सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

Qualification Pack



Construction Fabricator

Woodworking

QP Code: ICE/CON/Q0501 Instantiated QP Code: ICE/CON/Q0501-SI002

Version: 1.0

NSQF Level: 4

Integrated Council for Entrepreneurship and Skilling || 533-R
Model Town Ludhiana || email:cmswami@ice.net.in

Contents

ICE/CON/Q0501-SI002: Construction Fabricator 3
Brief Job Description 3
Applicable National Occupational Standards (NOS) 3
Compulsory NOS 3
Elective : Woodworking 3
Qualification Pack (QP) Parameters 3
ICE/CON/N0501: Identify Construction Building Materials and Components 5
ICE/CON/N0502: Follow Environment, Health and Safety (EHS) Guidelines at Construction Sites 9
DGT/VSQ/N0102: Employability Skills (60 Hours) 14
ICE/CON/N0508: Prepare and Construct Timber Frameworks 22
ICE/CON/N0509: Construct Wooden Frames for Structural Elements 28
ICE/CON/N0510: Install Interior Wooden Partitions and Panels 33
ICE/CON/N0511: Assemble and Dismantle Shuttering for Concreting 40
ICE/CON/N0512: Construct and Install Wooden Structural Features 45
Assessment Guidelines and Weightage 49
Assessment Guidelines 49
Assessment Weightage 50

Qualification Pack

ICE/CON/Q0501-SI002: Construction Fabricator

Brief Job Description

A Construction Fabricator assembles, shapes, and installs materials like metal, wood, masonry, and concrete to create structural elements for buildings and infrastructure. The individual interprets construction drawings, identifies materials, and follows the applicable safety and quality standards. The specializations available in the job include masonry, woodworking, metalworking, and concreting.

Personal Attributes

The individual should be physically fit and mentally alert. The person should have problem-solving, coordination and appropriate verbal and written communication skills.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. ICE/CON/N0501: Identify Construction Building Materials and Components
2. ICE/CON/N0502: Follow Environment, Health and Safety (EHS) Guidelines at Construction Sites
3. DGT/VSQ/N0102: Employability Skills (60 Hours)

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

Elective : Woodworking

1. ICE/CON/N0508: Prepare and Construct Timber Frameworks
2. ICE/CON/N0509: Construct Wooden Frames for Structural Elements
3. ICE/CON/N0510: Install Interior Wooden Partitions and Panels
4. ICE/CON/N0511: Assemble and Dismantle Shuttering for Concreting
5. ICE/CON/N0512: Construct and Install Wooden Structural Features

Qualification Pack (QP) Parameters

Sector	Construction

Qualification Pack

Sub-Sector	Infrastructure Construction
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication
Country	India
NSQF Level	4
Credits	13
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7122.0601, NCO-2015/7112.0200, NCO-2015/7115.0201, NCO-2015/7213.0200, NCO-2015/7114.9900
Minimum Educational Qualification & Experience	12th grade Pass OR 10th grade pass with 2 Years of experience Relevant Industry OR 8th grade pass with 4 Years of experience Relevant Industry
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	Not Applicable
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	07/10/2028
NSQC Approval Date	07/10/2025
Version	1.0
Reference code on NQR	NCVET-QG-04-CO-046442025-V1-ICES
NQR Version	1.0

Remarks:

The Min. Job Entry Age for this Job Role will be as per Government Norms

Qualification Pack

ICE/CON/N0501: Identify Construction Building Materials and Components

Description

This unit covers identifying, selecting and inspecting various building materials and components required for fabrication tasks. This includes understanding material specifications, properties, and applications to ensure proper use in construction projects.

Scope

The scope covers the following :

- Identify building materials
- Inspect and verify the quality of materials
- Organize and prepare materials

Elements and Performance Criteria

Identify building materials

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

PC1. identify different types of metals, such as steel, aluminium and alloys, used in construction

PC2. explain distinguish between non-metallic materials like concrete, glass, wood and plastics based on their properties and uses

PC3. interpret technical specifications of materials from product catalogues, datasheets and drawings

PC4. identify common building components such as beams, columns, trusses and panels based on drawings and specifications

Inspect and verify the quality materials

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

PC5. check the dimensions, weight and appearance of materials against specifications

PC6. assess the physical condition of materials for defects such as cracks, rust or warping

PC7. confirm material certifications and test reports to ensure compliance with the applicable quality standards

PC8. report any discrepancies or substandard materials to the supervisor

Organize and prepare materials

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

PC9. sort and label materials as per their type, size and intended use

PC10. store materials safely to prevent damage or contamination

PC11. check for the availability of appropriate tools and equipment for material handling during fabrication

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard procedures for material identification and handling
KU2. roles involved in ensuring material quality and compliance
KU3. common construction material defects and reporting lines for escalating material-related issues
KU4. types and classifications of construction materials (e.g., ferrous and non-ferrous metals, composites, polymers)
KU5. properties of materials such as strength, durability, and resistance to environmental conditions
KU6. use of material handling equipment, e.g.forklifts, pallet jacks, and trolleys
KU7. relevant material storage techniques
KU8. quality standards and certifications for construction materials (e.g., BIS, ASTM)
KU9. interpret specifications and drawings to identify material requirements
KU10. verify material quality through physical inspection and documentation review
KU11. benefits of sorting and storing materials systematically, e.g. accessibility and safety
KU12. use of measuring tools such as rulers, micrometers, calipers and weighing scales
KU13. material datasheets, product catalogues and technical specifications
KU14. use of relevant Personal Protective Equipment (PPE) for safe construction material handling

Generic Skills (GS)

