QUALIFICATIONS PACK – NATIONAL OCCUPATIONAL STANDARDS FOR IT-BPM INDUSTRY

Contents

What are National Occupational Standards(NOS)?

➢ NOS describe what individuals need to do, know and understand in order to carry out a particular job role or function

➢ NOS 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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Qualifications Pack-Junior Software Developer

Introduction

SECTOR: IT-ITeS

SUB-SECTOR: IT Services

OCCUPATION: Application Development

REFERENCE ID: SSC/Q0508

ALIGNED TO: NCO-2015/ 2512.0205

Brief Job Description: Individuals in this job are assigned one of the many entry level roles in the software industry including support and help desk, testing, user interaction design, maintenance, enhancement, development and documentation. They are responsible for assisting in performing the key activities and tasks involved in the assigned role.

Personal Attributes: This job requires the individual to be flexible and operate under supervision for the area of work he/she is aligned to. The individual should have the necessary technical competency and be able to communicate effectively and work collaboratively. He/she should also have a willingness to learn and undertake a desk job entailing long hours.

Job Details		
Qualifications Pack Code	**SSC/Q0508**	
Job Role	**Junior Software Developer** This job role is applicable in both national and international scenarios	
Credits (NSQF)	TBD	**Version number** 1.0
Sector	IT-ITeS	**Drafted on** 08/05/2014
Sub-sector	IT Services	**Last reviewed on** 08/05/2014
Occupation	Application Development	**Next review date** 31/03/2016
NSQC Clearance on	19/05/2015	

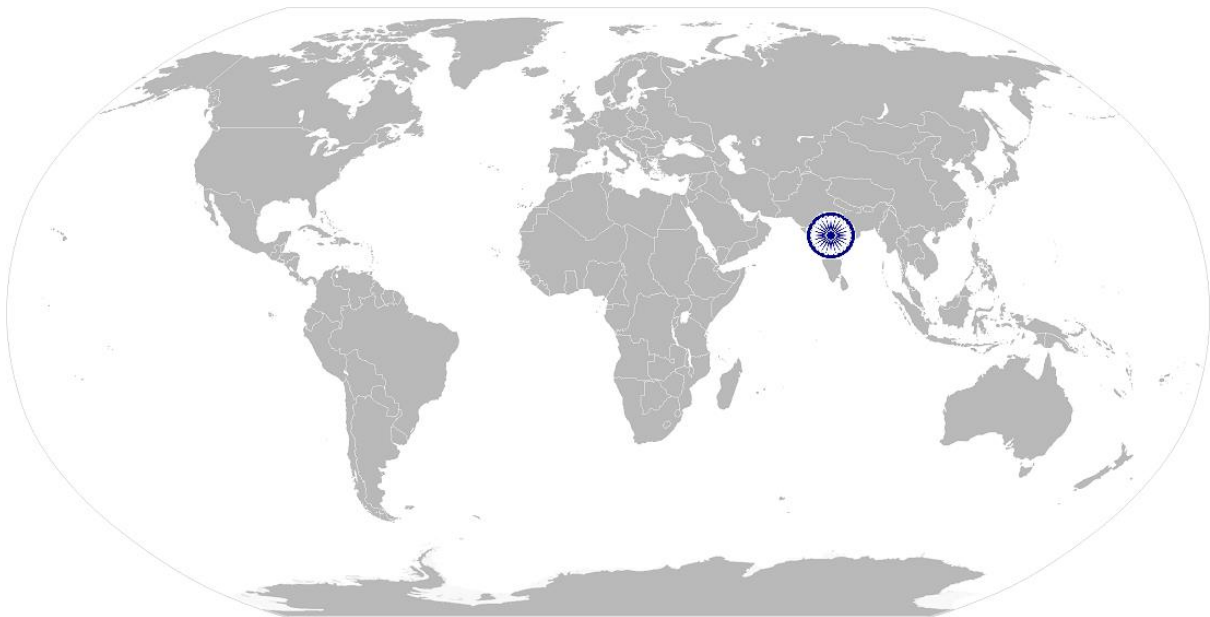|	
Job Role	**Junior Software Developer** (Developer, Software Analyst, Software Engineer, Systems Engineer, Programmer, Developer, Programmer Analyst)
Role Description	Individuals in this job are assigned one of the many entry level roles in the software industry including support and help desk, testing, user interaction design, maintenance, enhancement, development and documentation. They are responsible for assisting in performing the key activities and tasks involved in the assigned role
NSQF level **Minimum Educational Qualifications** **Maximum Educational Qualifications**	4 12th pass with good aptitude Bachelors Degree in /Engineering/Technology/ Science/Computer Science or any graduate course
Training (Suggested but not mandatory)	Software Development Certifications in C++, Embedded, C#, C, Java etc.
Minimum Job Entry Age	18 years
Experience	0-2 years of work experience/internship in Software Development
Applicable National Occupational Standards (NOS)	**Compulsory:** 1. SSC/ N 0506 (Assist in performing software construction and software testing entry-level tasks in the IT Services industry) 2. SSC/N9001 (Manage your work to meet requirements) 3. SSC/N9002 (Work effectively with colleagues) 4. SSC/N9003 (Maintain a healthy, safe and secure working environment) 5. SSC/N9004 (Provide data/information in standard formats) 6. SSC/N9005 (Develop your knowledge, skills and competence) **Optional:** Not Applicable
Performance Criteria	As described in the relevant NOS units

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Glossary of Key Terms

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar businesses 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.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Sub-functions	Sub-functions are sub-activities essential to fulfill the achieving the objectives of the function.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
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 they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria 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 Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
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 Qualifications Pack is assigned a unique qualification pack code.
Unit Code	Unit Code is a unique identifier for an OS unit, which can be denoted with either an 'O' or 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

The left margin of the table reads vertically: **Definitions**

	appropriate OS they are looking for.
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 critical impact on the quality of performance required.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an 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 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 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.
Helpdesk	Helpdesk is an entity to which the customers will report their IT problems. IT Service Helpdesk Attendant is responsible for managing the helpdesk.

Acronyms

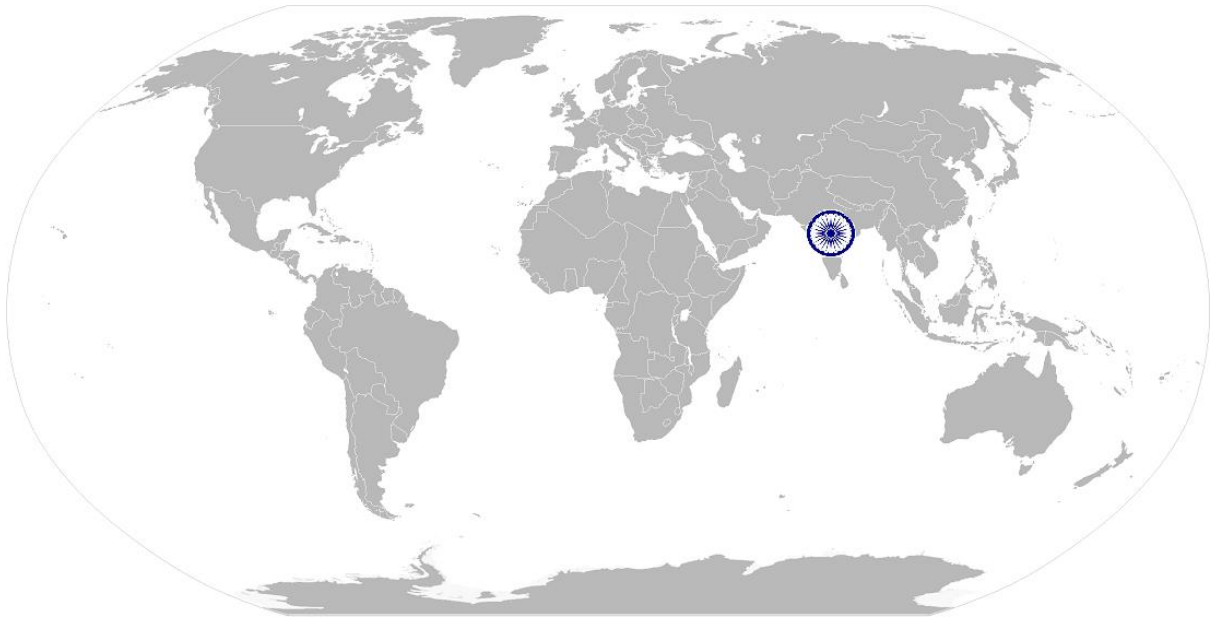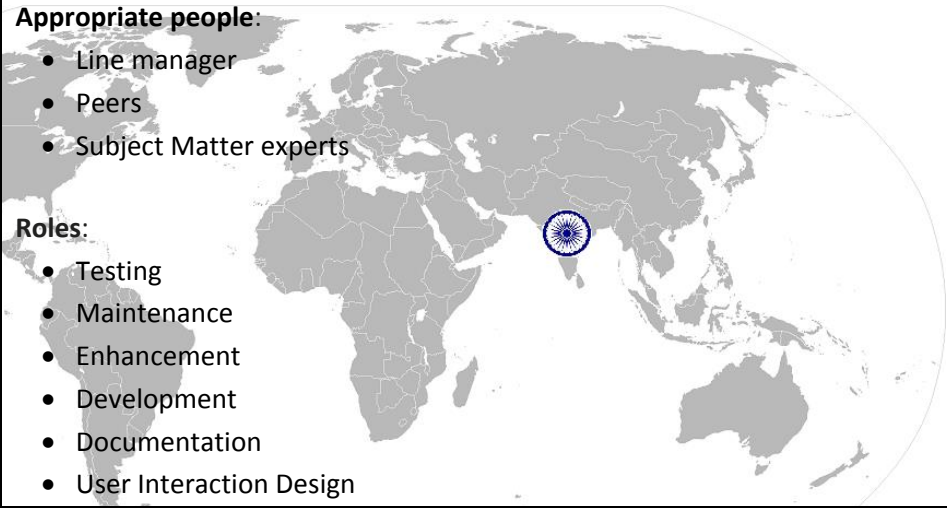| Keywords /Terms	Description
IT-ITeS	Information Technology - Information Technology enabled Services
BPM	Business Process Management
BPO	Business Process Outsourcing
KPO	Knowledge Process Outsourcing
LPO	Legal Process Outsourcing
IPO	Information Process Outsourcing
BCA	Bachelor of Computer Applications
B.Sc.	Bachelor of Science
OS	Occupational Standard(s)
NOS	National Occupational Standard(s)
QP	Qualifications Pack
UGC	University Grants Commission
MHRD	Ministry of Human Resource Development
MoLE	Ministry of Labor and Employment
NVEQF	National Vocational Education Qualifications Framework
NVQF	National Vocational Qualifications Framework
NSQF	National Skill Qualification Framework

National Occupational Standard

<u>**Overview**</u>

This unit is about assisting in performing the key activities and tasks in Software Construction and Testing entry level roles in the IT Services industry where their business impact and technical complexity are low.

