सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

Qualification Pack

N·S·D·C National Skill Development Corporation
Transforming the skill landscape

Assistant Bar Bender and Steel Fixer

QP Code: CON/Q0202

Version: 2.0

NSQF Level: 3

Construction Skill Development Council of India || Construction Skill Development CPB 103 & 104 (1st Floor),Block 4B,DLF Corporate Park,Phase III,MG Road,Gurgaon-122002
Telephone:0124-4513915to 18

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CON/Q0202: Assistant Bar Bender and Steel Fixer

Brief Job Description

Assistant bar bender and steel fixer is responsible for identification, handling and use of tools and tackles, materials and equipment. The responsibilities also include reading and understanding reinforcement bar details from hand sketches and bar bending schedule, performing cutting, threading and manual bending of rebar and fabricating, placing and fixing of reinforcement bar at the desired location using correct ties within specified time and tolerance.

Personal Attributes

The individual is expected to be physically fit and able to work across various locations, withstanding extreme conditions while working. The person should be able to work within a team to handle various bar bending tools and materials and work under instructions and close supervision.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. CON/N0214: Read and understand reinforcement bar detail from hand sketches
2. CON/N0215: Use and maintain materials, tools and equipment relevant to reinforcement works
3. CON/N0216: Perform cutting and manual bending of rebar for simple shapes
4. CON/N0217: Assist in fabrication, placing and fixing of rebar for pre-fabricated and in-situ RCC structures
5. CON/N0101: Erect and dismantle temporary scaffold up to 3.6 meter height
6. CON/N8001: Work effectively in a team to deliver desired results at the workplace
7. CON/N9001: Work according to personal health, safety and environment protocol at construction site

Qualification Pack (QP) Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Bar Bending and Fixing

Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7214.1101
Minimum Educational Qualification & Experience	5th Class with 6-12 Months of experience as a certified Helper -Bar bender & steel fixer OR 5th Class with 1-2 Years of experience in case of a Non trained worker, in same occupation
Minimum Level of Education for Training in School	5th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	04/03/2020
Next Review Date	24/07/2023
Deactivation Date	24/07/2023
NSQC Approval Date	22/08/2019
Version	2.0
Reference code on NQR	2019/CON/CSDCI/3285
NQR Version	2

CON/N0214: Read and understand reinforcement bar detail from hand sketches

Description

This unit describes the skills and knowledge required to be proficient in reading and understanding reinforcement bar details from hand sketches

Scope

The scope covers the following :

- Read and understand rebar (reinforcement bars) details from hand sketches

Elements and Performance Criteria

Read and understand rebar details from hand sketches

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

PC1. read and understand rebar details from hand sketches

PC2. identify diameter, cutting length, number and shape of rebar from hand sketch

PC3. identify cover for rebar from hand sketch

PC4. read spacing detail for stirrups, main and secondary rebar, bar chairs, spacer bar from hand sketch

PC5. calculate cutting length of rebar for stirrups, hanger bar and chairs

PC6. calculate cutting length of rebar for simple shapes

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. safety rules and regulations for handling and storing reinforcement tools, materials and components

KU2. personal protection including use of safety gears and equipment

KU3. safe working methods and movements while performing relevant tasks

KU4. request procedure for tools & materials

KU5. housekeeping & other site administrative rules

KU6. hand sketches related to reinforcement work

KU7. units of measurements and conversion of linear units

KU8. measurements and marking tools

KU9. different types of rebar, their grade and standard size

KU10. different types and thickness of binding wire

KU11. methods of protecting steel from rusting

KU12. simple arithmetic calculation

KU13. calculation of cutting length for simpler shape, stirrups, chairs etc.
KU14. unit weight of steel
KU15. importance of scale given in drawing
KU16. how to make stirrups of different shapes
KU17. use of stirrups, hanger bars, chairs and spacer bar
KU18. covers for different types of structural element
KU19. method of inserting, placing and fixing of rebar for different structural element
KU20. how to calculate cutting length for stirrups, hanger bars, chairs and for other simple shape of rebar
KU21. how to read bar bending schedule
KU22. spacing of rebar and its importance

