



#### QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR ELECTRONICS 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
- performance
  standards that
  individuals must
  achieve when
  carrying out
  functions in the
  workplace,
  together with
  specifications of
  the underpinning
  knowledge and
  understanding

#### Contact Us:

ESSCI, New Delhi
Electronics Sector Skills
Council of India
422, Okhla Industrial
Estate, Phase-III,
New Delhi-110020
E-mail:
info@essc-india.org





#### Contents

1.	Introd	uction	and	Contacts	P1
	III LI OU	action	ania	Contacts	

- 2. Qualifications Pack.....P2
- 3. OS Units......P3
- 4. Glossary of Key Terms ......P17
- 5. Nomenclature for QP & OS.....P19

#### Introduction

#### **Qualifications Pack-IT Coordinator in School**

**SECTOR: ELECTRONICS** 

**SUB-SECTOR:** IT Hardware

**OCCUPATION:** E-learning Management

REFERENCE ID: ELE/Q4701

**ALIGNED TO: NCO-2004/ NIL** 

**IT Coordinator in School:** Also called 'e-learning Facilitator', the IT Coordinator provides support on the e-learning content and hardware used for training in schools.

**Brief Job Description:** The individual at work is responsible for operating and maintaining e-learning hardware and, updating and operating e-learning application. The individual also assists teachers and students in operating the e-learning applications.

**Personal Attributes:** The job requires the individual to have: ability to build interpersonal relationships, willingness to learn, teaching orientation focussed on children. The individual must have positive attitude towards work to listen to diverse customers.



#### Qualifications Pack For IT Coordinator in School



Qualifications Pack Code	ELE/Q4701		
Job Role	IT Coordinator in School		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Sector	Electronics	Drafted on	24/11/13
Sub-sector	IT Hardware	Last reviewed on	24/12/13
Occupation	E-learning Management	Next review date	23/12/14

Job Role	IT Coordinator in School		
	Also called 'e-learning Facilitator'		
Role Description	Operating and maintaining e-learning hardware and, updating and operating e-learning application; Also assisting teachers and students in operating the e-learning applications.		
NVEQF/NVQF level	4		
Minimum Educational Qualifications	Diploma		
Maximum Educational Qualifications	B. Tech		
Training	Remote helpdesk technician and maintenance of computers, projectors		
Experience	Not applicable		
Applicable National Occupational Standards (NOS)	Compulsory:  1. ELE/N4701 Manage computing and display systems  2. ELE/N4702 Manage e-learning curriculum  3. ELE/N4703 Coordinate with others to perform the work  Optional: Not applicable		
Performance Criteria	As described in the relevant OS units		

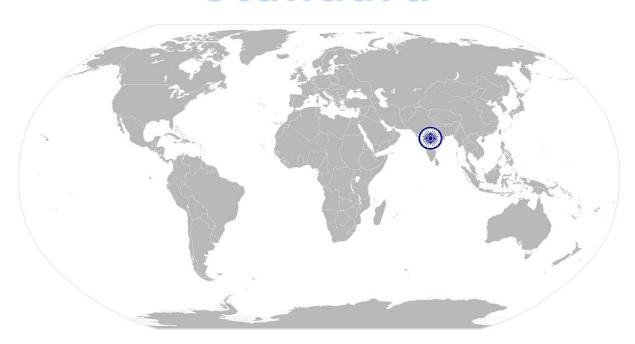






**ELE/N4701** Manage computing and display systems

# **National Occupational** Standard



## **Overview**

This unit is about managing various equipments used in e-learning training such as computers, peripherals, projectors and display units including operation and troubleshooting.







