





# QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR CONSTRUCTION INDUSTRY

# What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- POS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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# Introduction

# **Qualifications Pack - Mason Concrete**

**SECTOR: CONSTRUCTION** 

SUB-SECTOR: Real Estate and Infrastructure Construction

**OCCUPATION: MASONRY** 

**REFERENCE ID: CON/Q0105** 

ALIGNED TO: NCO-2015/7114.9900

**Brief Job Description:** This individual is responsible for placing, leveling and finishing both RCC and PCC in various structural elements, in situ and in pre cast units. This also includes repairing of concrete and carrying out IPS/Tremix flooring.

**Personal Attributes:** This job role requires the individual to be physically fit and should be able to work across various locations withstanding extreme weather/site conditions while working at the construction site or in a casting yard. The person must be able to perform efficiently within a team and handle the various concreting tools and materials and work responsibly.





Job Details





	Qualifications Pack Code	CON/Q0105			
	Job Role	Mason- Concrete			
	Credits(NSQF)	TBD	Version number	2.0	
	Sector	Construction	Drafted on	07/03/2015	
	Sub Sector	Real Estate and Infrastructure Construction	Last reviewed on	04/03/2020	
	Occupation	Masonry	Next review date	22/08/2024	
	NSQC Clearance on	22/08/2019			

Job Role	Mason - Concrete	
Role Description	Responsible for performing routine concreting works in various structural elements	
NSQF Level Minimum Educational Qualifications*  Maximum Educational Qualifications*	4 5 <sup>th</sup> standard N.A	
Prerequisite License or Training		
Minimum Job Entry Age	18 years	
Experience	Non trained worker: 5 years site experience in same occupation Trained worker: 2 years site experience as a certified Assistant Mason	
Applicable National Occupational Standards (NOS) `	·	
Performance Criteria	As described in the relevant OS units	





# Qualifications Pack For Mason – Concrete





Keywords / Terms	Description	
Sector	Sector is 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 organization.	
Occupational Standards	OS specify the standards of performance an individual must achieve when	
(OS)	carrying out a function in the workplace, together with the knowledge and	
	understanding they need to meet the standard consistently. Occupational	
	Standards are applicable both in the Indian contexts.	
Performance Criteria	Performance Criteria are statements that together specify the standard of	
	performance required when carrying out a task.	
Qualifications Pack (QP)	Qualifications Pack comprises the set of OS, together with the educational,	
	training and other criteria required to perform a job role. A Qualification Pack	
	is assigned a unique qualification pack code	
Qualification Pack Code	Qualification Pack Code is a unique reference code that identifies a	
	qualifications pack.	
National Occupational	NOS are Occupational Standards which apply uniquely in the Indian context.	
Standards (NOS)		
Scope	Scope is the set of statements specifying the range of variables that an	
	individual may have to deal with in carrying out the function which have a	
Karalada a a	critical impact on the quality of performance required.	
Knowledge and	Knowledge and Understanding are statements which together specify the	
Understanding	technical, generic, professional and organizational specific knowledge that an	
Outputientianal Contact	individual needs in order to perform to the required standard	
Organizational Context	Organizational Context includes the way the organization is structured and	
	how it operates, including the extent of operative knowledge managers have	
Tachnical Knowledge	of their relevant areas of responsibility.	
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.	
Core Skills / Generic Skills		
Core Skills / Gerieric Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working 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.	
	Skins that are applicable to most job roles.	

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Keywords /Terms	Description
CON	Construction
NSQF	National Skill Qualifications Framework
QP	Qualification Pack
OS	Occupational Standards
TBD	To Be Decided









Carry out IPS / Tremix flooring works

# National Occupational Standard



# **Overview**

This unit covers the skills and knowledge for an individual to be proficient in executing IPS and Tremix flooring works.



# National Occupational Standards





CON/N0114

# Carry out IPS / Tremix flooring works

Unit Code	CON/N0114		
Unit Title (Task)	Carry out IPS / Tremix flooring works		
Description	This unit describes the skills and knowledge required to work on IPS & Tremix flooring		
Scope	<ul> <li>Carry out preparatory work prior to IPS / Tremix flooring</li> <li>Check for line, level and alignment.</li> <li>Check the materials used for IPS / Tremix flooring in case of manual mixing</li> <li>Check the materials used for IPS / Tremix flooring in case of machine mixing</li> <li>Carry out IPS flooring</li> <li>Carry out Tremix / VDF flooring</li> </ul>		
Performance Criteria (	PC) w.r.t. the Scope		
Element	Performance Criteria		
Carry out preparatory work prior to IPS / Tremix flooring	To be competent, the user / individual on the job must be able to:  PC1. inspect the work area prior to concreting, ensure leveling incase of any undulations observed on the surface prior to concreting  PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment in PCC  PC3. report any gaps in formwork to avoid leakage  PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided		
Check for line, level and alignment	PC5. mark reference level on the wall &transfer this marking to all floor locations using appropriates tools  PC6. mark flooring thickness level and provide dummy level dots at specified intervals for ensuring required slope		
Check the materials used for IPS / Tremix flooring in case of manual mixing	PC7. check the grade of cement prior to use in case of manual mixing PC8. ensure fine aggregate is sieved as per grade requirement PC9. check that concrete is mixed in appropriate proportion		
Check the materials used for IPS/Tremix flooring in case of machine mixing	PC10. visually assess the concrete mix for usability and workability PC11. notify superiors for detrimental quality of concrete PC12. ensure specified concrete mix is used at allocated location PC13. check that panels prepared are of specified size and type		
Carry out IPS flooring	PC14. fix the glass, aluminum or brass strip in cement mortar with their tops at appropriate level and according to slope PC15. ensure panels are made as per specified size PC16. ensure concrete is poured in alternate panels/specified panels as per		