NOS
National Occupational Standards

GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

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

SSC/ N 0506 Assist in performing software construction and software testing entry-level tasks in the IT Services industry

SSC/ N 0506 Assist in performing software construction and software testing entry-level tasks in the IT Services industry

<table>
<tr><td rowspan="10">Applicable NOS Unit</td><td>Unit Code</td><td>SSC/N0506</td></tr>
<tr><td>Unit Title
(Task)</td><td>Assist in performing software construction and software testing entry-level tasks in the IT Services industry</td></tr>
<tr><td>Description</td><td>This unit is about contributing to the design of software products and applications where both the business impact and technical complexity are low.</td></tr>
<tr><td>Scope</td><td>This unit/task covers the following:

Work requirements:

Information (qualitative and quantitative)
Algorithms (steps in problem solving)
Template (stencil / table)

Appropriate people:

Line manager
Peers
Subject Matter experts

Roles:

Testing
Maintenance
Enhancement
Development
Documentation
User Interaction Design

</td></tr>
<tr><td colspan="2">Performance Criteria (PC) w.r.t. the Scope</td></tr>
<tr><td></td><td>To be competent, you must be able to:

PC1. demonstrate basic computer and internet literacy including operating a computer, describing its major components and how they work, using Windows and Linux OS, operating a browser, searching the internet, managing mails and using social internet media.

PC2. demonstrate aptitude for analyzing information and making logical conclusions.

PC3. demonstrate knowledge of the foundational mathematical concepts in computing.

PC4. design algorithms to solve problems and convert them into code using the appropriate programming language constructs.

PC5. read and execute a test case and record the outcome in the appropriate</td></tr>
</table>

NOS
National Occupational Standards

GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

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

SSC/ N 0506 Assist in performing software construction and software testing entry-level tasks in the IT Services industry

|	
	template.
	PC6. be able to communicate effectively with **appropriate people** w.r.t. assigned **roles** in simple English – both oral and written.
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company/ organization and its processes)	You need to know and understand: KA1. the responsibilities, policies and guidelines associated with entry level roles for entry level software developers in your organization KA2. the formal and informal continuous learning opportunities offered by your organization KA3. your organization's knowledge base and how to access and update the same KA4. the scope of work to be carried out and the importance of keeping within these boundaries KA5. who you may need to involve to provide feedback on your work KA6. the importance of collating feedback on your output KA7. standard templates and tools available and how to use these documents at your work
B. Technical Knowledge	You need to know and understand: KB1. basic components of a computer, Windows and Linux OS, file systems and task and process management KB2. web browsers, the World Wide Web, internet mail, internet search, web-based social media applications and web programming KB3. logical analysis, problems solving skills, process approach, algorithmic thinking and pseudo code KB4. foundational concepts of computation and mathematics including binary arithmetic and number sense, discrete mathematics and numerical descriptive measures of data KB5. programming language fundamentals and implementation of algorithms KB6. data base skills including DBMS, data design, and querying table structures for specific data KB7. software engineering approaches to develop applications and the key processes used for developing application software KB8. how to read a detailed program specification and implement it using a programming language KB9. how to read a test case, execute the same and record the results of testing
Skills (S)	
A. Core Skills/	**Writing Skills**
	You need to know and understand how to:

SSC/ N 0506 Assist in performing software construction and software testing entry-level tasks in the IT Services industry

|	
Generic Skills	SA1. write well in a complete and accurate manner with attention to detail
	SA2. communicate with others in writing
	Reading Skills
	You need to know and understand how to:
	SA3. follow guidelines/procedures/rules and service level agreements
	Oral Communication (Listening and Speaking skills)
	You need to know and understand how to:
	SA4. listen effectively and communicate information orally in an accurate manner
	SA5. ask for clarification and suggestions from others
B. Professional Skills	**Decision Making**
	You need to know and understand how to:
	SB1. follow rule-based decision-making processes
	SB2. identify anomalies in data
	SB3. make decisions on suitable courses of action or responses
	Plan and Organize
	You need to know and understand how to:
	SB4. plan and organize your work to achieve targets and deadlines
	Customer Centricity
	You need to know and understand how to:
	SB5. carry out rule-based transactions in line with customer-specific
	SB6. guidelines/procedures/rules and service level agreements
	SB7. work effectively in a customer facing environment
	Problem Solving
	You need to know and understand how to:
	SB8. apply problem-solving approaches in different situations
	Analytical Thinking
	You need to know and understand how to:
	SB9. configure data and disseminate relevant information to others
	SB10. analyze data and activities
	Critical Thinking
	You need to know and understand how to:
	SB11. apply balanced judgments in different situations
	Attention to Detail
	You need to know and understand how to:
	SB12. check if your work is complete and free from errors
	SB13. peer review

SSC/ N 0506 Assist in performing software construction and software testing entry-level tasks in the IT Services industry

	Team Working
	You need to know and understand how to:
	SB14. work effectively in a team environment
C. Technical Skills	You need to know and understand how to:
	SC1. use information technology effectively to input and/or extract data accurately
	SC2. agree objectives and work requirements
	SC3. keep up to date with changes, procedures and practices in your role
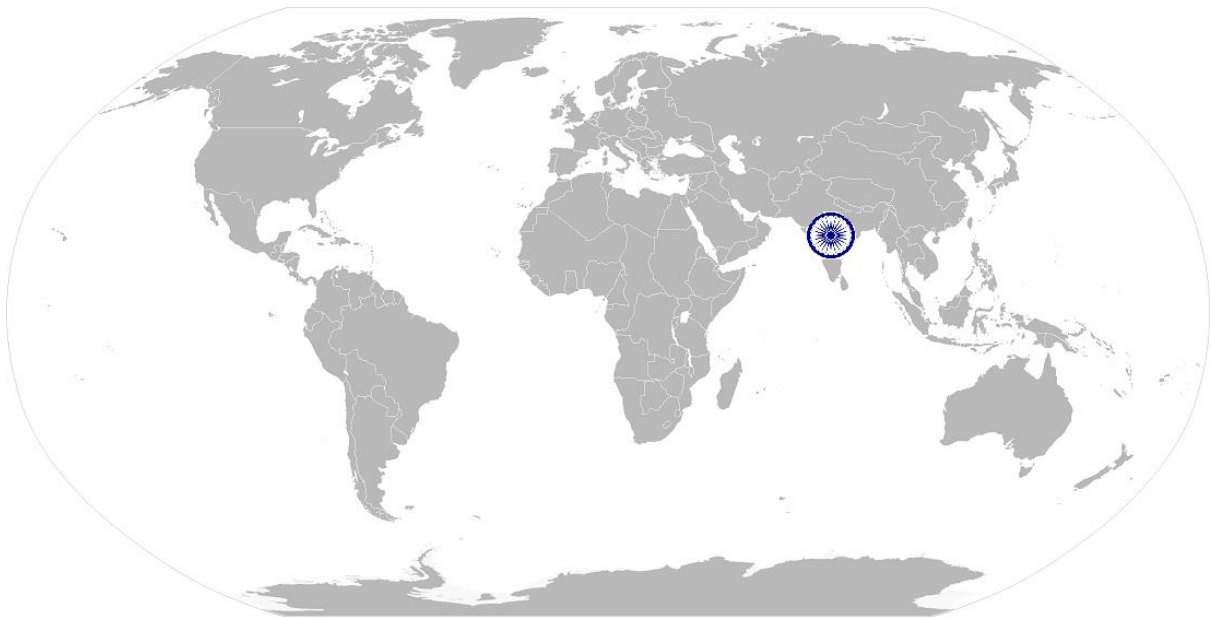
SSC/ N 0506 Assist in performing software construction and software testing entry-level tasks in the IT Services industry
<u>NOS Version Control</u>

