes

#### Description

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

#### Scope

The scope covers the following :

- Plan and prepare for work
- Organise required resources as per work plan
- Complete 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 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

##### *Organise required resources as per work plan*

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

- PC6.** arrange the required manpower prior to commencement of work
- PC7.** organize the required materials, tools and tackles required for the task

##### *Complete work as per the plan*

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

- PC8.** engage allocated manpower in an appropriate manner
- PC9.** employ correct tools, tackles and equipment for the desired work
- PC10.** provide guidance to the subordinates to obtain desired outcome
- PC11.** use resources in an optimum manner to avoid any unnecessary wastage
- PC12.** use tools, tackles and equipment carefully to avoid damage
- PC13.** ensure the work processes adopted are in line with the specified standards and instructions
- PC14.** complete the work with the allocated resources within specified time
- PC15.** clean and organise the workplace after completion of task

#### Knowledge and Understanding (KU)



## Qualification Pack

The individual on the job needs to know and understand:

- KU1.** importance of proper housekeeping including safe waste disposal
- KU2.** policies, procedures and work targets set by superiors
- KU3.** how to identify work activities that need to be planned and organized
- KU4.** how to determine the task requirements
- KU5.** how to determine the quality requirements related to the task
- KU6.** how to undertake all aspect of planning and organizing the task, including interpretation of task, reading drawing/schedules, arranging resources, reporting problems etc.
- KU7.** how to implement the planned activities
- KU8.** how to use available resources in a judicious and appropriate manner to minimize wastages or damage

## Generic Skills (GS)

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

- GS1.** write in one or more language, preferably the local language at the site
- GS2.** read communication from co-workers, superiors and notices from other departments as per requirement of the level
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** follow communication shared by co-workers regarding standard work processes, resources available, timelines, etc.
- GS5.** communicate effectively with co-workers and subordinates
- GS6.** decide on what sequence is to be adopted for execution of work
- GS7.** plan and organize the materials, tools, tackles and equipment required to execute the work
- GS8.** complete all assigned task with proper planning and organizing
- GS9.** analyze areas of work which could result in a delay of work, wastage of material or damage to tools and tackles
- GS10.** evaluate potential solutions to minimize avoidable delays and wastages at the construction site



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan and prepare for work</i>	<b>10</b>	<b>20</b>	-	-
<b>PC1.</b> identify the targets and timelines 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>Organise required resources as per work plan</i>	<b>5</b>	<b>15</b>	-	-
<b>PC6.</b> arrange the required manpower prior to commencement of work	-	-	-	-
<b>PC7.</b> organize the required materials, tools and tackles required for the task	-	-	-	-
<i>Complete work as per the plan</i>	<b>15</b>	<b>35</b>	-	-
<b>PC8.</b> engage allocated manpower in an appropriate manner	-	-	-	-
<b>PC9.</b> employ correct tools, tackles and equipment for the desired work	-	-	-	-
<b>PC10.</b> provide guidance to the subordinates to obtain desired outcome	-	-	-	-
<b>PC11.</b> use resources in an optimum manner to avoid any unnecessary wastage	-	-	-	-
<b>PC12.</b> use tools, tackles and equipment carefully to avoid damage	-	-	-	-
<b>PC13.</b> ensure the work processes adopted are in line with the specified standards and instructions	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. complete the work with the allocated resources within specified time	-	-	-	-
PC15. clean and organise the workplace after completion of task	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N8002
<b>NOS Name</b>	Plan and organize work to meet expected outcomes
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Generic 2
<b>NSQF Level</b>	4
<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



## Qualification Pack

### DGT/VSQ/N0101: Employability Skills (30 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
- 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.** understand the significance of employability skills in meeting the job requirements