#### ELE/N4701 Manage computing and display systems

Unit Code	ELE/N4701
Unit Title (Task)	Manage systems
Description	This OS unit is about managing various hardware equipment used in e-learning training such as computers, peripherals, projectors and display units including operation and troubleshooting
Scope	<ul> <li>This unit/ task covers the following:</li> <li>Understand the daily work requirement and schedule</li> <li>Install and operate the e-learning equipment</li> <li>Up keeping of e-learning hardware equipment</li> <li>Coordinate with customer care centre or repair centre</li> <li>Achieve productivity and quality standards as per company's norms</li> </ul>

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

renormance chiena(PC) w.r.t. the scope			
Element	Performance Criteria		
Understanding work requirement	To be competent, the user/ individual must be able to:  PC1. understand the number of classrooms to be attended and hardware to be maintained  PC2. identify the persons to coordinate with for any assistance  PC3. familiarise with latest computing and display products and technology  PC4. understand the e-learning training delivery method  PC5. operate different equipment used in training delivery such as interactive white board, computer desktop or laptop, printer, projector, speakers, video camera, UPS, cabinet		
Installing and	To be competent, the user/ individual must be able to:		
operating e-learning	PC6. assist in installation of hardware in the classrooms along with the installation		
equipment	technician  PC7. install equipment at the correct place for enabling efficient teaching  PC8. carry or store operation manuals, identification details of equipment such as serial numbers, warranty details, repair complaint procedure during installation  PC9. operate and demonstrate all the e-learning related equipment  PC10. assist teachers and students in hardware operation during training session  PC11. train students and teachers on use of interactive white board with touch features  PC12. assist teachers in using e-content for teaching in the class  PC13. effectively operate the equipments installed in classrooms  PC14. resolve queries in machine operation  PC15. achieve zero complaints from school / teachers on equipment functioning		
Up keeping e-	To be competent, the user/ individual must be able to:		
learning hardware	PC16. maintain the equipment		
	PC17. run antivirus and other relevant protective applications as scheduled		







ELE/N4701	Manage computing and display systems		
	PC18. check for malfunction of software and hardware as scheduled or required		
	PC19. update latest versions of related software and antivirus software installed		
	PC20. discourage use of pirated and unlicensed software and applications		
Coordinating with	To be competent, the user/ individual must be able to:		
customer care centre	PC21. understand the hardware related concerns raised by the school		
or repair centre	PC22. analyse the concerns and trouble shoot or		
	PC23. inform customer care centre and ask for complain reference number and		
	turnaround time for repairing		
	PC24. inform spares centre for any replacement required of module or equipment		
	if troubleshooting does not resolve the problem		
	PC25. arrange for alternative systems so that training delivery is not disrupted		
	PC26. interact with remote technical helpdesk to take remote support for		
	diagnosing problems in hardware		
	PC27. explain the symptoms clearly, answer the queries		
	PC28. take necessary action to resolve problems		
Achieving	To be competent, the user/individual must be able to:		
productivity and	PC29. diagnose the problem in system accurately		
quality	PC30. identify the solution accurately		
	PC31. ensure there are no disruptions in teaching and training delivery due to		
	hardware failure		
	PC32. achieve 100% customer satisfaction		
Knowledge and Unders			
A. Organizational	The individual on the job needs understand:		
Context	KA1. institution's code of conduct		
(Knowledge of the	KA2. organisation culture		
company /	KA3. school's reporting structure		
organization and	KA4. institutions' documentation policy		
its processes)	KA5. Human Resource and performance evaluation policy		
its processes;	KA6. internal process system such as ERP followed in the school		
n marketari	KA7. institution's affiliation with educational boards		
B. Technical	The individual on the job needs to know and understand:		
Knowledge	KB1. basics, products, features, purpose and functionalities of e-learning and		
	learning tools		
	KB2. school's e-learning modules and curriculum		
	KB3. basics on IT hardware equipment		
	<ul><li>KB4. in-depth understanding on e-learning related hardware equipment</li><li>KB5. to install and disassemble learning related equipments</li></ul>		
	<ul><li>KB5. to install and disassemble learning related equipments</li><li>KB6. basic electronics of system hardware</li></ul>		
	KB7. Basic hardware maintenance		
	KB8. functions of interactive white board and all touch features in it		
	· ·		
	interacting with teachers and students  KB10. relevant reference sheets, manuals and documents to be used at work		
	KB11. internal process system and their usage		
	, ,		
	KB12. warranty and after sales support details on hardware equipment used in		