NOS Code	SSC/N0506		
Credits (NSQF)	TBD	**Version number**	1.0
Industry	IT-ITeS	**Drafted on**	08/05/2014
Industry Sub-sector	IT Services	**Last reviewed on**	08/05/2014
		Next review date	31/03/2016
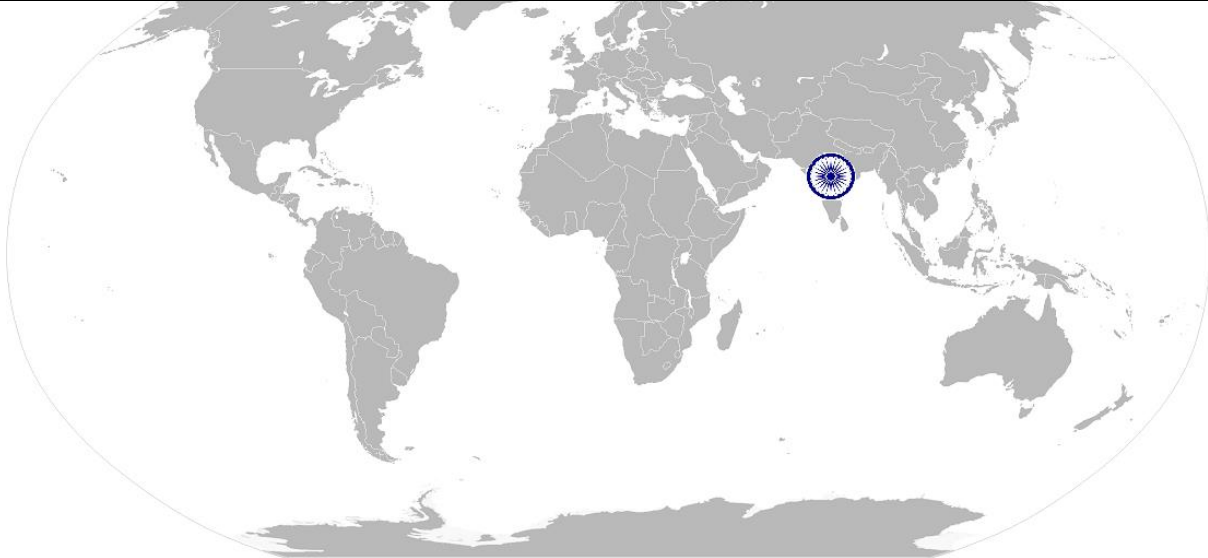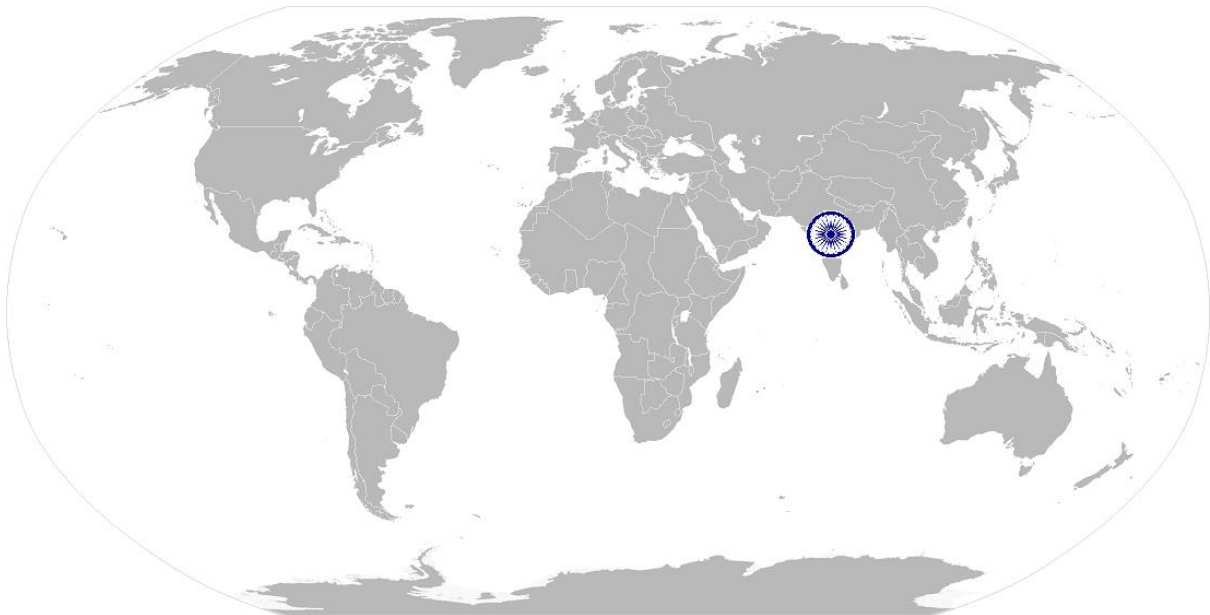
National Occupational Standard

Overview

This unit is about planning and organizing your work in order to complete it to the required standards on time

SSC/N9001 **Manage your work to meet requirements**

Unit Code	SSC/N9001
Unit Title (Task)	**Manage your work to meet requirements**
Description	This unit is about planning and organizing your work in order to complete it to the required standards on time.
Scope	This unit/task covers the following: **Work requirements**: • activities (what you are required to do) • deliverables (the outputs of your work) • quantity (the volume of work you are expected to complete) • standards (what is acceptable performance, including compliance with Service Level Agreements) • timing (when your work needs to be completed) **Appropriate people**: • line manager • the person requesting the work • members of the team/department • members from other teams/departments **Resources**: • equipment • materials • information

Performance Criteria (PC) w.r.t. the Scope	
	To be competent on the job, you must be able to: PC1. establish and agree your **work requirements** with **appropriate people** PC2. keep your immediate work area clean and tidy PC3. utilize your time effectively PC4. use **resources** correctly and efficiently PC5. treat confidential information correctly PC6. work in line with your organization's policies and procedures PC7. work within the limits of your job role PC8. obtain guidance from **appropriate people**, where necessary PC9. ensure your work meets the agreed **requirements**

Knowledge and Understanding (K)	
A. **Organizational Context** (Knowledge of the company/ organization and its processes)	You need to know and understand: KA1. your organization's policies, procedures and priorities for your area of work and your role and responsibilities in carrying out your work KA2. limits of your responsibilities and when to involve others KA3. your specific work requirements and who these must be agreed with KA4. the importance of having a tidy work area and how to do this

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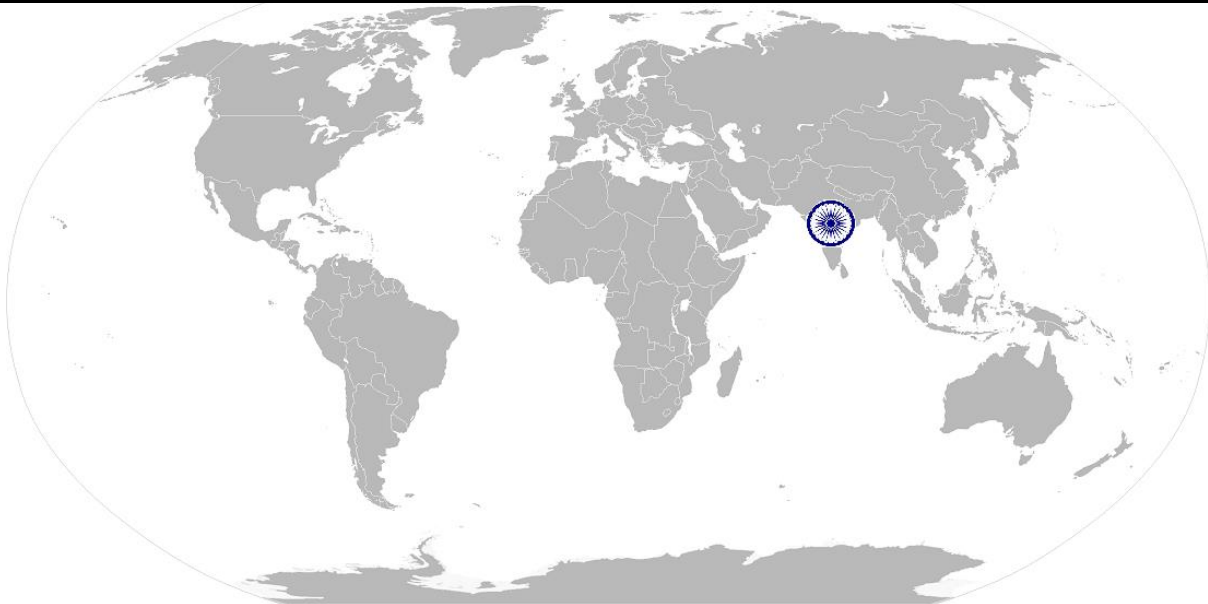|	
	KA5. how to prioritize your workload according to urgency and importance and the benefits of this
	KA6. your organization's policies and procedures for dealing with confidential information and the importance of complying with these
	KA7. the purpose of keeping others updated with the progress of your work
	KA8. who to obtain guidance from and the typical circumstances when this may be required
	KA9. the purpose and value of being flexible and adapting work plans to reflect change
B. Technical Knowledge	You need to know and understand: KB1. the importance of completing work accurately and how to do this KB2. appropriate timescales for completing your work and the implications of not meeting these for you and the organization KB3. resources needed for your work and how to obtain and use these
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	You need to know and understand how to: SA1. complete accurate work with attention to detail
	Reading Skills
	You need to know and understand how to: SA2. read instructions, guidelines, procedures, rules and service level agreements
	Oral Communication (Listening and Speaking skills)
	You need to know and understand how to: SA3. ask for clarification and advice from line managers SA4. communicate orally with colleagues
B. Professional Skills	**Decision Making**
	You need to know and understand how to: SB1. make a decision on a suitable course of action
	Plan and Organize
	You need to know and understand how to: SB2. plan and organize your work to achieve targets and deadlines SB3. agree objectives and work requirements
	Customer Centricity
	You need to know and understand how to: SB4. deliver consistent and reliable service to customers SB5. check that your own work meets customer requirements
	Problem Solving