##### *Constitutional values - Citizenship*

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

**PC2.** identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

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

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

**PC3.** explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

##### *Basic English Skills*

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

**PC4.** speak with others using some basic English phrases or sentences

##### *Communication Skills*

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

**PC5.** follow good manners while communicating with others

**PC6.** work with others in a team



## Qualification Pack

### *Diversity & Inclusion*

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

**PC7.** communicate and behave appropriately with all genders and PwD

**PC8.** report any issues related to sexual harassment

### *Financial and Legal Literacy*

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

**PC9.** use various financial products and services safely and securely

**PC10.** calculate income, expenses, savings etc.

**PC11.** approach the concerned authorities for any exploitation as per legal rights and laws

### *Essential Digital Skills*

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

**PC12.** operate digital devices and use its features and applications securely and safely

**PC13.** use internet and social media platforms securely and safely

### *Entrepreneurship*

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

**PC14.** identify and assess opportunities for potential business

**PC15.** identify sources for arranging money and associated financial and legal challenges

### *Customer Service*

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

**PC16.** identify different types of customers

**PC17.** identify customer needs and address them appropriately

**PC18.** follow appropriate hygiene and grooming standards

### *Getting ready for apprenticeship & Jobs*

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

**PC19.** create a basic biodata

**PC20.** search for suitable jobs and apply

**PC21.** identify and register apprenticeship opportunities as per requirement

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** need for employability skills

**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 basic spoken English language

**KU6.** Do and dont of effective communication

**KU7.** inclusivity and its importance

**KU8.** different types of disabilities and appropriate communication and behaviour towards PwD

**KU9.** different types of financial products and services



## Qualification Pack

- KU10.** how to compute income and expenses
- KU11.** importance of maintaining safety and security in financial transactions
- KU12.** different legal rights and laws
- KU13.** how to operate digital devices and applications safely and securely
- KU14.** ways to identify business opportunities
- KU15.** types of customers and their needs
- KU16.** how to apply for a job and prepare for an interview
- KU17.** apprenticeship scheme and the process of registering on apprenticeship portal

## Generic Skills (GS)

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

- GS1.** communicate effectively using appropriate language
- GS2.** behave politely and appropriately with all
- GS3.** perform basic calculations
- GS4.** solve problems effectively
- GS5.** be careful and attentive at work
- GS6.** use time effectively
- GS7.** maintain hygiene and sanitisation to avoid infection



## Qualification Pack

### 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> understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values - Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC2.</b> identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>1</b>	<b>3</b>	-	-
<b>PC3.</b> explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
<b>PC4.</b> speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC5.</b> follow good manners while communicating with others	-	-	-	-
<b>PC6.</b> work with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>1</b>	-	-
<b>PC7.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC8.</b> report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>3</b>	<b>4</b>	-	-
<b>PC9.</b> use various financial products and services safely and securely	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> calculate income, expenses, savings etc.	-	-	-	-
<b>PC11.</b> approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	<b>4</b>	<b>6</b>	-	-
<b>PC12.</b> operate digital devices and use its features and applications securely and safely	-	-	-	-
<b>PC13.</b> use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	<b>3</b>	<b>5</b>	-	-
<b>PC14.</b> identify and assess opportunities for potential business	-	-	-	-
<b>PC15.</b> identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	<b>2</b>	<b>2</b>	-	-
<b>PC16.</b> identify different types of customers	-	-	-	-
<b>PC17.</b> identify customer needs and address them appropriately	-	-	-	-
<b>PC18.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>1</b>	<b>3</b>	-	-
<b>PC19.</b> create a basic biodata	-	-	-	-
<b>PC20.</b> search for suitable jobs and apply	-	-	-	-
<b>PC21.</b> identify and register apprenticeship opportunities as per requirement	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0101
<b>NOS Name</b>	Employability Skills (30 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	2
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	12/03/2026
<b>Next Review Date</b>	12/03/2029
<b>NSQC Clearance Date</b>	12/03/2026



## Qualification Pack

# CON/N0303: Assemble and dismantle system formwork for R.C.C structures

## Description

This unit describes the skills and knowledge required to assemble and dismantle system formwork for RCC structures

## Scope

The scope covers the following :