# Carry out IPS / Tremix flooring works

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	requirement
	PC17. remove excess cement slurry and any marks on the surface
	PC18. level the concrete surface with a straight edge and to the required finish
	with a wooden float / trowel
	PC19. spread cement punning over the IPS concrete for smooth finish surface and
	allow it to soak into the concrete, as per requirement
	PC20. provide construction joints and expansion joints as per requirement
	PC21. level poured concrete to the specified levels maintaining required slope
	PC22. ensure curing of the finished floor surface for the specified time
	PC23. level the surface and lay stone soling / boulder soling layer
	PC24. lay the floor with slope maintained in PCC work above the stone soling
	PC25. remove excess water from the top layer of wet concrete without removing
	cement of sand particles through vacuum de-watering machines
	PC26. ensure floater work within green concrete surface
Carry out Tremix /	PC27. carry out tremix flooring in specified panel on RCC floors ensuring
VDF flooring	intactness of rebar and cover
	PC28. cut grooves on concrete at specified intervals for construction joints
	PC29. provide expansion joints as per requirement
	PC30. carry out curing of finished concrete as per specifications
	PC31. ensure finished levels have required slope
Knowledge and U	nderstanding (K)
A. Organizational	The user/individual on the job needs to know and understand:
Context	KA1. standard practices for masonry work
(Knowledge of	KA2. safety rules and regulations for handling & storing required masonry tools &
the company /	materials
organization and	KA3. personal protection including the use of related safety gears & equipments
	KA3. personal protection including the use of related safety gears & equipments KA4. how to request tools and materials as per set procedures
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organization and its processes)  B. Technical	KA3. personal protection including the use of related safety gears & equipments KA4. how to request tools and materials as per set procedures KA5. maintenance of tools and equipments
organization and its processes)	<ul><li>KA3. personal protection including the use of related safety gears &amp; equipments</li><li>KA4. how to request tools and materials as per set procedures</li><li>KA5. maintenance of tools and equipments</li><li>The user/individual on the job needs to know and understand:</li></ul>
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organization and its processes)  B. Technical	<ul> <li>KA3. personal protection including the use of related safety gears &amp; equipments</li> <li>KA4. how to request tools and materials as per set procedures</li> <li>KA5. maintenance of tools and equipments</li> <li>The user/individual on the job needs to know and understand:</li> <li>KB1. how to use all masonry tools along with some specialized tools for Tremix flooring such as: <ul> <li>Vacuum de-watering Pump</li> <li>Floater Machine</li> <li>Double beam Screen Vibrator</li> </ul> </li> <li>KB2. process to prepare the sub-base by watering and ramming</li> </ul>
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# Carry out IPS / Tremix flooring works

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	type of aggregates
	KB6. different mix proportion/grade of concrete
	KB7. sequence of concrete pouring and placing
	KB8. manual mixing of concrete and nominal mix proportions
	KB9. cover to reinforcement with respect to size of reinforcement
	KB10. how to pour concrete in alternate panels
	KB11. how to avoid shrinkage cracks in concrete
	KB12. various admixtures used in concreting
	KB13. different type of vibrators, their influence area and use
	KB14. construction and expansion joints
	KB15. cutting tools for providing joints
	KB16. final toweling process before the concrete is hardened
	KB17. excess water removal process using Vacuum dewatered machine
	KB18. use of screed vibrator
	KB19. hardener usage along with floater machine (if required) at the time of
	finishing the floor surface to increase abrasion resistance of the floor
	KB20.how to provide for space for narrow passage for operating float vibrator
	along a wall
Skills (S)	
	Writing Skills
	The user/ individual on the job needs to know and understand how to:
	SA1. write in one or more languages, preferably the local language at the site
	Reading Skills
	The user/individual on the job needs to know and understand how to:
A Coro Skilla/	SA2. read in one or more languages, preferably the local language at the site
A. Core Skills/ Generic Skills	SA3. read sketches provided by the superior to do IPS /Tremix flooring works
Generic Skiiis	SA4. read instructions, guidelines, sign boards, safety rules and safety tags
	SA5. read instructions and exit routes during emergency
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to:
	•
	SA6. speak in one or more languages, preferably one of the local language at the
	site
	SA7. listen and follow instructions given by the superior
	SA8. communicate orally with team member
B. Professional	Decision Making
Skills	The user/ individual on the job needs to know and understand how to:
	SB1. decide whether work place is safe for working and also relevant task is not
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### Carry out IPS / Tremix flooring works

creating	hazardou	s condition	for	others
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SB2. decide whether work is adequately defined for the day, work front is clear, and adequate materials and tools are available for performing the work

#### **Plan and Organize**

The user/individual on the job needs to know and understand how to:

SB3. plan work and organize required recourses in co-ordination with team members and superiors

#### **Customer centricity**

The user/individual on the job needs to know and understand how to:

SB4. complete work as per agreed time schedule and quality

### **Problem Solving**

The user/individual on the job needs to know and understand how to:

- SB5. resolve and solve any conflict within the team
- SB6. bring any noticeable issues faced (related to the flooring) to the attention of the superiors in a timely manner
- SB7. assess quantity and quality of materials for day work
- SB8. check quality of scaffolding / working platform from all aspects of safety
- SB9. dispose of construction debris & keep workplace safe and tidy for working

#### **Analytical Thinking**

The user/individual on the job needs to know and understand how to:

- SB10. optimize resources efficiently
- SB11. minimize wastage in the workplace
- SB12. starting and finishing levels for day work
- SB13. reconcile material consumption