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

GS1. comprehend technical documents, instructions and specifications accurately
GS2. use basic math skills for measurements, calculations,and verification tasks
GS3. convey information, report issues and coordinate with team members and supervisors with clarity
GS4. identify challenges and inconsistencies in tasks and resolve them effectively or escalate as needed
GS5. plan and prioritize work to ensure efficient task completion
GS6. collaborate effectively with others to meet project requirements and deadlines
GS7. adjust to changing priorities, updates or unexpected challenges in the work environment
GS8. follow safety protocols and guidelines consistently to maintain a secure workplace
GS9. acquire new skills and knowledge to improve work efficiency and adaptability

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Identify building materials	**10**	**20**	**-**	**4**
PC1. identify different types of metals, such as steel, aluminium and alloys, used in construction	-	-	-	-
PC2. explain distinguish between non-metallic materials like concrete, glass, wood and plastics based on their properties and uses	-	-	-	-
PC3. interpret technical specifications of materials from product catalogues, datasheets and drawings	-	-	-	-
PC4. identify common building components such as beams, columns, trusses and panels based on drawings and specifications	-	-	-	-
Inspect and verify the quality materials	**10**	**20**	**-**	**4**
PC5. check the dimensions, weight and appearance of materials against specifications	-	-	-	-
PC6. assess the physical condition of materials for defects such as cracks, rust or warping	-	-	-	-
PC7. confirm material certifications and test reports to ensure compliance with the applicable quality standards	-	-	-	-
PC8. report any discrepancies or substandard materials to the supervisor	-	-	-	-
Organize and prepare materials	**10**	**20**	**-**	**2**
PC9. sort and label materials as per their type, size and intended use	-	-	-	-
PC10. store materials safely to prevent damage or contamination	-	-	-	-
PC11. check for the availability of appropriate tools and equipment for material handling during fabrication	-	-	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/CON/N0501
NOS Name	Identify Construction Building Materials and Components
Sector	Construction
Sub-Sector	
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication
NSQF Level	4
Credits	4
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/CON/N0502: Follow Environment, Health and Safety (EHS) Guidelines at Construction Sites

Description

This unit focuses on implementing Environment, Health and Safety (EHS) guidelines to minimize risks and ensure compliance with legal and organizational standards.

Scope

The scope covers the following :

- Identify hazards and risks
- Comply with safety standards
- Follow health and hygiene guidelines
- Follow environmental protection measures
- Handle emergencies

Elements and Performance Criteria

Identify hazards and risks

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

PC1. identify common construction site hazards, including falling objects, slippery surfaces and electrical risks

PC2. evaluate the potential risks

PC3. report the identified hazards to the supervisor or safety officer

Comply with safety standards

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

PC4. use and maintain personal protective equipment (PPE) such as helmets, gloves, safety boots and harnesses

PC5. follow signage and barricading instructions to avoid restricted or hazardous areas

PC6. adhere to safe lifting techniques and tools to minimize strain and injuries

Follow health and hygiene guidelines

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

PC7. maintain personal hygiene by using clean drinking water and designated rest areas

PC8. report health symptoms (e.g., respiratory issues, heatstroke) promptly to the designated authority

PC9. ensure proper handling and disposal of materials that may pose health risks such as asbestos or chemicals

Follow environmental protection measures

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

PC10. follow appropriate measures to prevent the spillage of construction materials and chemicals that may harm the environment

PC11. carry out waste segregation activities into biodegradable and non-biodegradable for recycling and disposal

PC12. follow protocols for conserving water and energy at the construction site

Handle emergencies

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

PC13. identify emergency alarms and evacuation routes

PC14. use firefighting equipment (fire extinguishers, sand buckets) proper, when necessary

PC15. assist in first-aid or CPR procedures, if required

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. importance of EHS guidelines and company policies

KU2. reporting structure for safety incidents or concerns

KU3. roles of key personnel such as the safety officer and site engineer

KU4. types of construction hazards (e.g. chemical, physical, ergonomic)

KU5. correct use and maintenance of PPE

KU6. first aid and basic firefighting techniques

KU7. environmental regulations related to construction, e.g. dust control, waste disposal etc.

KU8. safe operation of construction tools and equipment

Generic Skills (GS)

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

GS1. effectively report hazards or safety violations

GS2. read safety signage and instructions

GS3. carry out appropriate documentation concerning workplace safety

GS4. apply basic problem-solving skills to manage minor risks or incidents

GS5. collaborate with the team during emergencies or environmental protection activities

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Identify hazards and risks	**6**	**12**	**-**	**2**
PC1. identify common construction site hazards, including falling objects, slippery surfaces and electrical risks	-	-	-	-
PC2. evaluate the potential risks	-	-	-	-
PC3. report the identified hazards to the supervisor or safety officer	-	-	-	-
Comply with safety standards	**6**	**12**	**-**	**2**
PC4. use and maintain personal protective equipment (PPE) such as helmets, gloves, safety boots and harnesses	-	-	-	-
PC5. follow signage and barricading instructions to avoid restricted or hazardous areas	-	-	-	-
PC6. adhere to safe lifting techniques and tools to minimize strain and injuries	-	-	-	-
Follow health and hygiene guidelines	**6**	**12**	**-**	**2**
PC7. maintain personal hygiene by using clean drinking water and designated rest areas	-	-	-	-
PC8. report health symptoms (e.g., respiratory issues, heatstroke) promptly to the designated authority	-	-	-	-
PC9. ensure proper handling and disposal of materials that may pose health risks such as asbestos or chemicals	-	-	-	-
Follow environmental protection measures	**6**	**12**	**-**	**2**
PC10. follow appropriate measures to prevent the spillage of construction materials and chemicals that may harm the environment	-	-	-	-
PC11. carry out waste segregation activities into biodegradable and non-biodegradable for recycling and disposal	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. follow protocols for conserving water and energy at the construction site	-	-	-	-
Handle emergencies	**6**	**12**	**-**	**2**
PC13. identify emergency alarms and evacuation routes	-	-	-	-
PC14. use firefighting equipment (fire extinguishers, sand buckets) proper, when necessary	-	-	-	-
PC15. assist in first-aid or CPR procedures, if required	-	-	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/CON/N0502
NOS Name	Follow Environment, Health and Safety (EHS) Guidelines at Construction Sites
Sector	Construction
Sub-Sector	
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication, MEP Supervison - Maintenance
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