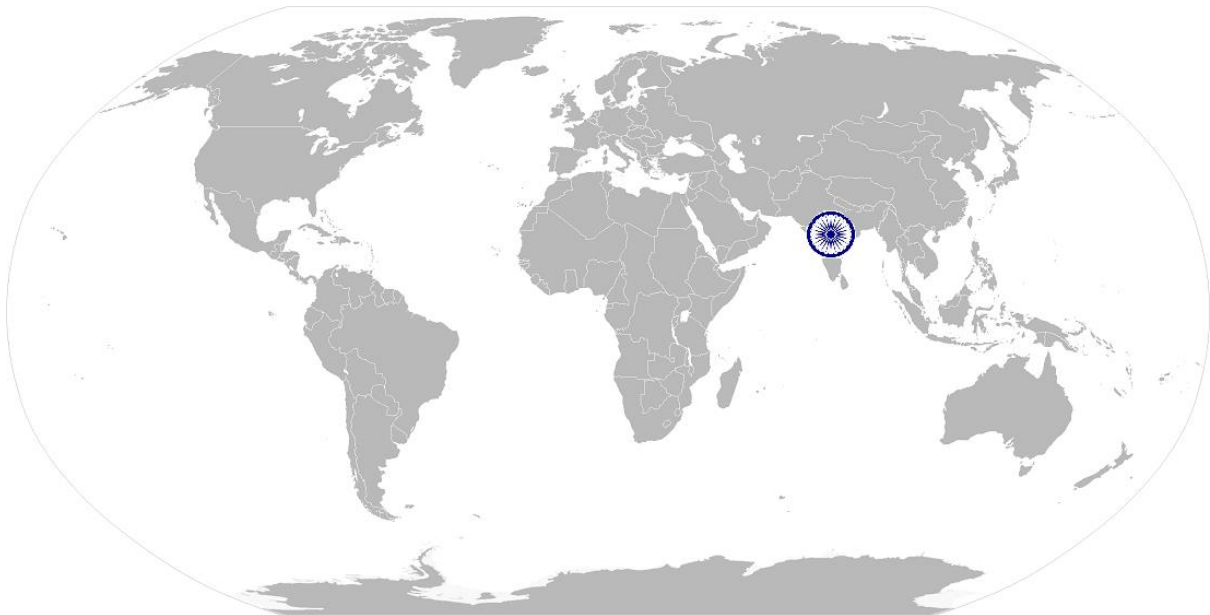|	
	You need to know and understand how to:
	SB6. refer anomalies to the line manager
	SB7. seek clarification on problems from others
	Analytical Thinking
	You need to know and understand how to:
	SB8. provide relevant information to others
	SB9. analyze needs, requirements and dependencies in order to meet your work requirements
	Critical Thinking
	You need to know and understand how to:
	SB10. apply judgments to different situations
	Attention to Detail
	You need to know and understand how to:
	SB11. check your work is complete and free from errors
	SB12. get your work checked by peers
	Team Working
	You need to know and understand how to:
	SB13. work effectively in a team environment
C. **Technical Skills**	You need to know and understand how to:
	SC1. use information technology effectively, to input and/or extract data accurately
	SC2. identify and refer anomalies in data
	SC3. store and retrieve information
	SC4. keep up to date with changes, procedures and practices in your role

NOS Code		SSC/N9001	
Credits (NSQF)	TBD	Version number	1.0
Industry	IT-ITeS	Drafted on	30/04/2013
Industry Sub-sector	IT Services	Last reviewed on	31/01/2015
		Next review date	31/03/2016

National Occupational Standard

<u>**Overview**</u>

This unit is about working effectively with colleagues, either in your own work group or in other work groups within your organization.

<table>
<tr><td rowspan="6" style="vertical-align:top">Applicable NOS Unit</td><td>**Unit Code**</td><td>SSC/N9002</td></tr>
<tr><td>**Unit Title (Task)**</td><td>**Work effectively with colleagues**</td></tr>
<tr><td>**Description**</td><td>This unit is about working effectively with colleagues, either in your own work group or in other work groups within your organization.</td></tr>
<tr><td>**Scope**</td><td>This unit/task covers the following:

Colleagues:
• line manager
• members of your own work group
• people in other work groups in your organization
Communicate:
• face-to-face
• by telephone
• in writing</td></tr>
</table>

Performance Criteria (PC) w.r.t. the Scope	
	To be competent, you must be able to: PC1. communicate with **colleagues** clearly, concisely and accurately PC2. work with **colleagues** to integrate your work effectively with them PC3. pass on essential information to **colleagues** in line with organizational requirements PC4. work in ways that show respect for **colleagues** PC5. carry out commitments you have made to **colleagues** PC6. let **colleagues** know in good time if you cannot carry out your commitments, explaining the reasons PC7. identify any problems you have working with **colleagues** and take the initiative to solve these problems PC8. follow the organization's policies and procedures for working with **colleagues**

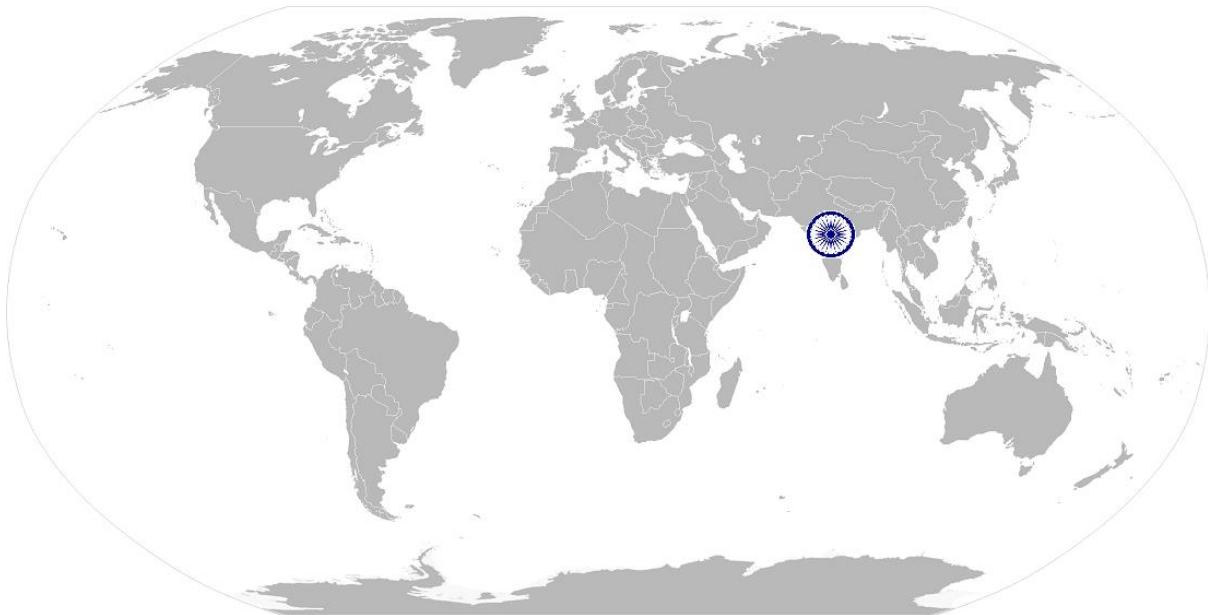| **Knowledge and Understanding (K)**	
A. Organizational Context (Knowledge of the company/ organization and its processes)	You need to know and understand: KA1. your organization's policies and procedures for working with colleagues and your role and responsibilities in relation to this KA2. the importance of effective communication and establishing good working relationships with colleagues KA3. different methods of communication and the circumstances in which it is appropriate to use these KA4. benefits of developing productive working relationships with colleagues KA5. the importance of creating an environment of trust and mutual respect in an environment where you have no authority over those you are working with KA6. where you do not meet your commitments, the implications this will have on individuals and the organization

SSC/N9002   **Work effectively with colleagues**

B. Technical Knowledge	You need to know and understand: KB1. different types of information that colleagues might need and the importance of providing this information when it is required KB2. the importance of understanding problems from your colleague's perspective and how to provide support, where necessary, to resolve these
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills** You need to know and understand how to: SA1. complete accurate, well written work with attention to detail SA2. communicate effectively with colleagues in writing **Reading Skills** You need to know and understand how to: SA3. read instructions, guidelines, procedures, rules and service level agreements **Oral Communication (Listening and Speaking skills)** You need to know and understand how to: SA4. listen effectively and orally communicate information accurately SA5. ask for clarification and advice from line managers
B. Professional Skills	**Decision Making** You need to know and understand how to: SB1. make a decision on a suitable course of action **Plan and Organize** You need to know and understand how to: SB2. plan and organize your work to achieve targets and deadlines **Customer Centricity** You need to know and understand how to: SB3. check that your own work meets customer requirements SB4. deliver consistent and reliable service to customers **Problem Solving** You need to know and understand how to: SB5. apply problem solving approaches in different situations **Critical Thinking** You need to know and understand how to: SB6. apply balanced judgments to different situations **Attention to Detail** You need to know and understand how to: SB7. check your work is complete and free from errors SB8. get your work checked by peers

**SSC/N9002**   **Work effectively with colleagues**

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	Team Working
	You need to know and understand how to:
	SB9. work effectively in a team environment
	SB10. work effectively with colleagues and other teams
	SB11. treat other cultures with respect
C. Technical Skills	You need to know and understand how to:
	SC1. identify and refer anomalies
	SC2. help reach agreements with colleagues
	SC3. keep up to date with changes, procedures and practices in your role