- Assemble system formwork for RCC structures
- Dismantle system formwork

## Elements and Performance Criteria

### *Assemble system formwork for RCC structures*

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

- PC1.** clean the shutter panels before using for shuttering work
- PC2.** check the supporting base prior to erection of system formwork
- PC3.** check and ensure all tools, material, components are available as per requirements
- PC4.** check that fixing of fasteners is as per system used and as per the requirements
- PC5.** apply release agents to sheathing material as per specifications and instructions
- PC6.** place and fix kicker for column, walls and check its position with respect to line, alignment, and necessary grid dimension
- PC7.** position and set out formwork manually or by mechanical means as per instructions/drawing and requirement
- PC8.** use appropriate methods/ tools for levelling of the formwork such as water level pipe, dumpy level, auto level or laser levelling machine
- PC9.** position and provide necessary support to the formwork using props or other appropriate components based on system used
- PC10.** check for block-outs and cast-in services at specified locations
- PC11.** plug all openings and gaps using foam sheet and adhesive tape or other appropriate materials
- PC12.** ensure water tightness of form by providing form sheet or necessary packing material
- PC13.** position and fix props properly and check for plumb, position and spacing as specified or instructed
- PC14.** provide horizontal or vertical construction joints in case of structural element such as beam , column, slab as per standard practices
- PC15.** ensure tightness of tie rods, supports, and bracings
- PC16.** check that line, level, alignment and plumb of the erected formwork is within tolerance limit
- PC17.** check the linear or angular dimensions for accuracy and take necessary corrective measures if required



## Qualification Pack

### *Dismantle system formwork*

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

- PC18.** plan sequence of dismantling procedure as per standard practice and system used
- PC19.** remove bracing and all other supports provided to the formwork sequentially and safely as instructed
- PC20.** remove sheathing material sequentially using proper tools and tackles to avoid damage to structure or sheathing materials
- PC21.** dismantle formwork shutters manually or by mechanical means as per requirement
- PC22.** repair, clean and stack all the formwork materials/ components after dismantling

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

The individual on the job needs to know and understand:

- KU1.** standard procedure for shuttering 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 & 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.** basic principles of measurement, geometry and arithmetic calculation
- KU7.** linear conversion of units
- KU8.** units of measurements
- KU9.** different types of measurements and marking tools
- KU10.** how to select and use different types of formwork tools
- KU11.** standard size of all formwork tools, material and components
- KU12.** use of water level tube for leveling work
- KU13.** major types of system formwork such as Cuplock, DOKA, PERI, Mivan, Aluform and other similar system and their appropriate applications
- KU14.** how to erect and brace major types of formwork as per site requirements
- KU15.** properties and application of release agents
- KU16.** how to check for line, level and alignment

### **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/routine work drawings, 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