Qualification Pack

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:

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
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
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
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	**2**	**4**	**-**	**-**
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	**2**	**3**	**-**	**-**
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	**1**	**2**	**-**	**-**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	**2**	**2**	**-**	**-**
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	**1**	**2**	**-**	**-**
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	**2**	**3**	**-**	**-**
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	**3**	**4**	**-**	**-**
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	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Entrepreneurship	**2**	**3**	**-**	**-**
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	**1**	**2**	**-**	**-**
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	**2**	**3**	**-**	**-**
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	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	22/09/2026
Next Review Date	22/09/2031
NSQC Clearance Date	22/09/2026

ICE/CON/N0508: Prepare and Construct Timber Frameworks

Description

This unit covers the skills and knowledge required to prepare, construct, and install timber frameworks used in formwork and structural applications.

Scope

The scope covers the following :

- Read and interpret construction drawings for timber frameworks
- Select and prepare timber for framework construction
- Construct timber frameworks using traditional techniques
- Construct timber frameworks using modern techniques

Elements and Performance Criteria

Read and Interpret Construction Drawings for Timber Frameworks

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

PC1. identify structural requirements and load-bearing specifications from construction drawings

PC2. interpret different types of timber framework designs, including traditional, prefabricated and CLT structures

PC3. analyze measurements, dimensions, and specifications for framework assembly

PC4. identify key framework elements such as beams, posts and connectors

PC5. ensure alignment and accuracy of construction plans before material preparation

Select and Prepare Timber for Framework Construction

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

PC6. determine the appropriate type of timber based on strength, durability and environmental conditions

PC7. inspect timber for defects such as warping, knots and cracks

PC8. cut, shape, and size timber as per framework specifications using appropriate tools

PC9. treat and coat timber to enhance durability and resistance to moisture, pests and decay

PC10. assemble and reinforce joints using screws, nails, bolts or adhesives

PC11. comply with industry standards and best practices when working with timber

Construct Timber Frameworks using Traditional Techniques

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

PC12. measure and mark locations for beams, posts and supports according to drawings

PC13. assemble framework structures using traditional joinery techniques such as mortise and tenon, lap joints and dowel joints

PC14. secure framework components using manual nailing, screwing and bolting methods

PC15. use hand tools such as chisels, saws, and drills for shaping and assembling timber parts

PC16. ensure accurate spacing and reinforcement of framework components for stability

PC17. install timber bracing and supports to enhance structural integrity

PC18. inspect and correct any misalignment or structural inconsistencies in the framework

Construct Timber Frameworks using Modern Techniques

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

PC19. use prefabricated timber components for faster and more efficient construction

PC20. integrate engineered wood products such as plywood and LVL (Laminated Veneer Lumber) in framework assembly

PC21. apply Cross-Laminated Timber (CLT) for structural strength and sustainability

PC22. use digital tools such as laser levels and CAD-based measurements for precise framework installation

PC23. install prefabricated connectors and fasteners for quicker and more secure assembly

PC24. ensure proper alignment and weight distribution when working with large-scale prefabricated timber elements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. types of timber used in framework construction and their properties

KU2. classification of softwood and hardwood for structural applications

KU3. engineered wood products such as plywood, LVL (Laminated Veneer Lumber), and CLT (Cross-Laminated Timber)

KU4. principles of timber joinery, including mortise and tenon, lap joints and dowel joints

KU5. techniques for cutting, shaping, and assembling timber frameworks

KU6. importance of timber treatment for durability and weather resistance

KU7. reading and interpreting technical construction drawings for timber framework assembly

KU8. structural integrity requirements for different types of timber frameworks

KU9. prefabrication techniques in timber construction for improved efficiency

KU10. safe handling and usage of woodworking tools, including saws, drills and chisels

KU11. methods for reinforcing timber structures to improve load-bearing capacity

KU12. environmental impact of timber construction and sustainable sourcing of wood materials

KU13. standards and best practices for timber framework construction

KU14. quality control measures in timber framework installation

KU15. occupational health and safety practices related to timber framework assembly

KU16. fire resistance properties of different timber types and treatments

KU17. advanced timber framing techniques used in modern construction

Generic Skills (GS)

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

GS1. communicate effectively with team members, supervisors, and stakeholders

GS2. listen actively to understand instructions and feedback
GS3. perform basic arithmetic calculations and take measurements accurately
GS4. analyze project specifications to identify potential risks or challenges
GS5. plan tasks to optimize time and resources
GS6. organize tools, equipment, and materials efficiently
GS7. operate modern tools and equipment with basic proficiency
GS8. adapt to new construction technologies and methods
GS9. follow health and safety guidelines to minimize workplace risks
GS10. identify and mitigate workplace hazards promptly
GS11. ensure compliance with environmental sustainability practices
GS12. assess work challenges and make informed decisions
GS13. evaluate feedback to implement process improvements
GS14. maintain a professional attitude and ethical behaviour