	(S)  ore Skills/ eneric Skills	Manage computing and display systems schools KB13. different models of after sales support provided by the vendor  Reading and writing skills	
A. Co	ore Skills/		
A. Co	ore Skills/	Reading and writing skills	
A. Co	ore Skills/	Reading and writing skills	
	_	Reading and writing skills	
	onoric Skills		
G	enenc skins	The individual on the job needs to know and understand how to:	
		SA1. read the content related information in the application	
		SA2. read text manuals regarding the hardware equipment issues	
B. Pı	rofessional Skills	Interpersonal skills	
		The individual on the job needs to know and understand how to:	
		SB1. listen carefully and interpret requirement	
		SB2. suggest on possible solutions	
		SB3. communicate in English and local language	
		E-Learning hardware related skills	
		The individual on the job needs to know and understand how to:	
		SB4. operate and train people on using interactive whiteboard	
		SB5. operate and maintain all e-learning hardware equipment	
		SB6. diagnose basic problems in hardware	
System operation and support skills		System operation and support skills	
The individ		The individual on the job needs to know and understand:	
		SB7. how to operate computer and internet	
		SB8. how to use and understand microsoft package	
		SB9. company's internal process software such as ERP for recording and	
		documenting the customer call	
		Critical thinking	
		The user/individual on the job needs to know and understand how to:	
		SB10. spot process disruptions and delays	
		SB11. report on any customer concerns to superiors without delay	
Decision making		Decision making	
-		The user/individual on the job needs to know and understand how to decide on:	
		SB12. query resolution and call closure of non technical queries	
		SB13. the department to which the query needs to be transferred for right solution	
		Interpreting skills	
		The user/individual on the job needs to know and understand how:	
		SB14. to ask relevant questions to diagnose the issue in hardware equipment	
		SB15. interpret the issue and provide possible solutions	
		Interpreting skills  The user/individual on the job needs to know and understand how:  SB14. to ask relevant questions to diagnose the issue in hardware equipment	







#### Manage computing and display systems

# **NOS Version Control**

NOS Code	ELE/N4701		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Electronics	Drafted on	24/11/13
Industry Sub-sector	IT Hardware	Last reviewed on	24/12/13
		Next review date	23/12/14





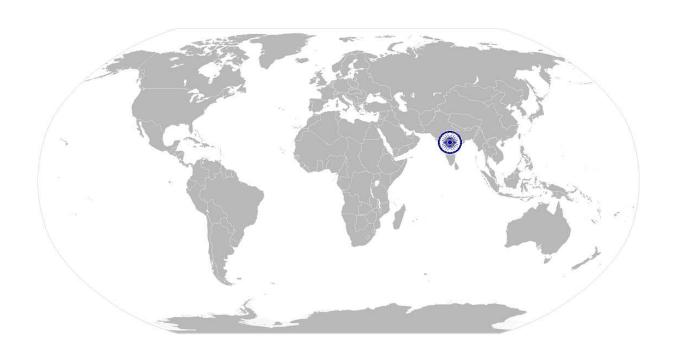






Manage e-learning curriculum

# **National Occupational** Standard



## **Overview**

This unit is about understanding the e-learning module used in the school, operating elearning application, maintaining e-curriculum and assisting teachers for effective training delivery.