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 in one or more language, preferably in the local language of the site
GS3. read instructions, guidelines, sign boards, safety rules & safety tags instructions related to exit routes during emergency at the workplace
GS4. speak in one or more language, preferably in one of the local languages of the site
GS5. listen and follow instructions given by the superior
GS6. decide whether his workplace is safe for working and also whether his work is not creating hazardous conditions for others
GS7. complete work as per agreed time schedule and quality

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Read and understand rebar details from hand sketches	**30**	**70**	**-**	**-**
PC1. read and understand rebar details from hand sketches	-	-	-	-
PC2. identify diameter, cutting length, number and shape of rebar from hand sketch	-	-	-	-
PC3. identify cover for rebar from hand sketch	-	-	-	-
PC4. read spacing detail for stirrups, main and secondary rebar, bar chairs, spacer bar from hand sketch	-	-	-	-
PC5. calculate cutting length of rebar for stirrups, hanger bar and chairs	-	-	-	-
PC6. calculate cutting length of rebar for simple shapes	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0214
NOS Name	Read and understand reinforcement bar detail from hand sketches
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Bar Bending and Fixing
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

CON/N0215: Use and maintain materials, tools and equipment relevant to reinforcement works

Description

This unit describes the skills and knowledge required to use and maintain materials, tools and equipment relevant to reinforcement works under instructions and close supervision

Scope

The scope covers the following :

- Use and maintain materials, tools and equipment relevant to reinforcement works

Elements and Performance Criteria

Use and maintain materials, tools and equipment relevant to reinforcement works

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

PC1. use materials such as binding wire, bar connecting coupler, thread protection cap

PC2. use different types of rebar as per instructions

PC3. use hand tools such as lever, hook, measurement tape, gauge, sledge hammer, chisel, pin plate and other relevant tools used in reinforcement works

PC4. use power tools such as hand held rebar cutting machine, circular rebar cutting machine and shearing machine for cutting of rebar

PC5. use threading machine for making threads on rebar as per instruction

PC6. use bending machine for rebar bending using different types of bushes and other accessories under supervision

PC7. use different types of slings, shackles and lifting belts for lifting and shifting of rebars

PC8. use personal protective equipment such as safety shoes, gloves, helmets, ear, plugs, nose mask, safety goggles as per requirements

PC9. wear full and half body safety harness as per requirement

PC10. perform basic maintenance of hand tools

PC11. perform basic maintenance of power tools

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. safety rules and regulations for handling and storing reinforcement tools, materials and components

KU2. personal protection including use of safety gears and equipment

KU3. safe working methods and movements while performing relevant tasks

KU4. request procedure for tools & materials and equipment

KU5. housekeeping &other site administrative rules

KU6. use of hand tools such as lever, hook, measuring tape, sledge hammer , chisel
KU7. types of binding wire
KU8. types of reinforcement steel, their grade and size
KU9. types of cutting and bending machine
KU10. method of cutting reinforcement using hand tool
KU11. method of cutting and bending of rebar
KU12. importance of correct body posture
KU13. types and use of slings, shackles and lifting belts
KU14. standard procedure for stacking of reinforcement
KU15. work place procedures, policies and mechanical handling
KU16. housekeeping standards procedures required in the workplace
KU17. position of overhead electrical wires and cables during shifting / lifting of materials
KU18. visual checking for quality of materials
KU19. storing and handling technique of tools
KU20. upkeep repair and maintenance of tools