### **Critical Thinking**

The user/individual on the job needs to know and understand how to:

- SB14. evaluate the complexity of the task and seek assistance and support wherever required
- SB15. bring to the notice of the superiors any requirement of the requisite resources
- SB16. bring to the notice of the superiors violation of any safety norms which may lead to accidents









Carry out IPS / Tremix flooring works

# **NOS Version Control**

NOS Code	CON/N0114		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/03/2015
Industry Sub-sector Real Estate and Infrastructure Construction		Last reviewed on	04/03/2020
Occupation Masonry		Next review date	22/08/2024











Place, level and finish concrete in various structural elements including repair works

# National Occupational Standard



# **Overview**

This NOS covers the skills and knowledge required by a workman for placing, leveling and finishing of concrete on various structural elements including repair work on concrete.



# National Occupational Standards





CON/N0117

Unit Code	CON/N0117	
Unit Title (Task)	Place, level and finish concrete in various structural elements including repair works	
Description	This unit describes the skills and knowledge required to place, level and finish concrete, both RCC and PCC, in various structural elements – in situ and pre cast .This also includes repair works on concrete.	
Scope	<ul> <li>This unit/task covers the following:</li> <li>Carry out preparatory work before pouring of concrete in case of manual and machine mixing</li> <li>Check material used for concreting in case of manual mixing</li> <li>Place and compact concrete on PCC &amp; RCC structural elements</li> <li>Screed and level wet concrete</li> <li>Finish and cure concrete</li> <li>Carry out concreting in pre cast segments</li> <li>Carry out simple repair work on hardened concrete surfaces</li> </ul>	
Performance Criteria (	PC) w.r.t. the Scope	
Element	Performance Criteria	
Carry out preparatory work before pouring of concrete in case of manual and machine mixing	To be competent, the user/individual on the job must be able to:  PC1. inspect the area for completion of housekeeping works and remove any undulations on the surface prior to concreting  PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment  PC3. report any gaps in formwork to avoid leakage  PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided  PC5. notify superiors for detrimental quality of concrete  PC6. visually assess the concrete mix for usability and workability	
Check material used for concreting in case of manual mixing	PC7. check the type, grade of cement and visual soundness of cement prior to use  PC8. check and ensure sieved fine aggregate prior to use  PC9. instruct and ensure that mixing of concrete is in specified ratio	
Place and compact concrete on PCC & RCC structural elements	PC10. handle and adjust the pouring equipments as per requirements PC11. ensure standard pouring height for concrete is maintained throughout pouring PC12. ensure pouring of concrete takes place in specified layers PC13. pour concrete to maintain specified levels & cover for steel reinforcement PC14. apply vibrator within influence depth and as per standard procedures	









	PC15. ensure that the vibrator does not touch the reinforcement or is not applied to the face of the form	
Screed and level wet concrete	PC16. screed the concrete as per requirements using appropriate tools and technique PC17. push the excess concrete towards the formwork for easy removal PC18. float the concrete using appropriate tools PC19. level the edges and corners as per requirements using appropriate tools for semi-finished concrete PC20. provide construction/ control joints in concrete surface at pre-defined locations PC21. cut construction joints as per specification and requirements	
Finish and cure concrete	PC22. smoothen the surface using appropriate tools, to ensure a consistent and durable final finish  PC23. apply a final finish on the surface as per requirements using any of the following major techniques:  Stamped concrete finish  Stenciling concrete finish  Rock salt finish  PC24. provide shear key /vertical construction joint or cut construction joint as per requirement  PC25. ensure cleaning and removal of spilled concrete is carried out after work  PC26. ensure proper curing of concrete by marking and monitoring of the curing time  PC27. ensure proper barricading of the concrete area and prevent any damage to the poured concrete	
Carry out concreting in pre cast segment	PC28. inspect the area for completion of housekeeping works and remove any debris from the surface prior to concreting PC29. report any gaps in formwork/moulds to avoid leakage PC30. report any misalignment in formwork/reinforcement PC31. check that cover for reinforcement is provided properly PC32. point out any inadequacy in application of release agent. PC33. comply with the sequence of pour during concreting PC34. pour concrete appropriately and as per system requirements in pre cast moulds PC35. carry out vibration of the concrete using internal/external vibrators as per applicability PC36. ensure all embedded parts are intact during vibration PC37. ensure pre cast segment surface is finished as per specification	









	PC38. identify the type of defect on the concrete surface such as:
Carry out simple repair work on hardened concrete surfaces	PC40. ensure repair work is carried out only under the knowledge of superiors PC41. prepare a suitable mortar for filing the air holes/voids PC42. apply the mortar and rub using carborundum stone to obtain a flushed & smooth surface PC43. carry out chipping of the surface to remove bulges and offsets as per requirement PC44. carry out surface grinding to remove bulges and irregularities in concrete surface using sander / grinder PC45. ensure grinding is performed within acceptable levels PC46. fill narrow / wide cracks in concrete using appropriate filler / compounds PC47. ensure proper curing of repaired structure along with proper blending with the adjacent structure
Knowledge and Ur	nderstanding (K)
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand:  KA1. standard practices for concreting work  KA2. safety rules and regulations for handling and storing required concreting tools, equipments and materials  KA3. personal protection including the use of related safety gears & equipments  KA4. precautions and measures required while working in wet concrete areas  KA5. request procedures for tools and materials  KA6. maintenance of tools and equipments
B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. simple sketches related to concreting/ pre casting and repairing works  KB2. basic principles of measurement  KB3. basic properties of concrete including weight, slump & mix proportions  KB4. standard specifications of all masonry concreting tools and their upkeep and repair  KB5. how to select and use basic tools, tackles and equipments such as:  • measuring tape/rule, vibrator, shovels, rakes, etc.  • screeding board / tools and tamping tools (hand, rolling, etc.)  • large floating device like bull float  KB6. various type and grade of cement used, affect of water /cement ratio and type of aggregates  KB7. different mix proportion/grade of concrete