#### ELE/N4702 Manage e-learning curriculum

Unit Code	ELE /N4702
Unit Title (Task)	Manage e-learning curriculum
Description	This OS unit is about diagnosing the technical query raised by customers, perform troubleshooting and resolve the queries through telephone.
Scope	<ul> <li>This unit/ task covers the following:</li> <li>Understand the basics of e-learning</li> <li>Prepare content as requested</li> <li>Assist teachers in training delivery</li> <li>Interact with learning centre</li> </ul>

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

Performance Criteria(PC) w.r.t. the Scope			
Element	Performance Criteria		
<b>Understanding basics</b>	To be competent, the user/ individual must be able to:		
of e-learning	PC1. understand e-learning application that the school is using		
	PC2. be informed on different training delivery methods available and the format		
	of learning modules		
	PC3. understand how modules of learning curriculum are designed in the		
	application		
	PC4. educate self on different subjects are sorted and presented in the		
	application and how the contents, chapters are designed		
	PC5. identify and recognise icons, links, buttons that are to be used and their		
	purpose		
	PC6. identify multimedia contents used in the training and their purpose		
Preparing content	To be competent, the user/ individual must be able to:		
	PC7. understand how content can be taken from the syllabus for daily training		
	PC8. prepare the content for training such as in presentation mode		
	PC9. take necessary contents from different chapters relevant for training		
	PC10. understand the time table for classes and schedule the work accordingly		
	PC11. achieve smooth functioning of the e-learning training delivery mechanism		
	PC12. develop content appropriate for the curriculum		
	PC13. resolve queries raised on the content and presentation on the application		
	PC14. satisfy the teacher on the relevance of content prepared		
	PC15. provide valid inputs for content and design modification based on teachers'		
	feedback		
	PC16. quickly resolve the content related concern to avoid disruption of classroom		
Assisting teachers	To be competent, the user/ individual must be able to:		
	PC17. coordinate with teachers for understanding their requirement		
	PC18. help teachers in understanding the operation of hardware equipment		
	PC19. assist teachers in familiarisation with content design		
	PC20. assist teacher in use of computers such as switching to different screens as		
	required, usage of links and icons		
	PC21. assist teachers in gathering content for daily classroom training		







ELE/N4702 Manage e-learning curriculum

ELE/N4702	Manage e-learning curriculum		
	PC22. get external content from websites and pictures useful for their content		
	PC23. resolve any queries from teachers on usage of application and hardware		
Interacting with	To be competent, the user/ individual must be able to:		
learning centre	PC24. raise any concerns or queries to learning centre or content centre to get		
, and the second	clarification on the content or usage of content		
	PC25. add any additional contents whenever they are developed		
	PC26. understand any updates in the application and include them		
	PC27. coordinate the content development to understand about the queries		
	raised by teachers to resolve them		
	PC28. suggest the content development team for modifications based on the		
	suggestions received by principal, teachers and students		
w 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Knowledge and Unders			
A. Organizational	The individual on the job needs to know and understand:		
Context	KA1. institution's code of conduct		
(Knowledge of the	KA2. organisation culture		
company /	KA3. school's reporting structure		
• • •	KA4. institutions' documentation policy		
organization and	KA5. human Resource and performance evaluation policy		
its processes)	KA6. internal process system such as ERP followed in the school		
	KA7. institution's affiliation with educational boards		
B. Technical	The individual on the job needs to know and understand:		
Knowledge	KB1. basics, products, features, purpose and functionalities of e-learning and		
	learning tools		
	KB2. school's e-learning modules and curriculum		
	KB3. basics on IT hardware equipment		
	KB4. functions of interactive white board and all touch features in it		
	KB5. design of curriculum and content in the application		
	KB6. usage of icons, links in the content and their purpose		
	KB7. chapter classification in the syllabus		
	KB8. extraction of relevant content for daily training delivery		
	KB9. all controls and specification of the application and software		
	KB10. to use internet to extract related information to add to the existing content		
	KB11. convert the content to any required document type		
	KB12. to use effectively the Microsoft office package for documentation and		
	recording		
	KB13. behavioural aspects and etiquette to be followed at school and while		
	interacting with teachers and students		
	KB14. relevant reference sheets, manuals and documents to be used at work		
	KB15. internal process system and their usage		
	KB16. warranty and after sales support details on hardware equipment used in		
	schools		
	KB17. different models of after sales support provided by the vendor		
Skills (S) [Optional]			
A. Core Skills/	Reading and writing skills		
Generic Skills	The individual on the job needs to know and understand how to:		
	SA1. read the content related information in the application		