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 in one or more language, preferably in the local language of the site
GS3. read instructions, guidelines, sign boards, safety rules & safety tags instructions related to exit routes during emergency at the workplace
GS4. speak in one or more language, preferably in one of the local languages of the site
GS5. listen and follow instructions given by the superior
GS6. decide whether his workplace is safe for working
GS7. place materials in correct position near the job to ensure sufficient availability
GS8. identify location at which violation of any safety norms may lead to accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Use and maintain materials, tools and equipment relevant to reinforcement works	**30**	**70**	**-**	**-**
PC1. use materials such as binding wire, bar connecting coupler, thread protection cap	-	-	-	-
PC2. use different types of rebar as per instructions	-	-	-	-
PC3. use hand tools such as lever, hook, measurement tape, gauge, sledge hammer, chisel, pin plate and other relevant tools used in reinforcement works	-	-	-	-
PC4. use power tools such as hand held rebar cutting machine, circular rebar cutting machine and shearing machine for cutting of rebar	-	-	-	-
PC5. use threading machine for making threads on rebar as per instruction	-	-	-	-
PC6. use bending machine for rebar bending using different types of bushes and other accessories under supervision	-	-	-	-
PC7. use different types of slings, shackles and lifting belts for lifting and shifting of rebars	-	-	-	-
PC8. use personal protective equipment such as safety shoes, gloves, helmets, ear, plugs, nose mask, safety goggles as per requirements	-	-	-	-
PC9. wear full and half body safety harness as per requirement	-	-	-	-
PC10. perform basic maintenance of hand tools	-	-	-	-
PC11. perform basic maintenance of power tools	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0215
NOS Name	Use and maintain materials, tools and equipment relevant to reinforcement works
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Bar Bending and Fixing
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

CON/N0216: Perform cutting and manual bending of rebar for simple shapes

Description

This unit describes the skills and knowledge required to perform cutting and manually bend rebar for simpler shapes under continuous instructions and close supervision

Scope

The scope covers the following :

- Cutting and manual bending of rebar for simple shape

Elements and Performance Criteria

Cutting and manual bending of rebar for simple shape

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

PC1. select type of rebar as per instruction
PC2. select hand tool or power tool for cutting of rebar as per the requirement
PC3. use measurement tape and mark cutting length on rebar as per instruction
PC4. operate hand or power tool for cutting of rebar maintaining correct body posture
PC5. straight rebar using appropriate tools before bending if required
PC6. maintain correct body posture while bending rebar manually
PC7. mark on rebar, use lever or pipe of suitable diameter for bending of rebar
PC8. mark on bending bench for making stirrups, chairs, hanger bars
PC9. place the rebar into a pipe of specified diameter
PC10. bend bars to required shape and angle manually as per criteria laid down on code sheets
PC11. check bent rebar for its shape, angle & length

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. safety rules and regulations for handling and storing reinforcement tools, materials and components
KU2. personal protection including use of safety gears and equipment
KU3. safe working methods and movements while performing relevant tasks
KU4. request procedure for tools & materials
KU5. housekeeping &other site administrative rules
KU6. hand sketches related to reinforcement work
KU7. units of measurements and conversion of linear units
KU8. use of measurements and marking tools

KU9. use of hand tools such as lever, hook, chisel, sledgehammer, measuring tape, bending pipe etc.
KU10. use of power tools for cutting, threading and bending of rebar
KU11. different types of rebar, their grade and standard size
KU12. how to calculate unit weight of steel
KU13. different types and thickness of binding wire
KU14. methods of protecting steel from rusting
KU15. tolerances for bending and cutting of rebar
KU16. tagging procedures for rebar basis shape, size and location
KU17. carry out simple measurements using metric and imperial systems
KU18. calculation of cutting length for simpler shape, stirrups, chairs