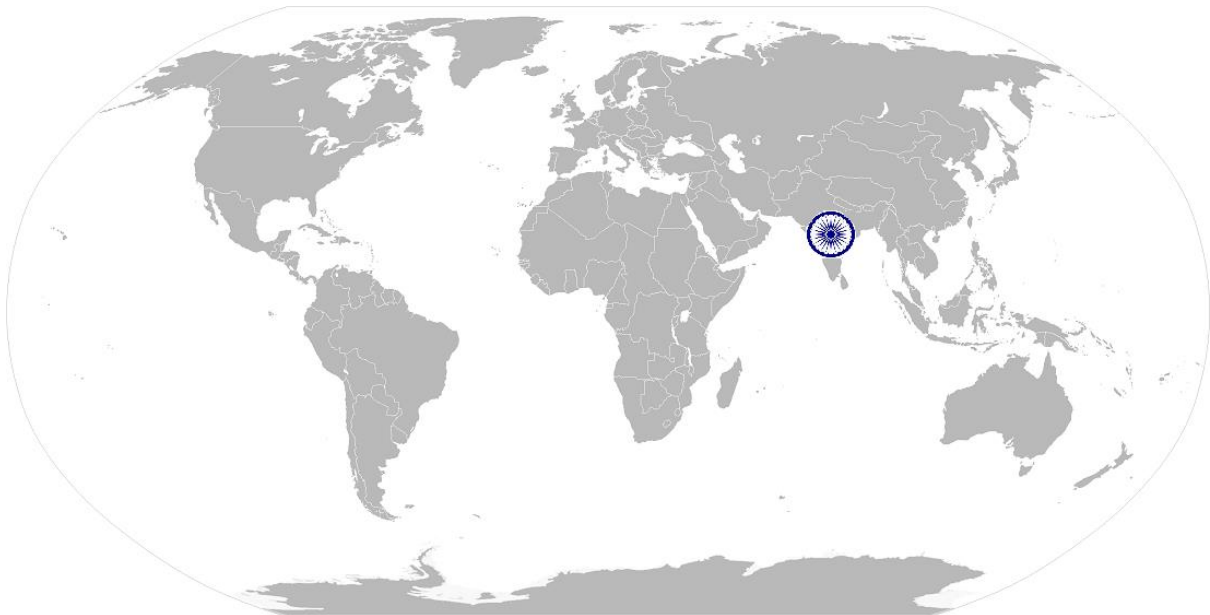| NOS Code	SSC/N9002		
Credits (NSQF)	TBD	Version number	1.0
Industry	IT-ITeS	Drafted on	30/04/2013
Industry Sub-sector	IT Services	Last reviewed on	31/01/2015
		Next review date	31/03/2016
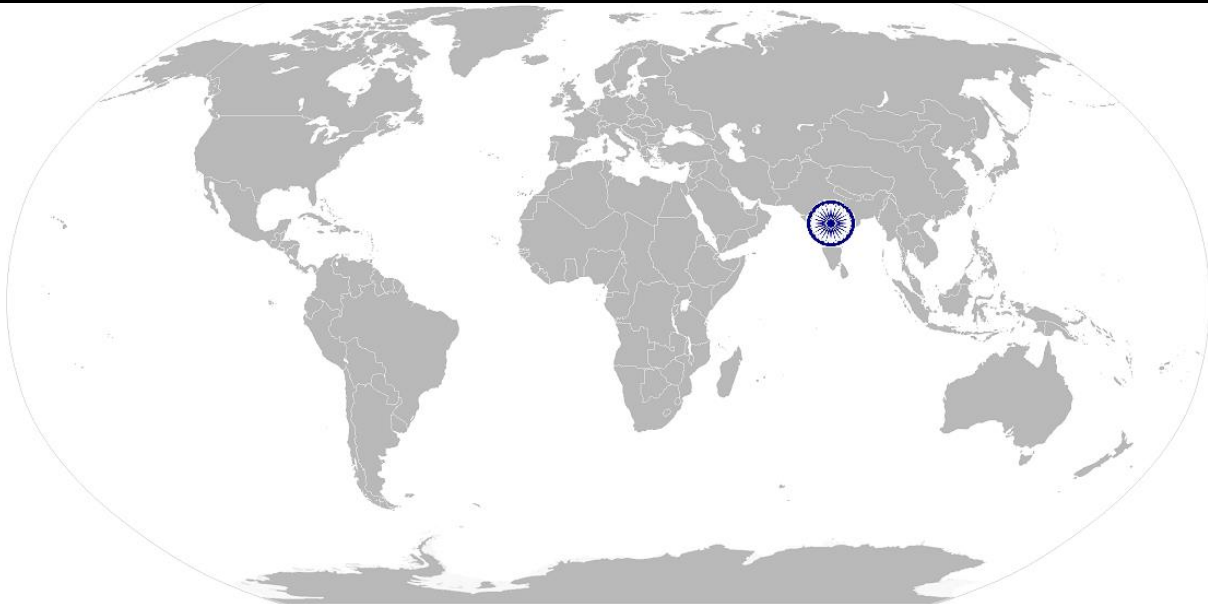
National Occupational Standard
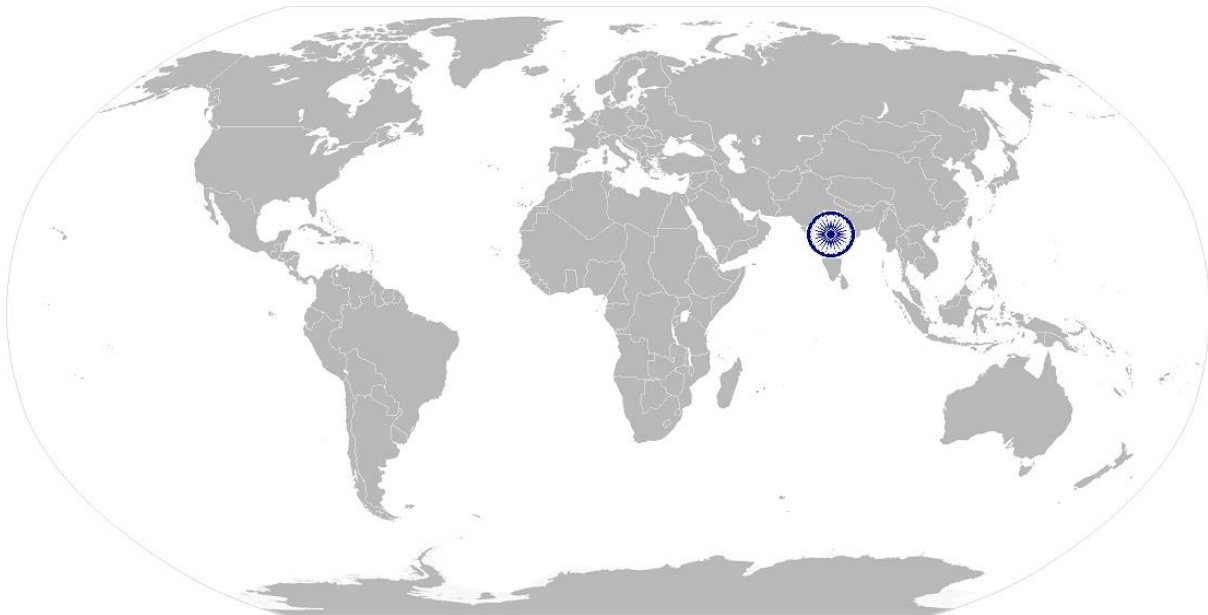
Overview

This unit is about monitoring the working environment and making sure it meets requirements for health, safety and security.

SSC/N9003   **Maintain a healthy, safe and secure working environment**

Unit Code	SSC/N9003
Unit Title (Task)	Maintain a healthy, safe and secure working environment
Description	This unit is about monitoring your working environment and making sure it meets requirements for health, safety and security.
Scope	This unit/task covers the following: **Emergency procedures**: - illness - accidents - fires - other reasons to evacuate the premises - breaches of security

Applicable NOS Unit (vertical label in left margin)

Performance Criteria (PC) w.r.t. the Scope	
	To be competent, you must be able to: PC1. comply with your organization's current health, safety and security policies and procedures PC2. report any identified breaches in health, safety, and security policies and procedures to the designated person PC3. identify and correct any hazards that you can deal with safely, competently and within the limits of your authority PC4. report any hazards that you are not competent to deal with to the relevant person in line with organizational procedures and warn other people who may be affected PC5. follow your organization's **emergency procedures** promptly, calmly, and efficiently PC6. identify and recommend opportunities for improving health, safety, and security to the designated person PC7. complete any health and safety records legibly and accurately

Knowledge and Understanding (K)	
A. **Organizational Context** (Knowledge of the company/ organization and its processes)	You need to know and understand: KA1. legislative requirements and organization's procedures for health, safety and security and your role and responsibilities in relation to this KA2. what is meant by a hazard, including the different types of health and safety hazards that can be found in the workplace KA3. how and when to report hazards KA4. limits of your responsibility for dealing with hazards KA5. your organization's **emergency procedures** for different emergency situations and the importance of following these KA6. the importance of maintaining high standards of health, safety and security KA7. implications that any non-compliance with health, safety and security may

SSC/N9003   **Maintain a healthy, safe and secure working environment**

		have on individuals and the organization
B. Technical Knowledge		You need to know and understand: KB1. different types of breaches in health, safety and security and how and when to report these KB2. evacuation procedures for workers and visitors KB3. how to summon medical assistance and the emergency services, where necessary KB4. how to use the health, safety and accident reporting procedures and the importance of these KB5. government agencies in the areas of safety, health and security and their norms and services
Skills (S)		
A. Core Skills/ Generic Skills	**Writing Skills**	
	You need to know and understand how to: SA1. complete accurate, well written work with attention to detail	
	Reading Skills	
	You need to know and understand how to: SA2. read instructions, guidelines, procedures, rules and service level agreements	
	Oral Communication (Listening and Speaking skills)	
	You need to know and understand how to: SA3. listen effectively and orally communicate information accurately	
B. Professional Skills	**Decision Making**	
	You need to know and understand how to: SB1. make a decision on a suitable course of action	
	Plan and Organize	
	You need to know and understand how to: SB2. plan and organize your work to meet health, safety and security requirements	
	Customer Centricity	
	You need to know and understand how to: SB3. build and maintain positive and effective relationships with colleagues and customers	
	Problem Solving	
	You need to know and understand how to: SB4. apply problem solving approaches in different situations	
	Analytical Thinking	
	You need to know and understand how to: SB5. analyze data and activities	

**SSC/N9003**   **Maintain a healthy, safe and secure working environment**

	Critical Thinking
	You need to know and understand how to:
	SB6. apply balanced judgments to different situations
	Attention to Detail
	You need to know and understand how to:
	SB7. check your work is complete and free from errors
	SB8. get your work checked by peers
	Team Working
	You need to know and understand how to:
	SB9. work effectively in a team environment
C. Technical Skills	You need to know and understand how to:
	SC1. identify and refer anomalies
	SC2. help reach agreements with colleagues
	SC3. keep up to date with changes, procedures and practices in your role