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Read and Interpret Construction Drawings for Timber Frameworks	**8**	**10**	**-**	**2**
PC1. identify structural requirements and load-bearing specifications from construction drawings	-	-	-	-
PC2. interpret different types of timber framework designs, including traditional, prefabricated and CLT structures	-	-	-	-
PC3. analyze measurements, dimensions, and specifications for framework assembly	-	-	-	-
PC4. identify key framework elements such as beams, posts and connectors	-	-	-	-
PC5. ensure alignment and accuracy of construction plans before material preparation	-	-	-	-
Select and Prepare Timber for Framework Construction	**8**	**15**	**-**	**2**
PC6. determine the appropriate type of timber based on strength, durability and environmental conditions	-	-	-	-
PC7. inspect timber for defects such as warping, knots and cracks	-	-	-	-
PC8. cut, shape, and size timber as per framework specifications using appropriate tools	-	-	-	-
PC9. treat and coat timber to enhance durability and resistance to moisture, pests and decay	-	-	-	-
PC10. assemble and reinforce joints using screws, nails, bolts or adhesives	-	-	-	-
PC11. comply with industry standards and best practices when working with timber	-	-	-	-
Construct Timber Frameworks using Traditional Techniques	**7**	**15**	**-**	**3**
PC12. measure and mark locations for beams, posts and supports according to drawings	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. assemble framework structures using traditional joinery techniques such as mortise and tenon, lap joints and dowel joints	-	-	-	-
PC14. secure framework components using manual nailing, screwing and bolting methods	-	-	-	-
PC15. use hand tools such as chisels, saws, and drills for shaping and assembling timber parts	-	-	-	-
PC16. ensure accurate spacing and reinforcement of framework components for stability	-	-	-	-
PC17. install timber bracing and supports to enhance structural integrity	-	-	-	-
PC18. inspect and correct any misalignment or structural inconsistencies in the framework	-	-	-	-
Construct Timber Frameworks using Modern Techniques	**7**	**20**	**-**	**3**
PC19. use prefabricated timber components for faster and more efficient construction	-	-	-	-
PC20. integrate engineered wood products such as plywood and LVL (Laminated Veneer Lumber) in framework assembly	-	-	-	-
PC21. apply Cross-Laminated Timber (CLT) for structural strength and sustainability	-	-	-	-
PC22. use digital tools such as laser levels and CAD-based measurements for precise framework installation	-	-	-	-
PC23. install prefabricated connectors and fasteners for quicker and more secure assembly	-	-	-	-
PC24. ensure proper alignment and weight distribution when working with large-scale prefabricated timber elements	-	-	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/CON/N0508
NOS Name	Prepare and Construct Timber Frameworks
Sector	Construction
Sub-Sector	
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/CON/N0509: Construct Wooden Frames for Structural Elements

Description

This unit focuses on the construction of wooden frames used in structural elements such as foundations, flooring, doors, and windows.

Scope

The scope covers the following :

- Construct Wooden Frames for Foundations and Flooring
- Use prefabricated timber systems
- Use CNC precision cutting

Elements and Performance Criteria

Construct Wooden Frames for Foundations and Flooring

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

PC1. identify structural requirements for wooden frame foundations and flooring.

PC2. select appropriate timber based on strength, load-bearing capacity, and environmental conditions.

PC3. measure, cut, and assemble wooden beams, joists, and subfloor components.

PC4. secure foundation frames using nails, screws, bolts, or brackets.

PC5. ensure accurate spacing and alignment of wooden floor joists to support load distribution.

PC6. install moisture barriers or protective coatings to prevent wood degradation.

PC7. reinforce connections using bracing or additional support elements.

PC8. conduct inspections to verify stability and structural integrity before installation.

Use Prefabricated Timber Systems

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

PC9. select and prepare engineered wood products such as cross-laminated timber (CLT) and laminated veneer lumber (LVL).

PC10. assemble prefabricated timber frames using modular construction techniques.

PC11. apply advanced fastening systems such as metal connectors and adhesives for enhanced durability.

PC12. align and position prefabricated components using laser levels and digital measuring tools.

PC13. integrate prefabricated frames into structural elements with minimal modifications.

Use CNC Precision Cutting

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

PC14. determine the dimensions and specifications of wooden door and window frames.

PC15. select high-quality timber suitable for frame construction.

PC16. use CNC (computer numerical control) machines for precision cutting and shaping of wooden components.

PC17. ensure accurate mortise and tenon joints, grooves, and notches for seamless assembly.
PC18. assemble door and window frames using clamps, fasteners, and adhesives.
PC19. align frames precisely within wall openings to prevent warping or misalignment.
PC20. install reinforcements such as weatherproofing strips and insulation materials.
PC21. conduct finishing operations such as sanding, sealing, and varnishing for durability.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. types of timber used for structural framing and their load-bearing properties.
KU2. traditional joinery techniques such as mortise and tenon, dowel joints, and half-lap joints.
KU3. modern timber framing methods, including prefabricated and engineered wood systems.
KU4. CNC machining and its application in precision cutting for wooden frames.
KU5. installation techniques for wooden foundations, flooring, doors, and windows.
KU6. fastening systems such as nails, screws, bolts, and adhesives for wooden structures.
KU7. importance of moisture resistance and protective coatings in timber construction.
KU8. digital tools for accurate measurement and alignment of prefabricated components.
KU9. quality control measures in wooden frame construction.