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 in one or more language, preferably in the local language of the site
GS3. read instructions, guidelines, sign boards, safety rules & safety tags instructions related to exit routes during emergency at the workplace
GS4. speak in one or more language, preferably in one of the local languages of the site
GS5. listen and follow instructions given by the superior
GS6. communicate orally and effectively with team members
GS7. decide whether his workplace is safe for working
GS8. identify and organize hand tools for performing task
GS9. identify and use relevant hand tools effectively
GS10. complete work as per agreed time schedule and quality
GS11. minimize wastages
GS12. revert to superior for selection/sorting of materials
GS13. identify location at which violation of any safety norms may lead to accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Cutting and manual bending of rebar for simple shape	**30**	**70**	**-**	**-**
PC1. select type of rebar as per instruction	-	-	-	-
PC2. select hand tool or power tool for cutting of rebar as per the requirement	-	-	-	-
PC3. use measurement tape and mark cutting length on rebar as per instruction	-	-	-	-
PC4. operate hand or power tool for cutting of rebar maintaining correct body posture	-	-	-	-
PC5. straight rebar using appropriate tools before bending if required	-	-	-	-
PC6. maintain correct body posture while bending rebar manually	-	-	-	-
PC7. mark on rebar, use lever or pipe of suitable diameter for bending of rebar	-	-	-	-
PC8. mark on bending bench for making stirrups, chairs, hanger bars	-	-	-	-
PC9. place the rebar into a pipe of specified diameter	-	-	-	-
PC10. bend bars to required shape and angle manually as per criteria laid down on code sheets	-	-	-	-
PC11. check bent rebar for its shape, angle & length	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0216
NOS Name	Perform cutting and manual bending of rebar for simple shapes
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Bar Bending and Fixing
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

CON/N0217: Assist in fabrication, placing and fixing of rebar for pre-fabricated and in-situ RCC structures

Description

This unit describes the skills and knowledge required to fabricate, place and fix reinforcement for pre-fabricated and in-situ R.C.C structures such as column, beam, slab, wall, footing and provide necessary assistance under instruction and close supervision.

Scope

The scope covers the following :

- Fabricate, place and fix rebar for pre-fabricated and in-situ R.C.C structures and provide necessary assistance for reinforcement works

Elements and Performance Criteria

Fabricate, place and fix rebar for pre-fabricated and in-situ R.C.C structures and provide necessary assistance for reinforcement works

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

PC1. follow correct method for insertion/ fixing of rebar as per the types of structure (column, beam, slab and wall)

PC2. place and fix rebar on its positions as per marking and instructions

PC3. maintain uniform spacing between the bars, stirrups, links as per marking and instructions

PC4. stagger the lap to avoid more than 50% of splicing

PC5. tie reinforcement with approved binding wires and use ties such as hairpin tie, ring hairpin tie, ring slash tie, crown tie as per instructions

PC6. Place and tie cover blocks at regular interval

PC7. place and fix spacer bars to maintain proper gap between double layer rebar as per instruction

PC8. place and fix chairs at specified spacing to maintain correct thickness in case of slab reinforcement

PC9. follow sequence of tying for different types of pre-fabricated and in-situ R

PC10. use binding wire economically for tying of rebar

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. safety rules and regulations for handling and storing reinforcement tools, materials and components

KU2. personal protection including use of safety gears and equipment

KU3. safe working methods and movements while performing relevant tasks

KU4. request procedure for tools & materials

KU5. housekeeping &other site administrative rules
KU6. sequence for tying of rebar for in-situ and prefabricated cages
KU7. use of chairs, spacer bars, hanger bars
KU8. lapping length for different diameter of rebar
KU9. Importance of distribution rebar
KU10. different types of stirrups used in bar bending works
KU11. different types of ties used in bar bending works such as slash tie, ring slash tie, hairpin tie, ring hairpin tie, crown tie, slash tie
KU12. importance of clear cover while carrying out reinforcement works
KU13. standard tolerance limits in reinforcement works
KU14. conversion of linear units
KU15. electrical safety of powers tools and equipment used in bar bending works
KU16. types of rebar, their grade and standard length
KU17. types and use of binding wire such as mild steel, GI wire
KU18. types and use of cover blocks such as plastic and concrete

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 in one or more language, preferably in the local language of the site
GS3. read instructions, guidelines, sign boards, safety rules & safety tags instructions related to exit routes during emergency at the workplace
GS4. speak in one or more language, preferably in one of the local languages of the site
GS5. listen and follow instructions given by the superior
GS6. communicate orally and effectively with team members
GS7. decide whether his workplace is safe for working
GS8. complete work as per agreed time schedule and quality