KB8.	sequence of	of concrete	pouring ar	nd placing
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- KB9. manual mixing of concrete and nominal mix proportions
- KB10. cover to reinforcement with respect to size of reinforcement
- KB11. how to pour concrete in alternate panels
- KB12. how to avoid shrinkage cracks in concrete
- KB13. various admixtures used in concreting
- KB14. different type of vibrators, their influence area and use
- KB15. construction and expansion joints
- KB16. cutting tools for providing joints
- KB17. vibration in congested area
- KB18.appropriate technique for pouring of concrete in the form of layers as per the specification
- KB19. appropriate technique for vibrating of concrete in a staggered manner as per of the site requirements
- KB20. various types of vibrators used in concreting
- KB21. influence depth of vibrator / specifications of vibrator
- KB22. technique to avoid air pockets or voids while concreting
- KB23. appropriate technique for screeding of concrete
- KB24. appropriate technique for floating of concrete surface
- KB25. appropriate technique and extent to which construction joints must be provided
- KB26.importance of finishing concrete after initial setting of concrete/semi finished stage
- KB27. various major techniques of finishing and their respective application:
  - Float and trowel finish
  - Stamped concrete finish
  - Stenciling concrete finish
  - Broom finish
  - Rock salt finish
- KB28. importance and use of releasing agents on the formwork
- KB29. materials required for pre cast systems like tie bars, dowel bars, joint filers and sealing compounds
- KB30. curing process as per the specification / based on type of concreting works
- KB31. how to protect concrete surface from direct contact with sun and prevent damage
- KB32.basic details of pre cast systems like element thickness, element geometry and need for joint matching to ensure that the pre casted segments are as per requirement
- KB33. cleaning of moulds in precast
- KB34.various types of embedded parts like anchor cone, pipe sleeves, insert plates, and bolts
- KB35. importance of repairing concrete









	WDDC INC		
	KB36. different type of defects in concrete		
	KB37. different procedures for concrete repair		
	KB38. appropriate technique for grinding of concrete surface for smooth finish		
	KB39. tools used for grinding of concrete		
	KB40. appropriate technique for patching of concrete for repair		
	KB41. different patching mortars and their mix proportions  KB42. various admixtures and mortars present for repairing concrete		
	KB42. various admixtures and mortars present for repairing concrete		
Skills (S)			
	Writing Skills		
	The user/ individual on the job needs to know and understand how to:		
	SA1. write in at least one language, preferably the local language at the site		
	Reading Skills		
	The user/ individual on the job needs to know and understand how to:		
	SA2. read in one or more or more languages, preferably the local language at the		
A. Core Skills/	site		
Generic Skills	SA3. read sketches provided by the supervisor If required		
Concret Chang	SA4. read instructions, guidelines, sign boards, safety rules and safety tags		
	SA5. read instructions and exit routes during emergency		
	Oral Communication (Listening and Speaking skills)		
	The user/ individual on the job needs to know and understand how to:		
	SA6. speak in at least one language, preferably one of the local language at the		
	site		
	SA7. listen and follow instructions given by the superiors		
	SA8. communicate orally and effectively with subordinates and coworkers		
	Decision Making		
	The user/individual on the job needs to know and understand how to:		
	SB1. decide whether the work place is safe for working and also relevant task is		
	not creating hazardous condition for others		
	SB2. decide whether work is adequately defined for the day, work front is clear,		
B. Professional	and adequate materials and tools are available for performing work		
Skills	SB3. discontinue pouring of concrete in area of excess pour to level concrete		
	uniformly		
	SB4. identify and decide the appropriate compacting equipment		
	Plan and Organise		
The user/individual on the job needs to know and understand how to			
	SB5. plan work and organize resources in coordination with team members and		
	superiors		









Place, level and finish concrete in various structural elements including repair works

#### **Customer centricity**

The user/individual on the job needs to know and understand how to:

SB6. complete work as per the agreed time schedule & quality

### **Problem solving**

The user/individual on the job needs to know and understand how to:

- SB7. notify superiors any changes that may be required in formwork or reinforced bars placed prior to concreting
- SB8. avoid segregation of concrete
- SB9. resolve and solve any conflict within the team

### **Analytical Thinking**

The user/individual on the job needs to know and understand how to:

- SB10. optimize resources efficiently
- SB11. minimize wastage in the workplace
- SB12. reconcile material consumption
- SB13. assess quantity and quality of materials for day work
- SB14. ensure estimation of starting and finishing levels for day work

#### **Critical Thinking**

The user/individual on the job needs to know and understand how to:

- SB15. evaluate the complexity of the task and seek assistance and support wherever required
- SB16. bring to the notice of the superiors any requirement of the requisite material and resources
- SB17. check for quality of scaffolding/working platform from all aspects of safety
- SB18. report to superiors in case of violation of any safety norms which may lead to accidents









Place, level and finish concrete in various structural elements including repair works

# **NOS Version Control**

NOS Code	CON/N0117		
Credits (NSQF)	TBD Version number		1.1
Industry	Construction	Drafted on	07/03/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	04/03/2020
Occupation	Masonry	Next review date	22/08/2024











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

# National Occupational Standard



# **Overview**

This NOS covers the skill and knowledge required to work effectively within a team to achieve the desired results.