ELE/N4702	Manage e-learning curriculum		
	SA2. read and extract relevant information from internet		
	SA3. read text manuals regarding the hardware equipment issues		
B. Professional Skills	Interpersonal skills		
-	The individual on the job needs to know and understand how to:		
	SB1. listen carefully and interpret requirement		
	·		
	SB2. suggest on possible solutions		
	SB3. communicate in English and local language		
	E-Learning content related skills		
	The individual on the job needs to know and understand how to:		
	SB4. operate and train people on using interactive whiteboard		
	SB5. maintain e-learning application		
	SB6. run features and controls on e-learning application		
	SB7. extract relevant information from the application as per the content		
	required		
	System operation skills		
	The individual on the job needs to know and understand how to:		
	SB8. operate computer and internet		
	SB9. use and understand Microsoft package		
	, -		
	SB10. operate company's internal process software such as ERP for recording and documenting the customer call		







#### Manage e-learning curriculum

# **NOS Version Control**

NOS Code	ELE/N4702		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Electronics	Drafted on	24/11/13
Industry Sub-sector	IT Hardware	Last reviewed on	24/12/13
		Next review date	23/12/14



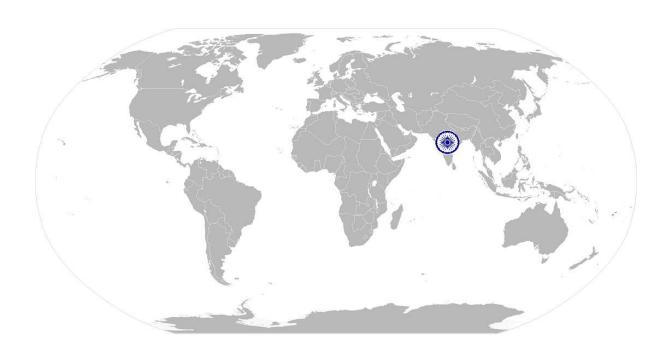






Coordinate with others to perform the work

# **National Occupational** Standard



## **Overview**

This unit is about the individual's level of communication with colleagues, supervisors, teachers, students and related parties to execute their work and ensure there are no process disruptions.







#### Coordinate with others to perform the work

ELE/N4703	Coordinate with others to perform the work	
Unit Code	ELE/N4703	
Unit Title (Task)	Coordinate with others to perform the work	
Description	This OS unit is about communicating with colleagues and seniors in order to achieve smooth work flow	
Scope	This unit/ task covers the following:	
	Interact with supervisor or superior	
	Coordinate with teachers and students	
	Coordinate with customer care centre and technical helpdesk	
	Coordinate with repair centre and spares centre	
Performance Criteria(P	C) w.r.t. the Scope	
Element	Performance Criteria	
Interacting with	To be competent, the user/ individual must be able to:	
superior	PC1. understand work requirements PC2. understand the targets, performance indicators and incentives	
	PC2. understand the targets, performance indicators and incentives	
Coordinating with	To be competent, the user/ individual must be able to:	
teachers and	PC3. assist in operation of e-learning hardware and application	
students	PC4. assist in preparing content for training delivery	
	PC5. understand any queries on the e-learning tools	
	PC6. assist students on proper usage and operation of hardware and system	
Coordinating with	To be competent, the user/ individual must be able to:	
customer care centre	PC7. identify and register complain on system problems in time	
and technical	PC8. get technical assistance to diagnose unresolved problems in time	
helpdesk		
Coordinating with	To be competent, the user/ individual must be able to:	
repairs and spares	PC9. get replacement for faulty module or equipment	
centres	PC10. ensure faster repairing of component and no delay in training delivery	
Achieving targets	To be competent, the user/ individual must be able to:	
	PC11. meet 100% targets given on training and maintenance	
	PC12. complete a task efficiently and effectively	
	PC13. ensure smooth run of processes and anticipate bottlenecks	
Konsuladan and Hadau	PC14. Ensure zero disruptions or delays in training delivery	
Knowledge and Unders		
A. Organizational Context	The individual on the job needs to know and understand:  KA1. company's policies on: incentives, delivery standards, and personnel	
	management	
(Knowledge of the	KA2. importance of the individual's role in the workflow	
company /	KA3. reporting structure	
organization and		