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Fabricate, place and fix rebar for pre-fabricated and in-situ R.C.C structures and provide necessary assistance for reinforcement works	**30**	**70**	**-**	**-**
PC1. follow correct method for insertion/ fixing of rebar as per the types of structure (column, beam, slab and wall)	-	-	-	-
PC2. place and fix rebar on its positions as per marking and instructions	-	-	-	-
PC3. maintain uniform spacing between the bars, stirrups, links as per marking and instructions	-	-	-	-
PC4. stagger the lap to avoid more than 50% of splicing	-	-	-	-
PC5. tie reinforcement with approved binding wires and use ties such as hairpin tie, ring hairpin tie, ring slash tie, crown tie as per instructions	-	-	-	-
PC6. Place and tie cover blocks at regular interval	-	-	-	-
PC7. place and fix spacer bars to maintain proper gap between double layer rebar as per instruction	-	-	-	-
PC8. place and fix chairs at specified spacing to maintain correct thickness in case of slab reinforcement	-	-	-	-
PC9. follow sequence of tying for different types of pre-fabricated and in-situ R	-	-	-	-
PC10. use binding wire economically for tying of rebar	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0217
NOS Name	Assist in fabrication, placing and fixing of rebar for pre-fabricated and in-situ RCC structures
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Bar Bending and Fixing
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

CON/N0101: Erect and dismantle temporary scaffold up to 3.6 meter height

Description

This unit describes the skills and knowledge required to erect and dismantle 3.6 meter temporary scaffold

Scope

The scope covers the following :

- Erect and dismantle temporary scaffold up to 3.6 meter height

Elements and Performance Criteria

• Erect and dismantle temporary scaffold up to 3.6 meter height

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

PC1. level area where scaffold need to be erected and check for ground compactness if required
PC2. shift and stack required materials, components, tools and tackles at the instructed location
PC3. wear and use required safety gadgets and follow trade safety
PC4. place base plates and sole boards on the ground as per markings and instructions
PC5. use proper components and follow standard procedure for erecting temporary scaffold up to 3.6 m
PC6. check verticality of scaffold at first level of erection and correct (if required) before moving to the next level
PC7. check for rigidity, stability and support of erected scaffold
PC8. fix walk-boards, guard rails, toe-boards and other components on working platform
PC9. follow standard procedure for dismantling of 3.6 m temporary scaffold
PC10. remove guard rails, toe boards, walk boards and other components sequentially
PC11. clean and stack all components properly after dismantling
PC12. maintain tidiness at work location

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard procedure for scaffolding works
KU2. safety rules and regulations for handling and storing scaffolding tools, materials and components
KU3. personal protection including use of safety gears and equipment
KU4. safe working methods and movements while performing relevant tasks
KU5. request procedure for tools & materials
KU6. housekeeping & other administrative rules

KU7. use of different types of scaffolds (cup-lock , frame scaffold)
KU8. use of tools and tackles in scaffolding works
KU9. identification and use of different components
KU10. use of tools for measurements and marking
KU11. basic arithmetic calculation
KU12. units of measurements
KU13. standard size of scaffolding components
KU14. personal protective equipment for safety
KU15. importance of housekeeping
KU16. standard procedure for erection and dismantling of 3.6 m temporary scaffold
KU17. tools and equipment used for erecting and dismantling 3.6 meter temporary scaffoild