Generic Skills (GS)

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

GS1. communicate effectively with team members, supervisors, and stakeholders
GS2. listen actively to understand instructions and feedback
GS3. perform basic arithmetic calculations and take measurements accurately
GS4. analyze project specifications to identify potential risks or challenges
GS5. plan tasks to optimize time and resources
GS6. organize tools, equipment, and materials efficiently
GS7. operate modern tools and equipment with basic proficiency
GS8. adapt to new construction technologies and methods
GS9. follow health and safety guidelines to minimize workplace risks
GS10. identify and mitigate workplace hazards promptly
GS11. ensure compliance with environmental sustainability practices
GS12. assess work challenges and make informed decisions
GS13. evaluate feedback to implement process improvements
GS14. maintain a professional attitude and ethical behaviour

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Construct Wooden Frames for Foundations and Flooring	**5**	**15**	**-**	**2**
PC1. identify structural requirements for wooden frame foundations and flooring.	-	-	-	-
PC2. select appropriate timber based on strength, load-bearing capacity, and environmental conditions.	-	-	-	-
PC3. measure, cut, and assemble wooden beams, joists, and subfloor components.	-	-	-	-
PC4. secure foundation frames using nails, screws, bolts, or brackets.	-	-	-	-
PC5. ensure accurate spacing and alignment of wooden floor joists to support load distribution.	-	-	-	-
PC6. install moisture barriers or protective coatings to prevent wood degradation.	-	-	-	-
PC7. reinforce connections using bracing or additional support elements.	-	-	-	-
PC8. conduct inspections to verify stability and structural integrity before installation.	-	-	-	-
Use Prefabricated Timber Systems	**15**	**25**	**-**	**4**
PC9. select and prepare engineered wood products such as cross-laminated timber (CLT) and laminated veneer lumber (LVL).	-	-	-	-
PC10. assemble prefabricated timber frames using modular construction techniques.	-	-	-	-
PC11. apply advanced fastening systems such as metal connectors and adhesives for enhanced durability.	-	-	-	-
PC12. align and position prefabricated components using laser levels and digital measuring tools.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. integrate prefabricated frames into structural elements with minimal modifications.	-	-	-	-
Use CNC Precision Cutting	**10**	**20**	**-**	**4**
PC14. determine the dimensions and specifications of wooden door and window frames.	-	-	-	-
PC15. select high-quality timber suitable for frame construction.	-	-	-	-
PC16. use CNC (computer numerical control) machines for precision cutting and shaping of wooden components.	-	-	-	-
PC17. ensure accurate mortise and tenon joints, grooves, and notches for seamless assembly.	-	-	-	-
PC18. assemble door and window frames using clamps, fasteners, and adhesives.	-	-	-	-
PC19. align frames precisely within wall openings to prevent warping or misalignment.	-	-	-	-
PC20. install reinforcements such as weatherproofing strips and insulation materials.	-	-	-	-
PC21. conduct finishing operations such as sanding, sealing, and varnishing for durability.	-	-	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/CON/N0509
NOS Name	Construct Wooden Frames for Structural Elements
Sector	Construction
Sub-Sector	
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/CON/N0510: Install Interior Wooden Partitions and Panels

Description

This unit covers the installation of interior wooden partitions and panels used for both structural and decorative purposes.

Scope

The scope covers the following :

- Set up interior wooden partitions
- Install wooden panels
- Install modular and prefabricated partition systems
- Apply finishing and surface treatments

Elements and Performance Criteria

Set Up Interior Wooden Partitions

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

PC1. select appropriate timber, plywood, MDF or engineered wood for partition construction.

PC2. measure and mark partition dimensions using precision tools.

PC3. cut wooden sections using saws, routers and CNC machines for accuracy.

PC4. assemble and secure wooden partition frames with mortise and tenon, dowel or screw joints.

PC5. integrate steel or aluminum reinforcements for enhanced durability.

PC6. align and fix partitions to walls, floors, and ceilings using brackets, adhesives and mechanical fasteners.

PC7. install adjustable or removable wooden partitions for flexible space management.

PC8. integrate soundproofing and insulation materials within partition cavities.

PC9. check vertical alignment and structural stability before finalizing installation.

Install Wooden Panels

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

PC10. select and source high-quality wooden panels suited for interior applications.

PC11. prepare and treat wooden panels with sanding, priming or moisture-proof coatings.

PC12. measure and cut panels to fit designated wall, ceiling or partition surfaces.

PC13. install panels using concealed clips, adhesives, mechanical fasteners or interlocking systems.

PC14. align and secure panels to maintain uniformity, stability and smooth finishing.

PC15. integrate acoustic panels for enhanced sound absorption in designated spaces.

PC16. incorporate decorative woodwork such as moldings, carvings or laminated finishes.

PC17. apply expansion gaps to prevent warping due to temperature or humidity changes.

PC18. install fire-retardant or anti-bacterial coatings where required.

Install Modular and Prefabricated Partition Systems

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

PC19. assemble modular wooden partition panels in workshop settings for on-site installation.
PC20. use prefabricated interlocking wooden sections for quicker assembly.
PC21. incorporate built-in storage or shelving units within partition designs.
PC22. align and install modular partitions with minimal on-site cutting or modifications.
PC23. integrate sliding, folding, or movable partitions for adaptable interior layouts.

Apply Finishing and Surface Treatments

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

PC24. sand and smooth wooden partitions and panels before applying finishes.
PC25. apply stains, paints, polishes or sealants for enhanced durability and aesthetics.
PC26. integrate protective coatings for fire resistance, waterproofing or anti-termite protection.
PC27. ensure even coating application using brushes, rollers or spray techniques.
PC28. inspect final surface finish for defects, inconsistencies or unevenness.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. types of wood and engineered wood materials suitable for partitions and panels.
KU2. measuring and marking techniques for accurate layout and alignment.
KU3. fastening methods such as concealed clips, adhesives, nails and screws.
KU4. soundproofing and insulation techniques for interior wooden partitions.
KU5. finishing techniques including sanding, polishing and protective coatings.
KU6. expansion and contraction properties of wood in different environmental conditions.
KU7. safety precautions in handling and installing wooden components.
KU8. tools and equipment used for cutting, fastening and finishing wooden partitions.
KU9. structural reinforcement techniques for stability and durability.
KU10. quality control measures for inspecting alignment, durability and aesthetics.
KU11. sustainable wood sourcing and waste management practices in interior construction.