# National Occupational Standards





CON/N8001

Work effectively in a team to deliver desired results at the workplace

Unit Code	CON/N8001  Work effectively in a team to deliver desired results at the workplace	
Unit Title (Task)		
Description	This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results.	
Scope	<ul> <li>Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams</li> <li>Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task</li> </ul>	
Performance Criteria (	PC) w.r.t. the Scope	
Element	Performance Criteria	
Interact and communicate effectively with coworkers, superiors and sub-ordinates across different teams	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 same  PC5. communicate to team members/subordinates for appropriate work technique and method  PC6. seek clarification and advice as per requirement and applicability	
Support co-workers, superiors and sub- ordinates within the team and across interfacing teams to ensure effective execution of assigned task	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 (K)** 









Work effectively in a team to deliver desired results at the workplace

A.	Organizational	The user/individual on the job needs to know and understand:		
	Context	KA1. own roles and responsibilities		
	(Knowledge of	KA2. importance of effective communication and establishing strong working		
	the company /	relationships with co-workers		
	organization and its processes)	KA3. risks of a failure in teamwork in terms of effects on project outcomes,		
	its processes;	timelines, safety at the construction site, etc.		
		KA4. different modes of communication, and its appropriate usage		
		. importance of creating healthy and cooperative work environment among		
		the gangs of workers		
В.	Technical	The user/individual on the job needs to know and understand:		
J.	Knowledge	KB1. different activities within his work area where an interaction with other		
	, and the second	workers is required		
		KB2. applicable techniques of work, properties of materials used, tools and		
		tackles used, safety standards that co- workers might need as per the		
		requirement		
		KB3. importance of proper and effective communication and the expected		
		adverse effects in case of failure relating to quality, timelines, safety, risks at the construction project site		
		KB4. importance and need of supporting co-workers facing problems for smooth		
		functioning of work		
	Skills (S)			
		Writing Skills		
		The user/ individual on the job needs to know and understand how to:		
		SA1. write in one or more languages, preferably the local language at the site		
		Reading Skills		
		The user/ individual on the job needs to know and understand how to:		
	SA2. read in one or more languages, preferably the local language at the			
Ι A.	0 01:11 /			
, .	Core Skills/	SA3. read communication from team members regarding work completed,		
74.	Core Skills/ Generic Skills			
<i>-</i> 40	•	SA3. read communication from team members regarding work completed,		
7.	•	SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required		
P40	•	SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required  Oral Communication (Listening and Speaking skills)		
F-40	•	SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required  Oral Communication (Listening and Speaking skills)  The user/ individual on the job needs to know and understand how to:		
	•	SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required  Oral Communication (Listening and Speaking skills)  The user/ individual on the job needs to know and understand how to:  SA4. speak in one or more languages, preferably one of the local language at the		
	•	SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required  Oral Communication (Listening and Speaking skills)  The user/ individual on the job needs to know and understand how to:  SA4. speak in one or more languages, preferably one of the local language at the site		
	•	SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required  Oral Communication (Listening and Speaking skills)  The user/ individual on the job needs to know and understand how to:  SA4. speak in one or more languages, preferably one of the local language at the site  SA5. listen and follow instructions / communication shared by superiors/ co-		









Work effectively in a team to deliver desired results at the workplace

	Decision Making
	The user/individual on the job needs to know and understand how to:
	SB1. decide on what information is to be shared with co-workers within the team
	or from interfacing gang of workers
	Plan and Organise
	The user/individual on the job needs to know and understand how to:
	SB2. plan work and organize required resources in coordination with team
	members
	Customer centricity
	The user/individual on the job needs to know and understand how to:
B. Professional	SB3. complete all assigned task in coordination with team members
Skills	Problem solving
	The user/individual on the job needs to know and understand how to:
	SB4. take initiative in resolving issues among co-workers or report the same to
	superiors
	Analytical Thinking
	The user/individual on the job needs to know and understand how to:
	SB5. ensure best ways of coordination among team members
	SB6. communicate with co-workers considering their educational / social
	background
	Critical Thinking
	The user/individual on the job needs to know and understand how to:
	SB7. evaluate the complexity of task and determine if any guidance is required
	from superiors









Work effectively in a team to deliver desired results at the workplace

# **NOS Version Control**

NOS Code	CON/N8001		
Credits (NSQF)	TBD Version number		1.1
Industry	Construction	Drafted on	07/03/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	04/03/2020
Occupation	Masonry	Next review date	22/08/2024











Plan and organize work to meet expected outcomes

# National Occupational Standard



# **Overview**

This NOS covers the skills and knowledge required to plan and organize work in order to meet expected quality in established time frame.



# National Occupational Standards





CON/N8002

# Plan and organize work to meet expected outcomes

	Unit Code	CON/N8002
Ī	Unit Title (Task)	Plan and organize work to meet expected outcomes
	Description	This unit describes the knowledge and the skills required for an individual to plan and organize own work in order to meet expected outcome.
	Scope	<ul> <li>This scope covers the following:</li> <li>Prioritize work activities to achieve desired results</li> <li>Organize desired resources prior to commencement of work</li> </ul>
	Performance Criteria (	PC) w.r.t. the Scope
	Element	Performance Criteria
	Prioritize work activities to achieve desired results	To be competent, the user / individual on the job must be able to:  PC1. understand clearly the targets and timelines set by superiors  PC2. plan activities as per schedule and sequence  PC3. provide guidance to the subordinates to obtain desired outcome  PC4. plan housekeeping activities prior to and post completion of work
Organize desired resources prior to commencement of work  PC6. select and employ correct tools, tackle desired work  PC7. complete the work with allocated reso PC8. engage allocated manpower in an appropriate pcommencement of PC9. use resources in an optimum manner to PC10. employ tools, tackles and equipment visame  PC11. organize work output, materials used,		PC7. complete the work with allocated resources PC8. engage allocated manpower in an appropriate manner PC9. use resources in an optimum manner to avoid any unnecessary wastage PC10. employ tools, tackles and equipment with care to avoid damage to the
Knowledge and Understanding (K)		derstanding (K)
	A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. importance of proper housekeeping KA2. policies, procedures and work targets set by superiors KA3. roles and responsibilities in executing the work for subordinates and self
	B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. standard practices of work to be adopted for assigned task  KB2. how to use available resources in a judicious and appropriate manner to minimize wastages or damage