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 one or more language, preferably the local language of the site
GS3. read instructions, guidelines, sign boards, safety rules & safety tags instruction related to exit routes during emergency at the workplace
GS4. speak in one or more language, preferably in one of the local languages of site
GS5. listen and follow instructions / communication shared by superiors/ co- workers regarding team requirements or interfaces during work processes
GS6. orally communicate with co-workers regarding support required to complete the respective work
GS7. decide whether the workplace is safe for working and also whether the relevant work is not creating hazardous conditions for others
GS8. identify and organize right scaffolding materials
GS9. identify and use relevant tools effectively
GS10. complete work as per agreed time and quality
GS11. minimize wastages
GS12. revert to superior for selection/sorting of materials
GS13. identify location at which violation of any safety norms may lead to accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
• Erect and dismantle temporary scaffold up to 3.6 meter height	**30**	**70**	**-**	**-**
PC1. level area where scaffold need to be erected and check for ground compactness if required	-	-	-	-
PC2. shift and stack required materials, components, tools and tackles at the instructed location	-	-	-	-
PC3. wear and use required safety gadgets and follow trade safety	-	-	-	-
PC4. place base plates and sole boards on the ground as per markings and instructions	-	-	-	-
PC5. use proper components and follow standard procedure for erecting temporary scaffold up to 3.6 m	-	-	-	-
PC6. check verticality of scaffold at first level of erection and correct (if required) before moving to the next level	-	-	-	-
PC7. check for rigidity, stability and support of erected scaffold	-	-	-	-
PC8. fix walk-boards, guard rails, toe-boards and other components on working platform	-	-	-	-
PC9. follow standard procedure for dismantling of 3.6 m temporary scaffold	-	-	-	-
PC10. remove guard rails, toe boards, walk boards and other components sequentially	-	-	-	-
PC11. clean and stack all components properly after dismantling	-	-	-	-
PC12. maintain tidiness at work location	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0101
NOS Name	Erect and dismantle temporary scaffold up to 3.6 meter height
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Masonry
NSQF Level	3
Credits	TBD
Version	3.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

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 effectively with co-workers, superiors and sub-ordinates across different teams
- Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task

Elements and Performance Criteria

Interact and communicate in effective and conclusive 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. address the problems effectively and report if required to immediate supervisor appropriately

PC4. receive instructions clearly from superiors and respond effectively on the same

PC5. communicate to team members/subordinates for appropriate work technique and method

PC6. seek clarification and advice as per the requirement and applicability

Support co-workers to execute 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

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. own roles and responsibilities

KU2. importance of effective communication and establishing strong working

KU3. risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc.

KU4. different modes of communication, and its appropriate usage

KU5. importance of creating healthy and cooperative work environment among the gangs of workers

KU6. different activities within his work area where an 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

KU9. importance and need of supporting co-workers facing problems for smooth

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 in one or more languages, preferably the local language of the site

GS3. read communication from team members regarding work completed, materials used, tools and tackles used, support required

GS4. speak in one or more languages, preferably in one of the local language of the site

GS5. listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes

GS6. orally communicate with co-workers regarding support required to complete the respective work

GS7. decide on what information is to be shared with co-workers within the team or from interfacing gang of workers

GS8. plan work and organize required resources in coordination with team members

GS9. complete all assigned task in coordination with team members

GS10. take initiative in resolving issues among co-workers or report the same to superiors

GS11. ensure best ways of coordination among team members

GS12. communicate with co-workers considering their educational / social background

GS13. evaluate the complexity of task and determine if any guidance is required from superiors

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Interact and communicate in effective and conclusive manner	**18**	**42**	**-**	**-**
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. address the problems effectively and report if required to immediate supervisor appropriately	-	-	-	-
PC4. receive instructions clearly from superiors and respond effectively on the same	-	-	-	-
PC5. communicate to team members/subordinates for appropriate work technique and method	-	-	-	-
PC6. seek clarification and advice as per the requirement and applicability	-	-	-	-
Support co-workers to execute project requirements	**12**	**28**	**-**	**-**
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	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N8001
NOS Name	Work effectively in a team to deliver desired results at the workplace
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	4.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

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

Description

This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol 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

Elements and Performance Criteria

Follow safety norms as defined by 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. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site

PC5. select and operate different types of fire extinguishers corresponding to 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 including: Head Protection (Helmets), Ear protection Fall Protection, Foot Protection, Face and Eye Protection, Hand and Body Protection, Respiratory Protection (if required)