NOS Code	SSC/N9003		
Credits (NSQF)	TBD	Version number	1.0
Industry	IT-ITeS	Drafted on	30/04/2013
Industry Sub-sector	IT Services	Last reviewed on	31/01/2015
		Next review date	31/03/2016
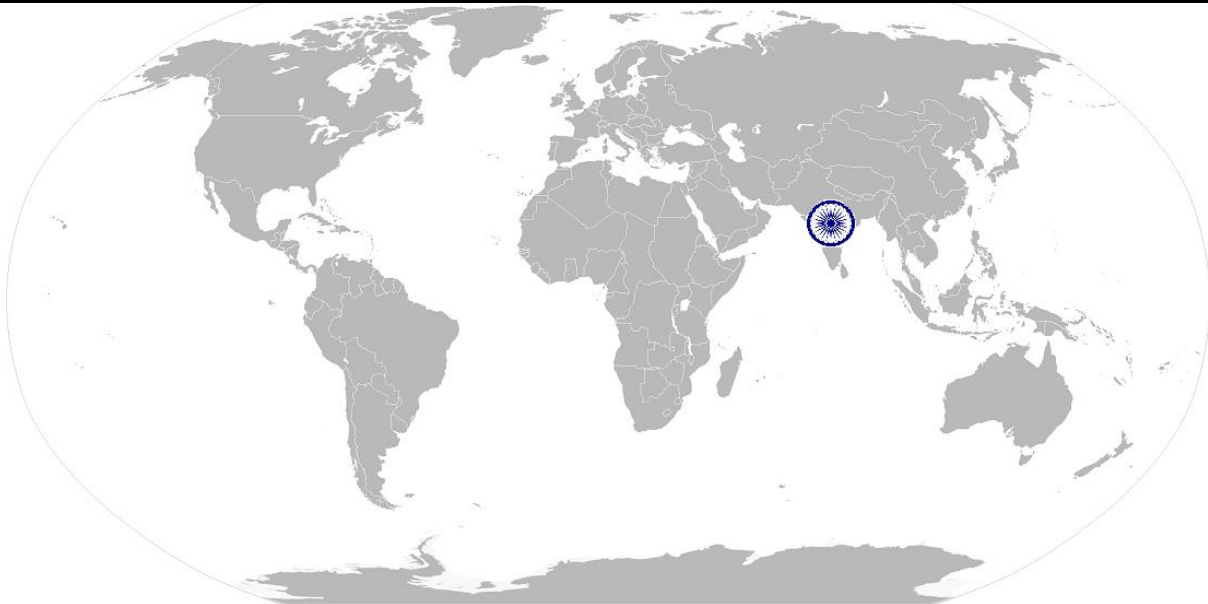
National Occupational Standard

<u>**Overview**</u>

This unit is about providing specified data/information related to your work in templates or other standard formats

SSC/N9004   **Provide data/information in standard formats**

Unit Code	SSC/N9004
Unit Title (Task)	**Provide data/information in standard formats**
Description	This unit is about providing specified data/information related to your work in templates or other standard formats.
Scope	This unit/task covers the following:

Appropriate people:
- line manager
- members of your own work group
- people in other work groups in your organization
- subject matter experts

Data/information:
- quantitative
- qualitative

Sources:
- within your organization
- outside your organization

Formats:
- paper-based
- electronic

Performance Criteria (PC) w.r.t. the Scope

To be competent, you must be able to:

PC1.   establish and agree with **appropriate people** the **data/information** you need to provide, the **formats** in which you need to provide it, and when you need to provide it

PC2.   obtain the **data/information** from reliable **sources**

PC3.   check that the **data/information** is accurate, complete and up-to-date

PC4.   obtain advice or guidance from **appropriate people** where there are problems with the **data/information**

PC5.   carry out rule-based analysis of the **data/information**, if required

PC6.   insert the **data/information** into the agreed **formats**

PC7.   check the accuracy of your work, involving colleagues where required

PC8.   report any unresolved anomalies in the **data/information** to **appropriate people**

PC9.   provide complete, accurate and up-to-date data/information to the **appropriate people** in the required **formats** on time

Knowledge and Understanding (K)

29

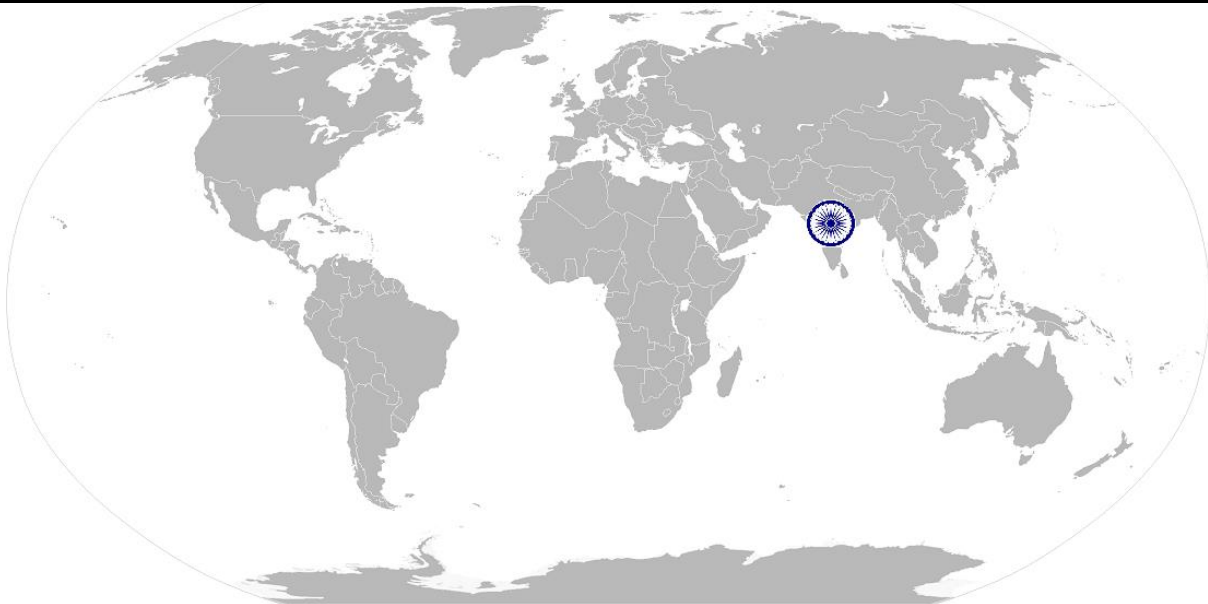| **SSC/N9004**	**Provide data/information in standard formats**
A. Organizational Context (Knowledge of the company/ organization and its processes)	You need to know and understand: KA1. your organization's procedures and guidelines for providing data/information in standard formats and your role and responsibilities in relation to this KA2. the knowledge management culture of your organization KA3. your organization's policies and procedures for recording and sharing information and the importance of complying with these KA4. the importance of validating data/information before use and how to do this KA5. procedures for updating data in appropriate formats and with proper validation KA6. the purpose of the CRM database KA7. how to use the CRM database to record and extract information KA8. the importance of having your data/information reviewed by others KA9. the scope of any data/information requirements including the level of detail required KA10. the importance of keeping within the scope of work and adhering to timescales
B. Technical Knowledge	You need to know and understand: KB1. data/information you may need to provide including the sources and how to do this KB2. templates and formats used for data/information including their purpose and how to use these KB3. different techniques used to obtain data/information and how to apply KB4. these KB5. how to carry out rule-based analysis on the data/information KB6. typical anomalies that may occur in data/information KB7. who to go to in the event of inaccurate data/information and how to report this
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	You need to know and understand how to: SA1. complete accurate, well written work with attention to detail
	Reading Skills
	You need to know and understand how to: SA2. read instructions, guidelines, procedures, rules and service level agreements
	Oral Communication (Listening and Speaking skills)
	You need to know and understand how to: SA3. listen effectively and orally communicate information accurately
B. Professional Skills	**Decision Making**

SSC/N9004   **Provide data/information in standard formats**

	You need to know and understand how to:
	SB1. follow rule-based decision-making processes
	SB2. make a decision on a suitable course of action
	Plan and Organize
	You need to know and understand how to:
	SB3. plan and organize your work to achieve targets and deadlines
	Customer Centricity
	You need to know and understand how to:
	SB4. check that your own work meets customer requirements
	SB5. meet and exceed customer expectations
	Problem Solving
	You need to know and understand how to:
	SB6. apply problem solving approaches in different situations
	Analytical Thinking
	You need to know and understand how to:
	SB7. configure data and disseminate relevant information to others
	Critical Thinking
	You need to know and understand how to:
	SB8. apply balanced judgments to different situations
	Attention to Detail
	You need to know and understand how to:
	SB9. check your work is complete and free from errors
	SB10. get your work checked by peers
	Team Working
	You need to know and understand how to:
	SB11. work effectively in a team environment
C. Technical Skills	You need to know and understand how to:
	SC1. use information technology effectively, to input and/or extract data accurately
	SC2. validate and update data
	SC3. identify and refer anomalies in data
	SC4. store and retrieve information
	SC5. share information using standard formats and templates
	SC6. keep up to date with changes, procedures and practices in your role

NOS Code	SSC/N9004		
Credits (NSQF)	TBD	**Version number**	1.0
Industry	IT-ITeS	**Drafted on**	30/04/2013
Industry Sub-sector	IT Services	**Last reviewed on**	31/01/2015
		Next review date	31/03/2016

National Occupational Standard
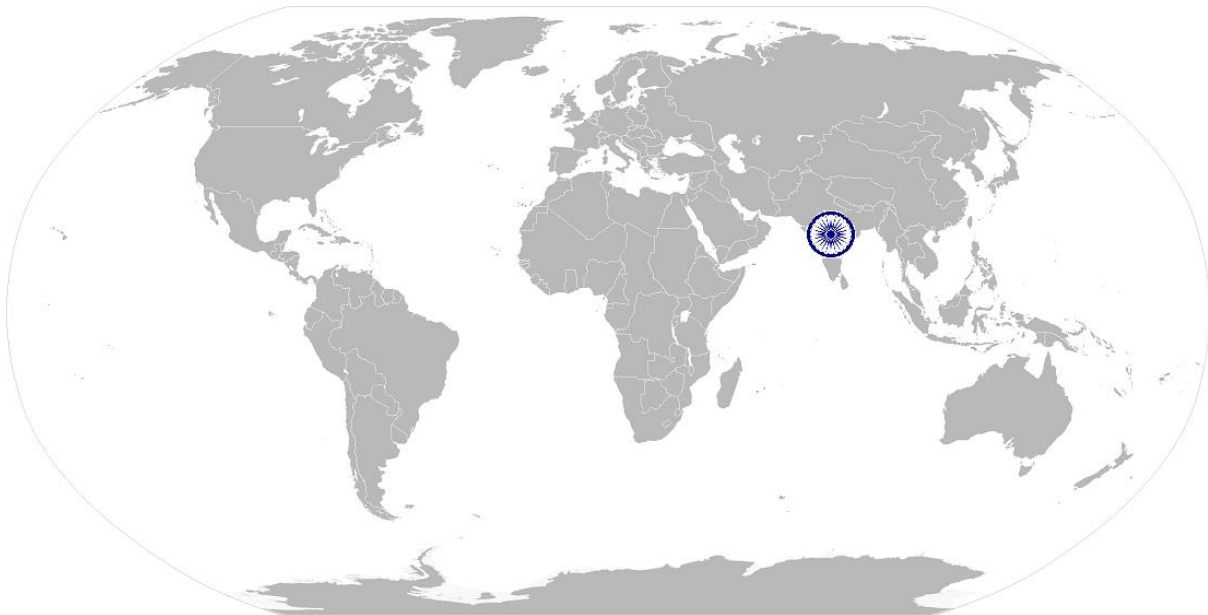
<u>**Overview**</u>

This unit is about taking action to ensure you have the knowledge and skills you need to perform competently in your current job role and to take on new responsibilities, where required.