#### ELE/N4703 Coordinate with others to perform the work

its processes)		
B. Technical Knowledge	The individual on the job needs to know and understand:  KB1. how to communicate effectively  KB2. how to build team coordination  KB3. to contact and interact with for specific information and issues	
Skills (S) [Optional]		
A. Core Skills/	Teamwork and multitasking	
Generic Skills	The individual on the job needs to know and understand how: SA1. to deliver product to next work process on time	
B. Professional Skills	Decision making	
	The individual on the job needs to know and understand:  SB1. how to report potential areas of disruptions to work process  SB2. when to report to supervisor and when to deal with a colleague depending on the type of concern	
	Reflective thinking	
The individual on the job needs to know and understand: SB3. how to improve work process		
	Critical thinking	
	The individual on the job needs to know and understand: SB4. how to spot process disruptions and delays	







## $Coordinate\ with\ others\ to\ perform\ the\ work$

# **NOS Version Control**

NOS Code	ELE/N4703		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Electronics	Drafted on	24/11/13
Industry Sub-sector	IT Hardware	Last reviewed on	24/12/13
		Next review date	23/12/14



#### N·S·D·C National Skill Development Corporation

#### Qualifications Pack For IT Coordinator in Schools

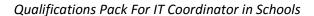
Keywords /Terms	Description	
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.	
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.	
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.	
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or an 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-function	Sub-functions are sub-activities essential to fulfil 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 organisation.	
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding 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 (OS)	NOS are occupational standards which apply uniquely in the Indian context.	
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.	
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'	
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.	
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.	
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.	
Knowledge and Understanding	Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.	
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.	
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish	





#### Qualifications Pack For IT Coordinator in Schools

	specific designated responsibilities.
Core Skills/ Generic Skills	Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Keywords /Terms	Description
NOC	
NOS	National Occupational Standard(s)
NVQF	National Occupational Standard(s)  National Vocational Qualifications Framework
	· · · · · · · · · · · · · · · · · · ·
NVQF	National Vocational Qualifications Framework



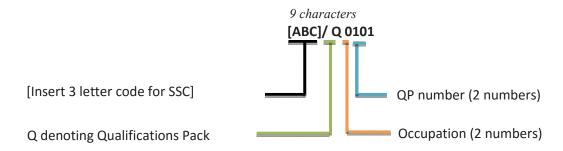




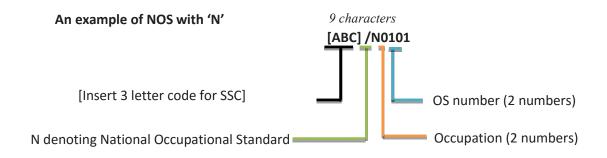
#### **Annexure**

#### **Nomenclature for QP and NOS**

#### **Qualifications Pack**

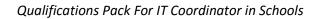


#### **Occupational Standard**



Back to top...







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

Sub-sector	Range of Occupation numbers
Passive Components	01 - 10
Semiconductors	11 - 20
PCB Manufacturing	21 - 30
Consumer Electronics	31 - 40
IT Hardware	41 - 50
PCB Assembly	51 - 55
Solar Electronics	56 - 60
Strategic Electronics	61 - 65
Automotive Electronics	66 - 70
Industrial Electronics	71 - 75
Medical Electronics	76 - 80
Communication Electronics	81 - 85
PCB Design	86 - 90
LED	91 - 95

Sequence	Description	Example
Three letters	Industry name	ELE
Slash	/	/
Next letter	Whether <b>Q</b> P or <b>N</b> OS	Q
Next two numbers	Occupation code	01
Next two numbers	OS number	01