Generic Skills (GS)

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

GS1. communicate effectively with team members, supervisors and stakeholders
GS2. listen actively to understand instructions and feedback
GS3. perform basic arithmetic calculations and take measurements accurately
GS4. analyze project specifications to identify potential risks or challenges
GS5. plan tasks to optimize time and resources
GS6. organize tools, equipment, and materials efficiently
GS7. operate modern tools and equipment with basic proficiency
GS8. adapt to new construction technologies and methods
GS9. follow health and safety guidelines to minimize workplace risks

GS10. identify and mitigate workplace hazards promptly
GS11. ensure compliance with environmental sustainability practices
GS12. assess work challenges and make informed decisions
GS13. evaluate feedback to implement process improvements
GS14. maintain a professional attitude and ethical behaviour

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Set Up Interior Wooden Partitions	**6**	**12**	**-**	**2**
PC1. select appropriate timber, plywood, MDF or engineered wood for partition construction.	-	-	-	-
PC2. measure and mark partition dimensions using precision tools.	-	-	-	-
PC3. cut wooden sections using saws, routers and CNC machines for accuracy.	-	-	-	-
PC4. assemble and secure wooden partition frames with mortise and tenon, dowel or screw joints.	-	-	-	-
PC5. integrate steel or aluminum reinforcements for enhanced durability.	-	-	-	-
PC6. align and fix partitions to walls, floors, and ceilings using brackets, adhesives and mechanical fasteners.	-	-	-	-
PC7. install adjustable or removable wooden partitions for flexible space management.	-	-	-	-
PC8. integrate soundproofing and insulation materials within partition cavities.	-	-	-	-
PC9. check vertical alignment and structural stability before finalizing installation.	-	-	-	-
Install Wooden Panels	**12**	**24**	**-**	**4**
PC10. select and source high-quality wooden panels suited for interior applications.	-	-	-	-
PC11. prepare and treat wooden panels with sanding, priming or moisture-proof coatings.	-	-	-	-
PC12. measure and cut panels to fit designated wall, ceiling or partition surfaces.	-	-	-	-
PC13. install panels using concealed clips, adhesives, mechanical fasteners or interlocking systems.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. align and secure panels to maintain uniformity, stability and smooth finishing.	-	-	-	-
PC15. integrate acoustic panels for enhanced sound absorption in designated spaces.	-	-	-	-
PC16. incorporate decorative woodwork such as moldings, carvings or laminated finishes.	-	-	-	-
PC17. apply expansion gaps to prevent warping due to temperature or humidity changes.	-	-	-	-
PC18. install fire-retardant or anti-bacterial coatings where required.	-	-	-	-
Install Modular and Prefabricated Partition Systems	**6**	**12**	**-**	**2**
PC19. assemble modular wooden partition panels in workshop settings for on-site installation.	-	-	-	-
PC20. use prefabricated interlocking wooden sections for quicker assembly.	-	-	-	-
PC21. incorporate built-in storage or shelving units within partition designs.	-	-	-	-
PC22. align and install modular partitions with minimal on-site cutting or modifications.	-	-	-	-
PC23. integrate sliding, folding, or movable partitions for adaptable interior layouts.	-	-	-	-
Apply Finishing and Surface Treatments	**6**	**12**	**-**	**2**
PC24. sand and smooth wooden partitions and panels before applying finishes.	-	-	-	-
PC25. apply stains, paints, polishes or sealants for enhanced durability and aesthetics.	-	-	-	-
PC26. integrate protective coatings for fire resistance, waterproofing or anti-termite protection.	-	-	-	-
PC27. ensure even coating application using brushes, rollers or spray techniques.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC28. inspect final surface finish for defects, inconsistencies or unevenness.	-	-	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/CON/N0510
NOS Name	Install Interior Wooden Partitions and Panels
Sector	Construction
Sub-Sector	
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/CON/N0511: Assemble and Dismantle Shuttering for Concreting

Description

This unit covers the process of assembling and dismantling wooden and prefabricated formwork systems used in concreting.

Scope

The scope covers the following :

- Construct wooden formwork for concrete structures
- Install formwork for various structural elements
- Use prefabricated shuttering methods
- Dismantle formwork after concrete curing

Elements and Performance Criteria

Construct Wooden Formwork for Concrete Structures

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

PC1. select appropriate timber, plywood, or engineered wood for formwork construction.

PC2. measure and cut formwork components to required dimensions using hand tools and power tools.

PC3. assemble wooden panels, beams, and braces to create a sturdy framework for pouring concrete.

PC4. secure formwork components with nails, screws, or clamps to maintain shape and strength.

PC5. install bracing and support structures to prevent deformation during concreting.

Install Formwork for Various Structural Elements

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

PC6. position and secure wooden formwork for columns, beams, slabs, and walls.

PC7. ensure proper alignment and leveling using spirit levels and measuring tools.

PC8. adjust and reinforce joints to prevent leakage or displacement of concrete.

PC9. apply release agents to the inner surfaces of the formwork for easy removal.

Use Prefabricated Shuttering Methods

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

PC10. select and assemble modular prefabricated shuttering panels for rapid installation.

PC11. use aluminum, steel, or plastic-coated formwork for repeated usage.

PC12. integrate interlocking formwork systems for faster setup and dismantling.