SSC/N9005   Develop your knowledge, skills and competence

Unit Code	**SSC/N9005**
Unit Title (Task)	**Develop your knowledge, skills and competence**
Description	This unit is about taking action to ensure you have the knowledge and skills you need to perform competently in your current job role and to take on new responsibilities, where required. *Competence* is defined as: the application of knowledge and skills to perform to the standards required.
Scope	This unit/task covers the following: **Appropriate people** may be: • line manager • human resources specialists • learning and development specialists • peers **Job role**: • current responsibilities as defined in your job description • possible future responsibilities **Learning and development activities**: • formal education and training programs, leading to certification • non-formal activities (such as private study, learning from colleagues, project work), designed to meet learning and development objectives but without certification **Appropriate action** may be: • undertaking further learning and development activities • finding further opportunities to apply your knowledge and skills
Performance Criteria (PC) w.r.t. the Scope	
	To be competent, you must be able to: PC1. obtain advice and guidance from **appropriate people** to develop your knowledge, skills and competence PC2. identify accurately the knowledge and skills you need for your **job role** PC3. identify accurately your current level of knowledge, skills and competence and any learning and development needs PC4. agree with **appropriate people** a plan of **learning and development activities** to address your learning needs PC5. undertake **learning and development activities** in line with your plan PC6. apply your new knowledge and skills in the workplace, under supervision PC7. obtain feedback from **appropriate people** on your knowledge and skills and

Applicable NOS Unit

SSC/N9005   **Develop your knowledge, skills and competence**

		how effectively you apply them
	PC8.	review your knowledge, skills and competence regularly and take **appropriate action**

| **Knowledge and Understanding (K)**		
A. Organizational Context (Knowledge of the company/ organization and its processes)	You need to know and understand:	
	KA1.	your organization's procedures and guidelines for developing your knowledge, skills and competence and your role and responsibilities in relation to this
	KA2.	the importance of developing your knowledge, skills and competence to you and your organization
	KA3.	different methods used by your organization to review skills and knowledge including: • training need analysis • skills need analysis • performance appraisals
	KA4.	how to review your knowledge and skills against your job role using different methods and analysis
	KA5.	different types of learning and development activities available for your job role and how to access these
	KA6.	how to produce a plan to address your learning and development needs, who to agree it with and the importance of undertaking the planned activities
	KA7.	different types of support available to help you plan and undertake learning and development activities and how to access these
	KA8.	why it is important to maintain records of your learning and development
	KA9.	methods of obtaining and accepting feedback from appropriate people on your knowledge skills and competence
	KA10.	how to use feedback to develop in your job role
B. Technical Knowledge	You need to know and understand:	
	KB1.	the knowledge and skills required in your job role
	KB2.	your current learning and development needs in relation to your job role
	KB3.	different types of learning styles and methods including those that help you learn best
	KB4.	the importance of taking responsibility for your own learning and development
	KB5.	to the importance of learning and practicing new concepts, theory and how to apply these in the work environment or on samples.
	KB6.	how to explore sample problems and apply solutions
Skills (S)		

SSC/N9005 **Develop your knowledge, skills and competence**

A. Core Skills/ Generic Skills	**Writing Skills**
	You need to know and understand how to: SA1. communicate with colleagues in writing
	Reading Skills
	You need to know and understand how to: SA2. read instructions, guidelines and procedures
	Oral Communication (Listening and Speaking skills)
	You need to know and understand how to: SA3. ask for clarification and advice from line managers
B. Professional Skills	**Decision Making**
	You need to know and understand how to: SB1. make a decision on a suitable course of action
	Plan and Organize
	You need to know and understand how to: SB2. plan and organize your work to achieve targets and deadlines
	Customer Centricity
	You need to know and understand how to: SB3. check that your own work meets customer requirements
	Problem Solving
	You need to know and understand how to: SB4. refer anomalies to the line manager
	Analytical Thinking
	You need to know and understand how to: SB5. analyze data and activities
	Critical Thinking
	You need to know and understand how to: SB6. apply balanced judgments to different situations
	Attention to Detail
	You need to know and understand how to: SB7. check your work is complete and free from errors SB8. get your work checked by peers
	Team Working
	You need to know and understand how to: SB9. work effectively in a team environment
C. Technical Skills	You need to know and understand how to: SC1. use information technology effectively SC2. agree objectives and work requirements

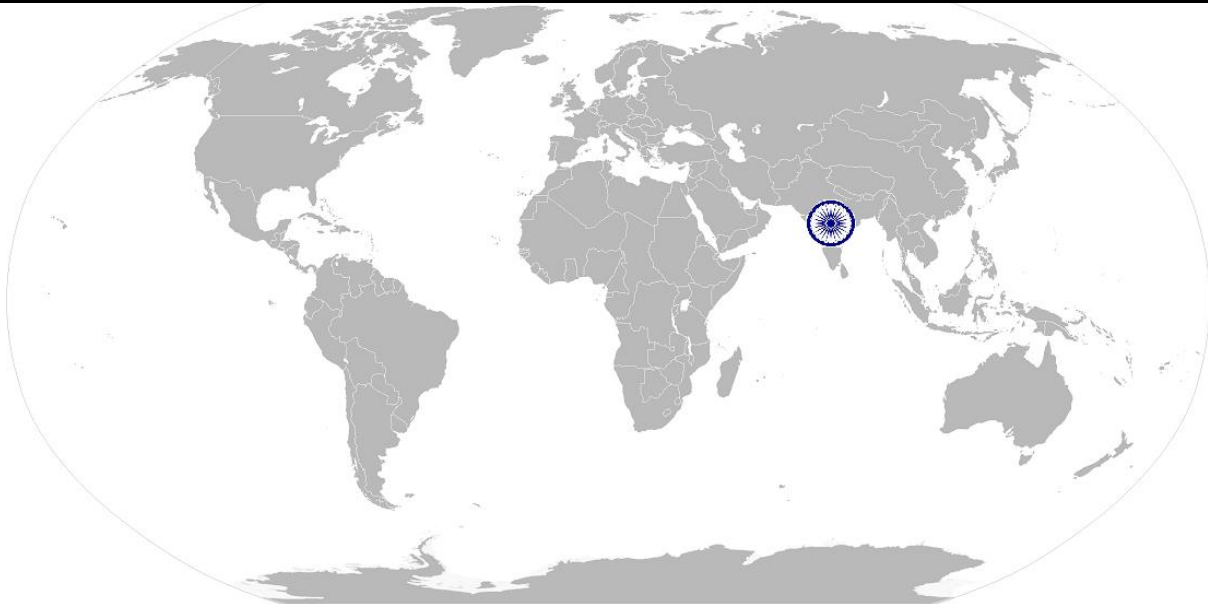**SSC/N9005**   **Develop your knowledge, skills and competence**

	SC3. keep up to date with changes, procedures and practices in your role
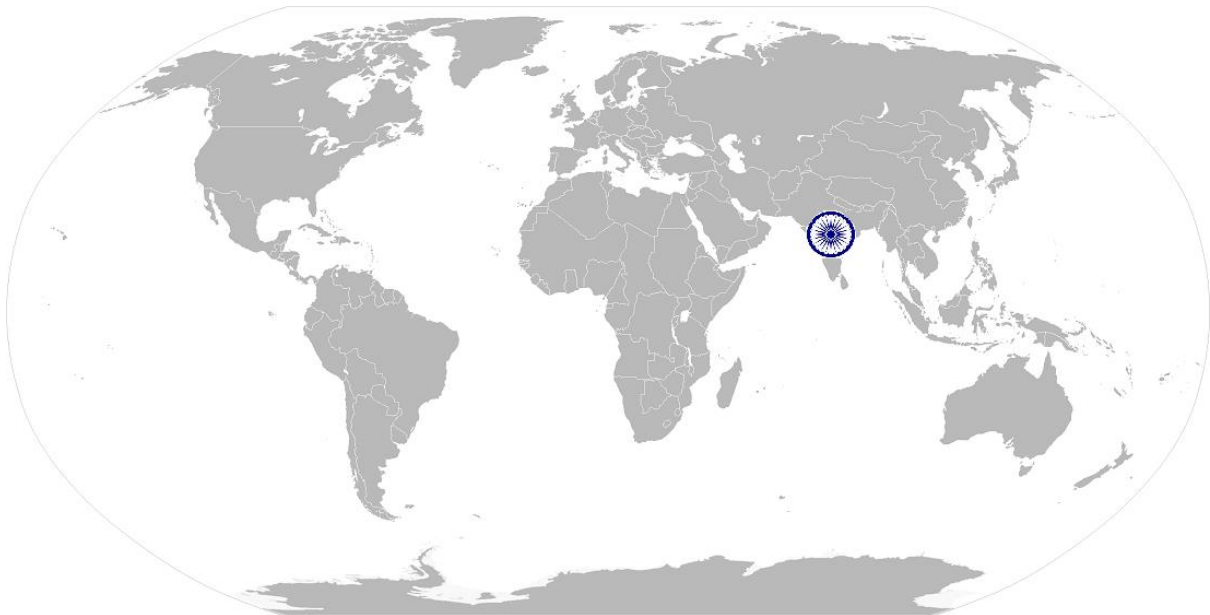
SSC/N9005   **Develop your knowledge, skills and competence**
NOS Version Control