PC8. handle all required tools, tackles , materials & equipment safely

PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines

PC10. install and apply properly all safety equipment as instructed

PC11. follow safety protocol and practices as laid down by site EHS department

PC12. undertake and pass height pass test as per EHS guideline

Implement good housekeeping practices

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

PC13. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes

PC14. apply ergonomic principles wherever required

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 to be used based on various working conditions
KU6. importance of handling tools, equipment and materials as per applicable
KU7. health and environments effect of construction materials as per applicability
KU8. various environmental protection methods as per applicability
KU9. storage of waste including the following at appropriate location: 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
KU10. how to use hazardous material, in a safe and appropriate manner as per applicability
KU11. types of fire
KU12. procedure of operating different types of fire extinguishers
KU13. safety relevant to tools, tackles, & requirement as per applicability
KU14. housekeeping activities relevant to task

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
GS4. read sign boards, notice boards relevant to safety
GS5. speak in one or more language, preferably in one of the local language of the site
GS6. listen instructions / communication shared by site EHS and superiors regarding site safety, and conducting tool box talk
GS7. communicate reporting of site conditions, hazards, accidents, etc.
GS8. not create unsafe conditions for others
GS9. keep the workplace clean and tidy
GS10. identify safety risks that affect the health, safety and environment for self and others working in the vicinity, tackle it if within limit or report to appropriate authority
GS11. assess and analyze areas which may affect health, safety and environment protocol on the site
GS12. ensure personal safety behavior

GS13. respond to emergency

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Follow safety norms as defined by organization	**9**	**21**	**-**	**-**
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. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site	-	-	-	-
PC5. select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline	-	-	-	-
PC6. identify near miss , unsafe condition and unsafe act	-	-	-	-
Adopt healthy & safe work practices	**15**	**35**	**-**	**-**
PC7. use appropriate Personal Protective Equipment (PPE) as per work requirements including: Head Protection (Helmets), Ear protection Fall Protection, Foot Protection, Face and Eye Protection, Hand and Body Protection, Respiratory Protection (if required)	-	-	-	-
PC8. handle all required tools, tackles , materials & equipment safely	-	-	-	-
PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines	-	-	-	-
PC10. install and apply properly all safety equipment as instructed	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. follow safety protocol and practices as laid down by site EHS department	-	-	-	-
PC12. undertake and pass height pass test as per EHS guideline	-	-	-	-
Implement good housekeeping practices	**6**	**14**	**-**	**-**
PC13. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes	-	-	-	-
PC14. apply ergonomic principles wherever required	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N9001
NOS Name	Work according to personal health, safety and environment protocol at construction site
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	4.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

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

3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.

5. The passing percentage for each QP will be 50%. To pass the Qualification Pack, every trainee should score a minimum of 50% individually in each NOS.

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

7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.

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

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

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

Minimum Aggregate Passing % at QP Level : 50

(**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/N0214.Read and understand reinforcement bar detail from hand sketches	30	70	-	-	100	15
CON/N0215.Use and maintain materials, tools and equipment relevant to reinforcement works	30	70	-	-	100	10
CON/N0216.Perform cutting and manual bending of rebar for simple shapes	30	70	-	-	100	20
CON/N0217.Assist in fabrication, placing and fixing of rebar for pre-fabricated and in-situ RCC structures	30	70	-	-	100	20
CON/N0101.Erect and dismantle temporary scaffold up to 3.6 meter height	30	70	-	-	100	10

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N8001.Work effectively in a team to deliver desired results at the workplace	30	70	-	-	100	10
CON/N9001.Work according to personal health, safety and environment protocol at construction site	30	70	-	-	100	15
Total	**210**	**490**	**-**	**-**	**700**	**100**

Acronyms

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

Glossary

Sector	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.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	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.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	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.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	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.
Scope	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.

Knowledge and Understanding (KU)	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.
Organisational Context	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.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	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.
Electives	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.
Options	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.