Plan and organize work to meet expected outcomes

Skills (S)	Skills (S)		
	Writing Skills		
	The user/ individual on the job needs to know and understand how to:  SA1. write in one or more languages, preferably the local language at the site  SA2. list out the assigned works and targets		
	Reading Skills		
A. Core Skills/ Generic Skills	The user/ individual on the job needs to know and understand how to:  SA3. read in one or more languages, preferably the local language at the site  SA4. read communication from co-workers, superiors and notices from other departments as per requirement of the level		
	Oral Communication (Listening and Speaking skills)		
	The user/ individual on the job needs to know and understand how to:  SA5. speak in one or more languages, preferably one of the local language at the site  SA6. listen and follow communication shared by co-workers regarding standard work processes, resources available, timelines, etc.  SA7. communicate effectively with co-workers and subordinates		
	Decision Making		
	The user/individual on the job needs to know and understand how to:  SB1. decide on what sequence is to be adopted for execution of work		
	Plan and Organise		
	The user/individual on the job needs to know and understand how to:  SB2. plan and organize the materials, tools, tackles and equipment required to execute the work		
B. Professional	Customer centricity		
Skills	The user/individual on the job needs to know and understand how to:  SB3. complete all assigned task with proper planning and organizing		
	Problem solving		
	The user/individual on the job needs to know and understand how to:  SB4. arrange or seek help to arrange for material, tools and tackles in case of shortfall		
	Analytical Thinking		
	The user/individual on the job needs to know and understand how to:  SB5. analyze areas of work which could result in a delay of work, wastage of		









# Plan and organize work to meet expected outcomes

material or damage to tools and tackles	
Critical Thinking	
The user/individual on the job needs to know and understand how to:	
SB6. evaluate potential solutions to minimize avoidable delays and wastages at	
the construction site	











Plan and organize work to meet expected outcomes

# **NOS Version Control**

NOS Code	CON/N8002					
Credits (NSQF)	TBD	Version number	1.0			
Industry	Construction	Drafted on	07/03/2015			
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	04/03/2020			
Occupation	Masonry	Next review date	22/08/2024			





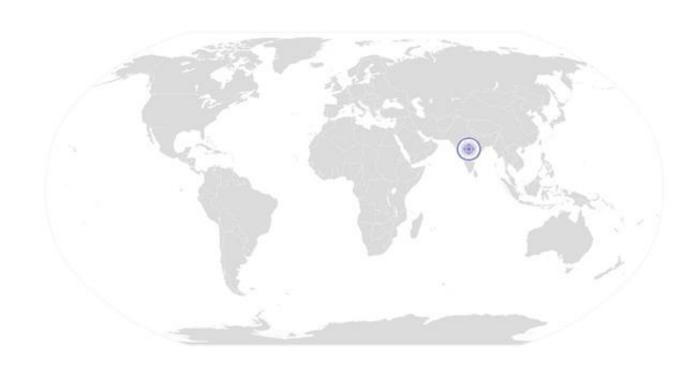






Work according to personal health, safety and environment protocol at construction site

# National Occupational Standard



# **Overview**

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



# National Occupational Standards





CON/N9001

Work according to personal health, safety and environment protocol at construction site

Unit Code	CON/N9001					
Unit Title (Task)	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	<ul> <li>The scope covers the following:</li> <li>Follow safety norms as defined by organization</li> <li>Adopt healthy &amp; safe work practices</li> <li>Implement good housekeeping and environment protection process and activities</li> </ul>					
Performance Criteria (	PC) w.r.t. the Scope					
Element	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 the 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	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					
	PC10. Install and apply properly all safety equipment as instructed  PC11. follow safety protocol and practices as laid down by site EHS department					



# National Occupational Standards





CON/N9001

Work according to personal health, safety and environment protocol at construction site

	PC12. undertake and pass height pass test as per EHS guideline			
Implement good housekeeping and environment protection process and activities	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 Un	derstanding (K)			
A. Organizational Context  (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand:  KA1. reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines  KA2. types of safety hazards at construction sites  KA3. basic ergonomic principles as per applicability			
B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. the procedure for responding to accidents and other emergencies at site  KB2. use of appropriate personal protective equipment to be used based on various working conditions  KB3. importance of handling tools, equipment and materials as applicable  KB4. health and environmental effect of construction materials as per applicability  KB5. various environmental protection methods as per applicability  KB6. 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  • any other flammable wastes  KB7. how to use hazardous material, in a safe and appropriate manner as per applicability  KB8. types of fire  KB9. Procedure of operating different types of fire extinguishers  KB10. safety relevant to tools, tackles, & requirement as per applicability  KB11. housekeeping activities relevant to task			
Skills (S)				
A. Core Skills/ Generic Skills	Writing Skills  The user/ individual on the job needs to know and understand how to:  SA1. write in one or more languages, preferably in the local language of the site SA2. fill safety formats for near miss, unsafe conditions and safety suggestions  Reading Skills			