PC13. adjust prefabricated panels to suit varying dimensions and design specifications.

Dismantle Formwork after Concrete Curing

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

PC14. remove temporary supports and fasteners systematically to avoid structural damage.

PC15. carefully detach wooden or prefabricated panels without chipping or cracking concrete.

PC16. clean and store reusable shuttering components for future use.
PC17. inspect formwork materials for wear and damage before reassembly.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. types of wood and engineered materials used in shuttering and formwork construction.
KU2. properties of concrete, including setting time, curing requirements, and load-bearing capacity.
KU3. methods for measuring, cutting, and assembling wooden formwork components.
KU4. techniques for securing and stabilizing formwork for different concrete structures.
KU5. prefabricated shuttering systems and their advantages in construction projects.
KU6. methods for adjusting prefabricated shuttering to suit project specifications.
KU7. common defects in formwork and their impact on concrete quality.
KU8. handling, maintenance, and storage of wooden and prefabricated formwork for reuse.
KU9. types of release agents and their application in preventing concrete adhesion to formwork.
KU10. tools and equipment used for cutting, assembling, and dismantling formwork.
KU11. different types of fasteners, connectors, and supports used in formwork assembly.
KU12. best practices for efficient dismantling to avoid damage to cured concrete.
KU13. techniques for inspecting formwork for signs of damage or deterioration.
KU14. factors affecting the reusability of shuttering materials.

Generic Skills (GS)

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

GS1. communicate effectively with team members, supervisors, and stakeholders
GS2. listen actively to understand instructions and feedback
GS3. perform basic arithmetic calculations and take measurements accurately
GS4. analyze project specifications to identify potential risks or challenges
GS5. plan tasks to optimize time and resources
GS6. organize tools, equipment, and materials efficiently
GS7. operate modern tools and equipment with basic proficiency
GS8. adapt to new construction technologies and methods
GS9. follow health and safety guidelines to minimize workplace risks
GS10. identify and mitigate workplace hazards promptly
GS11. ensure compliance with environmental sustainability practices
GS12. assess work challenges and make informed decisions
GS13. evaluate feedback to implement process improvements
GS14. maintain a professional attitude and ethical behaviour

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Construct Wooden Formwork for Concrete Structures	**6**	**15**	**-**	**2**
PC1. select appropriate timber, plywood, or engineered wood for formwork construction.	-	-	-	-
PC2. measure and cut formwork components to required dimensions using hand tools and power tools.	-	-	-	-
PC3. assemble wooden panels, beams, and braces to create a sturdy framework for pouring concrete.	-	-	-	-
PC4. secure formwork components with nails, screws, or clamps to maintain shape and strength.	-	-	-	-
PC5. install bracing and support structures to prevent deformation during concreting.	-	-	-	-
Install Formwork for Various Structural Elements	**8**	**15**	**-**	**3**
PC6. position and secure wooden formwork for columns, beams, slabs, and walls.	-	-	-	-
PC7. ensure proper alignment and leveling using spirit levels and measuring tools.	-	-	-	-
PC8. adjust and reinforce joints to prevent leakage or displacement of concrete.	-	-	-	-
PC9. apply release agents to the inner surfaces of the formwork for easy removal.	-	-	-	-
Use Prefabricated Shuttering Methods	**8**	**15**	**-**	**3**
PC10. select and assemble modular prefabricated shuttering panels for rapid installation.	-	-	-	-
PC11. use aluminum, steel, or plastic-coated formwork for repeated usage.	-	-	-	-
PC12. integrate interlocking formwork systems for faster setup and dismantling.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. adjust prefabricated panels to suit varying dimensions and design specifications.	-	-	-	-
Dismantle Formwork after Concrete Curing	**8**	**15**	**-**	**2**
PC14. remove temporary supports and fasteners systematically to avoid structural damage.	-	-	-	-
PC15. carefully detach wooden or prefabricated panels without chipping or cracking concrete.	-	-	-	-
PC16. clean and store reusable shuttering components for future use.	-	-	-	-
PC17. inspect formwork materials for wear and damage before reassembly.	-	-	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/CON/N0511
NOS Name	Assemble and Dismantle Shuttering for Concreting
Sector	Construction
Sub-Sector	
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/CON/N0512: Construct and Install Wooden Structural Features

Description

This unit covers the construction and installation of various wooden structural elements, including staircases, railings, beams, and decorative wooden frameworks.

Scope

The scope covers the following :

- Construct wooden staircases and landings
- Install wooden railings and balustrades
- Install wooden beams and load-bearing elements
- Assemble decorative wooden frameworks

Elements and Performance Criteria

Construct Wooden Staircases and Landings

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

PC1. select appropriate wood types for staircase treads, risers, and stringers.

PC2. measure and cut wooden components according to staircase design and dimensions.

PC3. assemble and secure staircases using joinery techniques such as mortise and tenon or dovetail joints.

PC4. install supporting framework and reinforcements to ensure staircase stability.

Install Wooden Railings and Balustrades

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

PC5. measure and mark positions for railing posts, handrails, and balusters.

PC6. cut and shape wooden components to match the design specifications.

PC7. assemble and secure railings using wooden dowels, screws, or adhesives.

PC8. align and fasten balustrades to staircases or balconies with proper anchoring.

Install Wooden Beams and Load-Bearing Elements

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

PC9. cut and join wooden beams using traditional and modern woodworking methods.

PC10. assemble and install wooden load-bearing structures for ceilings and partitions.

PC11. reinforce beams with metal brackets or engineered wood supports for additional strength.

PC12. integrate prefabricated wooden structural components for faster installation.

Assemble Decorative Wooden Frameworks

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

PC13. cut and shape wooden components for aesthetic and architectural designs.