## Qualification Pack

- 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



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assemble system formwork for RCC structures</i>	<b>15</b>	<b>35</b>	-	-
<b>PC1.</b> clean the shutter panels before using for shuttering work	-	-	-	-
<b>PC2.</b> check the supporting base prior to erection of system formwork	-	-	-	-
<b>PC3.</b> check and ensure all tools, material, components are available as per requirements	-	-	-	-
<b>PC4.</b> check that fixing of fasteners is as per system used and as per the requirements	-	-	-	-
<b>PC5.</b> apply release agents to sheathing material as per specifications and instructions	-	-	-	-
<b>PC6.</b> place and fix kicker for column, walls and check its position with respect to line, alignment, and necessary grid dimension	-	-	-	-
<b>PC7.</b> position and set out formwork manually or by mechanical means as per instructions/drawing and requirement	-	-	-	-
<b>PC8.</b> use appropriate methods/ tools for levelling of the formwork such as water level pipe, dumpy level, auto level or laser levelling machine	-	-	-	-
<b>PC9.</b> position and provide necessary support to the formwork using props or other appropriate components based on system used	-	-	-	-
<b>PC10.</b> check for block-outs and cast-in services at specified locations	-	-	-	-
<b>PC11.</b> plug all openings and gaps using foam sheet and adhesive tape or other appropriate materials	-	-	-	-
<b>PC12.</b> ensure water tightness of form by providing form sheet or necessary packing material	-	-	-	-
<b>PC13.</b> position and fix props properly and check for plumb, position and spacing as specified or instructed	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> provide horizontal or vertical construction joints in case of structural element such as beam , column, slab as per standard practices	-	-	-	-
<b>PC15.</b> ensure tightness of tie rods, supports, and bracings	-	-	-	-
<b>PC16.</b> check that line, level, alignment and plumb of the erected formwork is within tolerance limit	-	-	-	-
<b>PC17.</b> check the linear or angular dimensions for accuracy and take necessary corrective measures if required	-	-	-	-
<i>Dismantle system formwork</i>	<b>15</b>	<b>35</b>	-	-
<b>PC18.</b> plan sequence of dismantling procedure as per standard practice and system used	-	-	-	-
<b>PC19.</b> remove bracing and all other supports provided to the formwork sequentially and safely as instructed	-	-	-	-
<b>PC20.</b> remove sheathing material sequentially using proper tools and tackles to avoid damage to structure or sheathing materials	-	-	-	-
<b>PC21.</b> dismantle formwork shutters manually or by mechanical means as per requirement	-	-	-	-
<b>PC22.</b> repair, clean and stack all the formwork materials/ components after dismantling	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0303
<b>NOS Name</b>	Assemble and dismantle system formwork for R.C.C structures
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Shuttering Carpentry
<b>NSQF Level</b>	4
<b>Credits</b>	5
<b>Version</b>	5.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025



## Qualification Pack

# CON/N0315: Assemble and dismantle conventional shuttering / formwork for RCC structures

## Description

This unit describes the skills and knowledge required to assemble and dismantle conventional shuttering / formwork for RCC structures

## Scope

The scope covers the following :

- Assemble conventional shuttering / formwork for R.C.C structures
- Dismantle conventional formwork

## Elements and Performance Criteria

### *Assemble conventional shuttering / formwork for R.C.C structures*

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

- PC1.** clean shutter panels prior to use
- PC2.** check suitability of supporting base prior to erection of conventional formwork
- PC3.** check that all tools, materials, components and fixtures are available as per requirements
- PC4.** identify critical areas of the formwork and perform "Dry-mock up" for them as per the given instructions
- PC5.** apply release agents to sheathing material as per specifications and instruction
- PC6.** apply necessary soldier and walling
- PC7.** position and strike box-outs and bolt boxes, grout checks, level controls, angle fillets and features
- PC8.** use appropriate methods/ tools for levelling the formwork such as water level pipe, dumpy level, auto level or laser levelling machine
- PC9.** position and provide necessary support using runner pieces , timber , props, tie systems appropriately
- PC10.** brace formwork support as per requirements and specifications
- PC11.** ensure water tightness of form by providing form sheet or appropriate packing material
- PC12.** check for proper fixing of tie rods, supports, bracings after erection
- PC13.** plug all openings and gaps using foam sheet and adhesive tape
- PC14.** check erected formwork for line, level, alignment within tolerance limit and provided supports
- PC15.** check the linear and angular dimension for the accuracy and take necessary corrective action if required

### *Dismantle conventional formwork*

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

- PC16.** plan sequence of dismantling procedure for the conventional formwork as per standard practice



## Qualification Pack

- PC17.** remove bracing and all other supports sequentially and safely as instructed
- PC18.** dismantle formwork shutters manually or by mechanical means as per the requirements
- PC19.** repair, clean and stack all the formwork materials/ components after dismantling