NOS Code	SSC/N9005		
Credits (NSQF)	TBD	Version number	1.0
Industry	IT-ITeS	Drafted on	30/04/2013
Industry Sub-sector	IT Services	Last reviewed on	31/01/2015
		Next review date	31/03/2016

Qualifications Pack

9 characters

SSC/Q0101

SSC denoting **S**oftware & **S**ervices **C**ompanies (IT-ITeS industry)

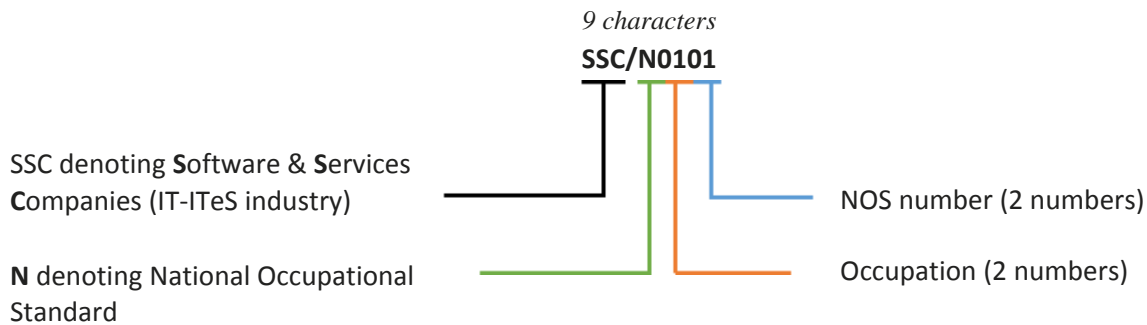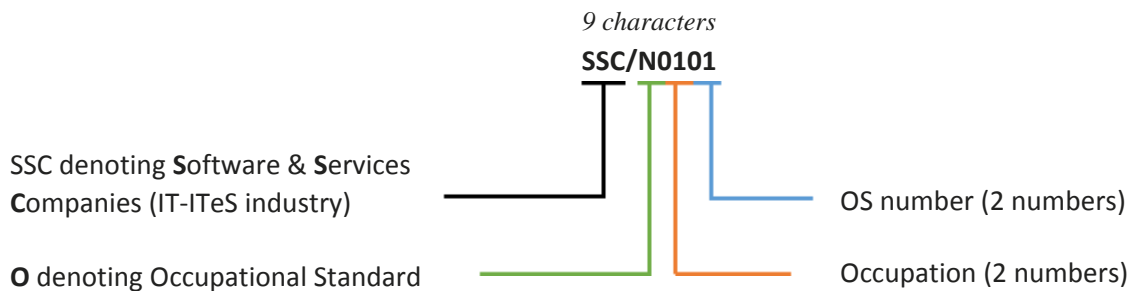**Q** denoting Qualifications Pack

QP number (2 numbers)

Occupation (2 numbers)

National Occupational Standard

9 characters

SSC/N0101

SSC denoting **S**oftware & **S**ervices **C**ompanies (IT-ITeS industry)

N denoting National Occupational Standard

NOS number (2 numbers)

Occupation (2 numbers)

Occupational Standard

9 characters

SSC/N0101

SSC denoting **S**oftware & **S**ervices **C**ompanies (IT-ITeS industry)

O denoting Occupational Standard

OS number (2 numbers)

Occupation (2 numbers)

It is important to note that an OS unit can be denoted with either an '**O**' or an '**N**'.

- If an OS unit denotes 'O', it is an OS unit that is an international standard. An example of OS unit denoting 'O' is SSC/**O**0101.
- If an OS unit denotes '**N**', it is an OS unit that is a national standard and is applicable only for the Indian IT-ITeS industry. An example of OS unit denoting '**N**' is SSC/N0101

Nomenclature for QP and NOS Units

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

Sub-Sector	Range of Occupation numbers
IT Service (ITS)	01-20
Business Process Management (BPM)	21-40
Engg. and R&D (ERD)	41-60
Software Products (SPD)	61-80

Sequence	Description	Example
Three letters	Industry name (Software & Service Companies)	SSC
Slash	/	/
Next letter	Whether **Q**P or **N**OS	N
Next two numbers	Occupation Code	01
Next two numbers	OS number	01

Criteria for Assessment of Trainees

Job Role	Junior Software Developer
Qualification Pack	SSC/Q0508
Sector Skill Council	IT-ITeS

Guidelines for Assessment:
1. Criteria for assessment for each Qualification Pack (QP) will be created by the Sector Skill Council (SSC). Each performance criteria (PC) will be assigned Theory and Skill/Practical marks proportional to its importance in NOS.
2. The assessment will be conducted online through assessment providers authorised by SSC.
3. Format of questions will include a variety of styles suitable to the PC being tested such as multiple choice questions, fill in the blanks, situational judgment test, simulation and programming test.
4. To pass a QP, a trainee should pass each individual NOS. Standard passing criteria for each NOS is 70%.
5. For latest details on the assessment criteria, please visit www.sscnasscom.com.

Assessment Outcomes	Assessment Criteria for Outcomes	Total Mark	Out of	Marks Allocation	
				Theory	Skills Practical
1.SSC/N0506 (Assist in performing software construction and software testing entry-level tasks in the IT Services Industry)	PC 1. demonstrate basic computer and internet literacy including operating a computer, describing its major components and how they work, using Windows and Linux OS, operating a browser, searching the internet, managing mails and using social internet media.	**100**	10	0	10
	PC 2. demonstrate aptitude for analyzing information and making logical conclusions.		25	10	15
	PC 3. demonstrate knowledge of the foundational mathematical concepts in computing.		20	5	15
	PC 4. design algorithms to solve problems and convert them into code using the appropriate programming language constructs.		30	10	20
	PC 5. read and execute a test case and record the outcome in the appropriate template.		10	5	5
	PC 6. be able to communicate effectively with appropriate people w.r.t. assigned roles in simple English – both oral and written.		5	0	5
		Total	100	30	70
3.NOS/N9001 (Manage your work to meet requirements)	PC1. establish and agree your work requirements with appropriate people	**100**	6.25	0	6.25
	PC2. keep your immediate work area clean and tidy		12.5	6.25	6.25
	PC3. utilize your time effectively		12.5	6.25	6.25

	PC4. use resources correctly and efficiently		18.75	6.25	12.5
	PC5. treat confidential information correctly		6.25	0	6.25
	PC6. work in line with your organization's policies and procedures		12.5	0	12.5
	PC7. work within the limits of your job role		6.25	0	6.25
	PC8. obtain guidance from appropriate people, where necessary		6.25	0	6.25
	PC9. ensure your work meets the agreed requirements		18.75	6.25	12.5
		Total	**100**	**25**	**75**
4.SSC/N9002 (Work effectively with colleagues)	PC1. communicate with colleagues clearly, concisely and accurately		20	0	20
	PC2. work with colleagues to integrate your work effectively with theirs		10	0	10
	PC3. pass on essential information to colleagues in line with organizational requirements		10	10	0
	PC4. work in ways that show respect for colleagues		20	0	20
	PC5. carry out commitments you have made to colleagues	**100**	10	0	10
	PC6. let colleagues know in good time if you cannot carry out your commitments, explaining the reasons		10	10	0
	PC7. identify any problems you have working with colleagues and take the initiative to solve these problems		10	0	10
	PC8. follow the organization's policies and procedures for working with colleagues		10	0	10
		Total	**100**	**20**	**80**
5.SSC/N9003 (Maintain a healthy, safe and secure working environment)	PC1. comply with your organization's current health, safety and security policies and procedures		20	10	10
	PC2. report any identified breaches in health, safety, and security policies and procedures to the designated person		10	0	10
	PC3. identify and correct any hazards that you can deal with safely, competently and within the limits of your authority	**100**	20	10	10
	PC4. report any hazards that you are not competent to deal with to the relevant person in line with organizational procedures and warn other people who may be affected		10	0	10
	PC5. follow your organization's emergency procedures promptly, calmly, and efficiently		20	10	10
	PC6. identify and recommend opportunities for improving health, safety, and security to the designated person		10	0	10

	PC7. complete any health and safety records legibly and accurately		10	0	10
		Total	**100**	**30**	**70**
6.SSC/N9004 (Provide data/information in standard formats)	PC1. establish and agree with appropriate people the data/information you need to provide, the formats in which you need to provide it, and when you need to provide it	**100**	12.5	12.5	0
	PC2. obtain the data/information from reliable sources		12.5	0	12.5
	PC3. check that the data/information is accurate, complete and up-to-date		12.5	6.25	6.25
	PC4. obtain advice or guidance from appropriate people where there are problems with the data/information		6.25	0	6.25
	PC5. carry out rule-based analysis of the data/information, if required		25	0	25
	PC6. insert the data/information into the agreed formats		12.5	0	12.5
	PC7. check the accuracy of your work, involving colleagues where required		6.25	0	6.25
	PC8. report any unresolved anomalies in the data/information to appropriate people		6.25	6.25	0
	PC9. provide complete, accurate and up-to-date data/information to the appropriate people in the required formats on time		6.25	0	6.25
		Total	**100**	**25**	**75**
7.SSC/N9005 (Develop your knowledge, skills and competence)	PC1. obtain advice and guidance from appropriate people to develop your knowledge, skills and competence	**100**	10	0	10
	PC2. identify accurately the knowledge and skills you need for your job role		10	0	10
	PC3. identify accurately your current level of knowledge, skills and competence and any learning and development needs		20	10	10
	PC4. agree with appropriate people a plan of learning and development activities to address your learning needs		10	0	10
	PC5. undertake learning and development activities in line with your plan		20	10	10
	PC6. apply your new knowledge and skills in the workplace, under supervision		10	0	10
	PC7. obtain feedback from appropriate people on your knowledge and skills and how effectively you apply them		10	0	10
	PC8. review your knowledge, skills and competence regularly and take appropriate action		10	0	10
		Total	**100**	**20**	**80**