PC14. assemble wooden frameworks for ceilings, archways, and wall paneling.

PC15. install decorative wooden panels and moldings to enhance visual appeal.

PC16. use CNC precision cutting for intricate and customized wooden designs.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. basic properties of wood: grain structure, hardness, moisture content, and workability.
KU2. classification of wood types: hardwoods (e.g., teak, oak, mahogany) vs. softwoods (e.g., pine, cedar).
KU3. factors affecting wood selection for different applications.
KU4. seasoning and treatment of wood to improve durability.
KU5. measurement tools and techniques for accurate wood cutting and assembly.
KU6. methods for marking and layout for precision woodworking.
KU7. different types of saws (hand saws, circular saws, band saws) and their applications.
KU8. traditional woodworking joints: mortise and tenon, dovetail, lap joint, and tongue and groove.
KU9. modern joinery techniques using adhesives, dowels, and screws.
KU10. CNC precision cutting and assembly techniques for high-accuracy joinery.
KU11. fastening methods for securing structural wooden components.
KU12. load-bearing properties of wooden elements and their applications.
KU13. reinforcement techniques for wooden staircases, railings, and beams.
KU14. integration of engineered wood products such as laminated veneer lumber (LVL) and cross-laminated timber (CLT).
KU15. prefabricated wooden structural components for efficient installation.

Generic Skills (GS)

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

GS1. communicate effectively with team members, supervisors, and stakeholders
GS2. listen actively to understand instructions and feedback
GS3. perform basic arithmetic calculations and take measurements accurately
GS4. analyze project specifications to identify potential risks or challenges
GS5. plan tasks to optimize time and resources
GS6. organize tools, equipment, and materials efficiently
GS7. operate modern tools and equipment with basic proficiency
GS8. adapt to new construction technologies and methods
GS9. follow health and safety guidelines to minimize workplace risks
GS10. identify and mitigate workplace hazards promptly
GS11. ensure compliance with environmental sustainability practices
GS12. assess work challenges and make informed decisions
GS13. evaluate feedback to implement process improvements
GS14. maintain a professional attitude and ethical behaviour

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Construct Wooden Staircases and Landings	**6**	**15**	**-**	**2**
PC1. select appropriate wood types for staircase treads, risers, and stringers.	-	-	-	-
PC2. measure and cut wooden components according to staircase design and dimensions.	-	-	-	-
PC3. assemble and secure staircases using joinery techniques such as mortise and tenon or dovetail joints.	-	-	-	-
PC4. install supporting framework and reinforcements to ensure staircase stability.	-	-	-	-
Install Wooden Railings and Balustrades	**8**	**15**	**-**	**3**
PC5. measure and mark positions for railing posts, handrails, and balusters.	-	-	-	-
PC6. cut and shape wooden components to match the design specifications.	-	-	-	-
PC7. assemble and secure railings using wooden dowels, screws, or adhesives.	-	-	-	-
PC8. align and fasten balustrades to staircases or balconies with proper anchoring.	-	-	-	-
Install Wooden Beams and Load-Bearing Elements	**8**	**15**	**-**	**3**
PC9. cut and join wooden beams using traditional and modern woodworking methods.	-	-	-	-
PC10. assemble and install wooden load-bearing structures for ceilings and partitions.	-	-	-	-
PC11. reinforce beams with metal brackets or engineered wood supports for additional strength.	-	-	-	-
PC12. integrate prefabricated wooden structural components for faster installation.	-	-	-	-
Assemble Decorative Wooden Frameworks	**8**	**15**	**-**	**2**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. cut and shape wooden components for aesthetic and architectural designs.	-	-	-	-
PC14. assemble wooden frameworks for ceilings, archways, and wall paneling.	-	-	-	-
PC15. install decorative wooden panels and moldings to enhance visual appeal.	-	-	-	-
PC16. use CNC precision cutting for intricate and customized wooden designs.	-	-	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/CON/N0512
NOS Name	Construct and Install Wooden Structural Features
Sector	Construction
Sub-Sector	
Occupation	Masonry/Shuttering Carpentry/Bar Bending/Fabrication
NSQF Level	4
Credits	1
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Awarding Body. Each Performance Criteria (PC)/ Element will be assigned marks proportional to its importance in NOS. AB will also lay down proportion of marks for Theory and Practical Skills for each PC/ Element.

2. The assessment of the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by AB.

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. To pass the Qualification Pack, every trainee must score 70% on overall QP.

6. The Assessor shall check the outcome of the practices while evaluating the steps performed to achieve the outcome.

7. 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.

8. After the certain number of iterations as decided by AB 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 time frame set by AB.

10. Minimum duration of Assessment of each QP shall be 8hrs/batch (max. 30 candidates).

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
ICE/CON/N0501.Identify Construction Building Materials and Components	30	60	-	10	100	15
ICE/CON/N0502.Follow Environment, Health and Safety (EHS) Guidelines at Construction Sites	30	60	-	10	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
Total	**80**	**150**	**-**	**20**	**250**	**30**

Elective: 1 Woodworking

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ICE/CON/N0508.Prepare and Construct Timber Frameworks	30	60	-	10	100	10
ICE/CON/N0509.Construct Wooden Frames for Structural Elements	30	60	-	10	100	15

Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ICE/CON/N0510.Install Interior Wooden Partitions and Panels	30	60	-	10	100	15
ICE/CON/N0511.Assemble and Dismantle Shuttering for Concreting	30	60	-	10	100	15
ICE/CON/N0512.Construct and Install Wooden Structural Features	30	60	-	10	100	15
Total	**150**	**300**	**-**	**50**	**500**	**70**