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard procedure for shuttering 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 & 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.** basic principles of measurement, geometry and arithmetic calculations
- KU7.** units of measurements and conversion of units
- KU8.** how to select & use different carpentry tools and materials
- KU9.** standard size of all carpentry tools, materials and components
- KU10.** how to erect and brace formwork
- KU11.** different types of material used in conventional shuttering , their selection and use
- KU12.** how to erect conventional staging using bamboo, ballies, pipe & coupler
- KU13.** different types of pipes, coupler, tying thread and other fixtures used in conventional staging works
- KU14.** how to tie different types of knots and use of knots for connection between bamboos and ballies
- KU15.** properties and application of release agents
- KU16.** how to check for plumb, level and alignment
- KU17.** how to work with timber and non-timber based sheet materials for conventional formwork
- KU18.** how to position or attach tie systems, soldiers and walling
- KU19.** maximum tolerance limits for shuttering of various types of structures

### 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/routine work drawings, 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



## Qualification Pack

- 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



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assemble conventional shuttering / formwork for R.C.C structures</i>	<b>15</b>	<b>35</b>	-	-
<b>PC1.</b> clean shutter panels prior to use	-	-	-	-
<b>PC2.</b> check suitability of supporting base prior to erection of conventional formwork	-	-	-	-
<b>PC3.</b> check that all tools, materials, components and fixtures are available as per requirements	-	-	-	-
<b>PC4.</b> identify critical areas of the formwork and perform "Dry-mock up" for them as per the given instructions	-	-	-	-
<b>PC5.</b> apply release agents to sheathing material as per specifications and instruction	-	-	-	-
<b>PC6.</b> apply necessary soldier and walling	-	-	-	-
<b>PC7.</b> position and strike box-outs and bolt boxes, grout checks, level controls, angle fillets and features	-	-	-	-
<b>PC8.</b> use appropriate methods/ tools for levelling the formwork such as water level pipe, dumpy level, auto level or laser levelling machine	-	-	-	-
<b>PC9.</b> position and provide necessary support using runner pieces , timber , props, tie systems appropriately	-	-	-	-
<b>PC10.</b> brace formwork support as per requirements and specifications	-	-	-	-
<b>PC11.</b> ensure water tightness of form by providing form sheet or appropriate packing material	-	-	-	-
<b>PC12.</b> check for proper fixing of tie rods, supports, bracings after erection	-	-	-	-
<b>PC13.</b> plug all openings and gaps using foam sheet and adhesive tape	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> check erected formwork for line, level, alignment within tolerance limit and provided supports	-	-	-	-
<b>PC15.</b> check the linear and angular dimension for the accuracy and take necessary corrective action if required	-	-	-	-
<i>Dismantle conventional formwork</i>	<b>15</b>	<b>35</b>	-	-
<b>PC16.</b> plan sequence of dismantling procedure for the conventional formwork as per standard practice	-	-	-	-
<b>PC17.</b> remove bracing and all other supports sequentially and safely as instructed	-	-	-	-
<b>PC18.</b> dismantle formwork shutters manually or by mechanical means as per the requirements	-	-	-	-
<b>PC19.</b> repair, clean and stack all the formwork materials/ components after dismantling	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0315
<b>NOS Name</b>	Assemble and dismantle conventional shuttering / formwork for RCC structures
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Shuttering Carpentry
<b>NSQF Level</b>	4
<b>Credits</b>	5
<b>Version</b>	5.0
<b>Last Reviewed Date</b>	08/05/2025
<b>Next Review Date</b>	30/04/2028
<b>NSQC Clearance Date</b>	08/05/2025

### Assessment Guidelines and Assessment Weightage

#### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by CSDCI. Each Performance Criteria (PC)/ Elements will be assigned marks proportional to its importance in NOS.
2. CSDCI will also lay down proportion of marks for Theory and Skills Practical for each PC/ Elements. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by CSDCI.
3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below:
  - a) Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.
  - b) The passing percentage for the QP will be 70%. To pass the Qualification Pack.
  - c) The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome



## Qualification Pack

- d) The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
- e) 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.
- f) 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 time frame set by CSDCI.
- g) The candidates shall undergo On job training (OJT), and will learn at actual workplace for a fixed period of time and a certain weightage of assessment is allocated out of total skill weightage of Qualification Pack for undergoing OJT as stipulated by CSDCI. This OJT score and assessors' end point score are combined to arrive at final Marking/grading of trainees' skill test. The OJT score is determined by Supervisor of company under which candidates undergo on job training.