Work according to personal health, safety and environment protocol at construction site

	The user/ individual on the job needs to know and understand how to:  SA3. read in one or more languages, preferably in the local language of the site  SA4. read sign boards, notice boards relevant to safety
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to:  SA5. speak in one or more languages, preferably in one of the local language of the site
	SA6. listen instructions / communication shared by site EHS and superiors
	regarding site safety, and conducting tool box talk SA7. communicate reporting of site conditions, hazards, accidents, etc.
	Decision Making
	The user/individual on the job needs to know and understand how to:  SB1. maintain safe conditions for others  SB2. keep the workplace clean and tidy.
	SB2. keep the workplace clean and tidy  Plan and Organise
	N.A
	Customer centricity
	N.A
B. Drofossional	Problem solving
B. Professional Skills	The user/individual on the job needs to know and understand how to:  SB3. 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
	Analytical Thinking
	The user/individual on the job needs to know and understand how to:  SB4. assess and analyze areas which may affect health, safety and environment protocol on the site
	Critical Thinking
	The user/individual on the job needs to know and understand how to:  SB5. ensure personal safety behavior
	SB6. respond to emergency









Work according to personal health, safety and environment protocol at construction site

# **NOS Version Control**

NOS Code	CON/N9001					
Credits (NSQF)	TBD	Version number	1.4			
Industry	Construction	Drafted on	07/03/2015			
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	04/03/2020			
Occupation	Masonry	Next review date	22/08/2024			







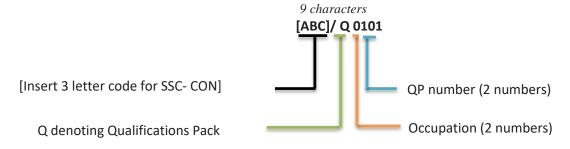




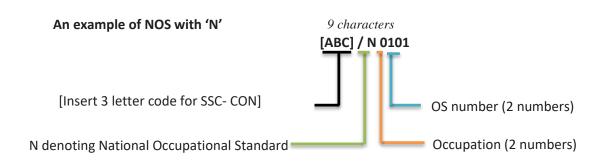
# **Annexure**

# **Nomenclature for QP and NOS**

# **Qualifications Pack**



# **Occupational Standard**



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Real Estate and Infrastructure	1-35
Rural Infrastructure Construction	36-50
Scope for new Sub-Sectors	51-99

Sequence	Description	Example
Three letters	Construction Skill Development Council of India	CON
Slash	/	/
Next letter	Whether <b>Q</b> P or NOS	Q
Next two numbers	Occupation code	12
Next two numbers	OS number	01









### CRITERIA FOR ASSESSMENT OF TRAINEES

<u>Job Role</u> Mason Concrete

Qualification PackCON/Q0104Sector Skill CouncilConstruction

### **Guidelines for Assessment**

- 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 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
- 6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
- 7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of 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 NOSs, the trainee is eligible to take subsequent assessment on the balance NOSs 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.

				Marks Allocatio	
		Total Mark	Out Of	Theory	Skills Practical
CON/N0114: Carry out IPS / Tremix flooring works	PC1.inspect the work area prior to concreting, ensure leveling in case of any undulations observed on the surface prior to concreting  PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment in PCC	100			









-	PC3. report any gaps in formwork to avoid leakage		10	3	
	PC4. report any misalignment in				7
	formwork/reinforcement and ensure proper cover				
	for reinforcement is provided				
	PC5. mark reference level on the wall &transfer this				
	marking to all floor locations using appropriates tools				
	PC6. mark flooring thickness level and provide dummy		10	3	7
	level dots at specified intervals for ensuring required				
	slope				
	PC7. check the grade of cement prior to use in case of manual mixing				
	PC8. ensure fine aggregate is sieved as per grade		10	3	7
	requirement		10	3	,
	PC9. check that concrete is mixed in appropriate				
	proportion				
	PC10. visually assess the concrete mix for usability and				
	workability				
	PC11. notify superiors for detrimental quality of				
	concrete		18	6	12
	PC12. ensure specified concrete mix is used at				
	allocated location	 			
	PC13. check that panels prepared are of specified size				
	and type				
	PC14. fix the glass, aluminum or brass strip in cement				
	mortar with their tops at appropriate level and according to slope				
	PC15. ensure panels are made as per specified size				
	PC16. ensure concrete is poured in alternate				
	panels/specified panels as per requirement				
	PC17. remove excess cement slurry and any marks on				
	the surface	 			
	PC18. level the concrete surface with a straight edge		27	8	19
	and to the required finish with a wooden float / trowel				15
	PC19. spread cement punning over the IPS concrete for smooth finish surface and allow it to soak into the				
	concrete, as per requirement	-			
	PC20. provide construction joints and expansion joints				
	as per requirement PC21. level poured concrete to the specified levels				
	maintaining required slope				
	PC22. ensure curing of the finished floor surface for				
	the specified time				
	PC23. level the surface and lay stone soling / boulder				
	soling layer				
	0 .~1	<u> </u>	i	<u> </u>	