### Minimum 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.)

## Assessment Weightage

### Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0302. Make wooden shutters used in shuttering carpentry	30	70	-	-	100	20
CON/N0304. Carry out quality check for shuttering works	30	70	-	-	100	20
CON/N9001. Work according to personal health, safety and environment protocols at construction site	30	70	-	-	100	10
CON/N8001. Work effectively in a team to deliver desired results at the workplace	30	70	-	-	100	10



### Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N8002.Plan and organize work to meet expected outcomes	30	70	-	-	100	10
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	10
<b>Total</b>	<b>170</b>	<b>380</b>	<b>-</b>	<b>-</b>	<b>550</b>	<b>80</b>

Elective: 1 System Formwork

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0303.Assemble and dismantle system formwork for R.C.C structures	30	70	-	-	100	20
<b>Total</b>	<b>30</b>	<b>70</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>20</b>

Elective: 2 Conventional Formwork

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0315.Assemble and dismantle conventional shuttering / formwork for RCC structures	30	70	-	-	100	20
<b>Total</b>	<b>30</b>	<b>70</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>20</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
<b>MSDE</b>	Ministry of Skill Development and Entrepreneurship
<b>NCVET</b>	National Council for Vocational Education and Training
<b>NSDC</b>	National Skill Development Corporation
<b>SIDH</b>	Skill India Digital Hub
<b>CSDCI</b>	Construction Skill Development Council of India
<b>AB</b>	Awarding Body
<b>SSC</b>	Sector Skill Council
<b>PMKVY</b>	Pradhan Mantri Kaushal Vikas Yojana
<b>DDU-GKY</b>	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
<b>SANKALP</b>	Skill Acquisition and Knowledge Awareness for Livelihood Promotion
<b>STRIVE</b>	Skills Strengthening for Industrial Value Enhancement
<b>JSS</b>	Jan Shikshan Sansthan
<b>STT</b>	Jan Shikshan Sansthan
<b>STT</b>	Short Term Training
<b>RPL</b>	Recognition of Prior Learning
<b>NAPS</b>	National Apprenticeship Promotion Scheme
<b>AA</b>	Assessment Agency
<b>TP</b>	Training Provider / Training Partner
<b>TC</b>	Training Centre
<b>ITI</b>	Industrial Training Institute
<b>NSQC</b>	National Skill Qualification Committee



## Qualification Pack

<b>NSQF</b>	National Skills Qualification Framework
<b>Q-File</b>	Qualification File
<b>QP</b>	Qualification Pack
<b>MC</b>	Model Curriculum
<b>NOS</b>	National Occupational Standards
<b>PC</b>	Performance Criteria
<b>KU</b>	Knowledge and Understanding
<b>GS</b>	Generic Skills
<b>MCQ</b>	Multiple Choice Question
<b>EHS</b>	Environment Health and Safety
<b>PPE</b>	Personal Protective Equipment
<b>QA/QC</b>	Quality Assurance / Quality Control
<b>SCW</b>	Shuttering Carpentry Work
<b>SCC</b>	Shuttering & Centering Carpentry
<b>FCS</b>	Formwork Carpentry Services
<b>CFS</b>	Concrete Formwork Specialist
<b>FC</b>	Formwork Carpentry
<b>TCS</b>	Timber & Concrete Shuttering
<b>CFW</b>	Concrete Formwork & Woodwork
<b>SCF</b>	Shuttering & Concrete Formwork



## Qualification Pack

### 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.
<b>National Occupational Standard</b>	NOS defines the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
<b>Qualification</b>	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
<b>Qualification File</b>	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
<b>Sector</b>	A grouping of professional activities on the basis of their main economic function, product, service or technology.
<b>Long Term Training</b>	Long-term skilling means any vocational training program undertaken for a year and above. <a href="https://ncvet.gov.in/sites/default/files/NCVET.pdf">https://ncvet.gov.in/sites/default/files/NCVET.pdf</a>