	PC24. lay the floor with slope maintained in PCC work above the stone soling  PC25. remove excess water from the top layer of wet concrete without removing cement of sand particles through vacuum de-watering machines  PC26. ensure floater work within green concrete surface  PC27. carry out Tremix flooring in specified panel on RCC floors ensuring intactness of rebar and cover  PC28. cut grooves on concrete at specified intervals for construction joints  PC29. provide expansion joints as per requirement  PC30. carry out curing of finished concrete as per specifications  PC31. ensure finished levels have required slope		25	7	18
		Total	100	30	70
CON/N0117: Place, level and finish concrete, both RCC and	PC1. inspect the area for completion of housekeeping works and remove any undulations on the surface prior to concreting  PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment  PC3. report any gaps in formwork to avoid leakage  PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided  PC5. notify superiors for detrimental quality of concrete  PC6. visually assess the concrete mix for usability and workability		10	3	7
PCC, in various structural elements – in situ and pre cast	PC7. check the type , grade of cement and visual soundness of cement prior to use PC8. check and ensure sieved fine aggregate prior to use PC9. instruct and ensure that mixing of concrete is in specified ratio	100	10	3	7
	PC10. handle and adjust the pouring equipments as per requirements  PC11. ensure standard pouring height for concrete is maintained throughout pouring  PC12. ensure pouring of concrete takes place in specified layers  PC13. pour concrete to maintain specified levels & cover for steel reinforcement		20	4	16









PC14. apply vibrator within influence depth and as per				
standard procedures				
PC15. ensure that the vibrator does not touch the				
reinforcement or is not applied to the face of the form				
PC16. screed the concrete as per requirements using				
appropriate tools and technique				
PC17. push the excess concrete towards the formwork				
for easy removal				
PC18. float the concrete using appropriate tools				_
PC19. level the edges and corners as per requirements		10	3	7
using appropriate tools for semi-finished concrete				
PC20. provide construction/ control joints in concrete				
surface at pre-defined locations				
PC21. cut construction joints as per specification and				
requirements				
PC22. smoothen the surface using appropriate tools,	]			
to ensure a consistent and				
durable final finish				
PC23. apply a final finish on the surface as per				
requirements using any of the				
following major techniques:				
<ul> <li>Stamped concrete finish</li> </ul>				
<ul> <li>Stenciling concrete finish</li> </ul>				
Broom finish				
Rock salt finish		10	3	7
PC24. provide shear key /vertical construction joint or				
cut construction joint as per				
requirement				
PC25. ensure cleaning and removal of spilled concrete				
is carried out after work				
PC26. ensure proper curing of concrete by marking				
and monitoring of the curing time				
PC27. ensure proper barricading of the concrete area				
and prevent any damage to the poured concrete	_			
PC28. inspect the area for completion of housekeeping				
works and remove any debris from the surface prior to				
concreting	-			
PC29. report any gaps in formwork/moulds to avoid				
leakage				
PC30. report any misalignment in				
formwork/reinforcement	-			
PC31. check that cover for reinforcement is provided				
properly				
PC32. point out any inadequacy in application of				
release agent				
PC33. comply with the sequence of pour during				
concreting				









	PC34. pour concrete appropriately and as per system requirements in pre cast moulds PC35. carry out vibration of the concrete using internal/external vibrators as per applicability PC36. ensure all embedded parts are intact during vibration PC37. ensure pre cast segment surface is finished as per specification  PC38. identify the type of defect on the concrete surface such as:		40	12	28
		Total	100	30	70
CON/N8001: Work effectively in a team to deliver desired results at the workplace	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 same  PC5. communicate to team members/subordinates for appropriate work technique and method  PC6. seek clarification and advice as per requirement and applicability	100	60	18	42









	PC7. hand over the required material, tools tackles,				
	equipment and work fronts timely to interfacing teams		40	12	28
	PC8. work together with co-workers in a synchronized		40	12	20
	manner				
		Total	100	30	70
	PC1. understand clearly the targets and timelines set by superiors				
	PC2. plan activities as per schedule and sequence				
CON/N8002: Plan and organize work to meet expected	PC3. provide guidance to the subordinates to obtain desired outcome		40	12	28
	PC4. plan housekeeping activities prior to and post completion of work				
	PC5. list and arrange required resources prior to commencement of work				
	PC6. select and employ correct tools, tackles and equipment for completion of desired work	100			
	PC7. complete the work with allocated resources				
outcomes	PC8. engage allocated manpower in an appropriate				
	PC9. use resources in an optimum manner to avoid		60	18	42
	any unnecessary wastage				
	PC10. employ tools, tackles and equipment with care				
	to avoid damage to the same				
	PC11. organize work output, materials used, tools and				
	tackles deployed,				
	PC12. processes adopted to be in line with the specified standards and instructions				
	specified standards and instructions				
		Total	100	30	70
	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				
CON/N9001:	PC3. follow recommended safe practices in handling				
Work according to personal	construction materials, including chemical and hazardous material whenever applicable				
health, safety and	PC4. participate in safety awareness programs like	100	30	9	21
environment	Tool Box Talks, safety demonstrations, mock drills,				
protocol at	conducted at site				
construction 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				









		Total	100	30	70
	PC14.apply ergonomic principles wherever required		20	6	
	hazardous wastes				14
	identified containers before disposal, separate containers that may be needed for disposal of toxic or				
	PC13. collect and deposit construction waste into				
	PC 12. undertake and pass height pass test as per EHS guidelines			15	
	by site EHS department				33
	PC11.follow safety protocol and practices as laid down				
	as instructed				
	PC10. install and apply properly all safety equipment				
	hazardous materials as per EHS guidelines		50		
	PC9. follow safe disposal of waste, harmful and				
	PC8. handle all required tools, tackles, materials & equipment safely				
	Respiratory Protection (if required)				35
	Hand and Body Protection				
	Face and Eye Protection,				
	Foot Protection				
	• Fall Protection				
	<ul><li>Head Protection (Helmets)</li><li>Ear protection</li></ul>				
	requirements including:				
	(PPE) as per work				
	PC7. use appropriate Personal Protective Equipment	ı			