





#### QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR TELECOM INDUSTRY



# Contents

3. OS Units......5

# What are Occupational Standards(OS)?

- Solution 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

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### Introduction

# **Qualifications Pack- Telecom Terminal Equipment Applications (Native Applications)**

**SECTOR:**TELECOM

**SUB-SECTOR:** Handset (Terminal Applications)

**OCCUPATION: TERMINAL EQUIPMENT APPLICATION DEVELOPER** 

REFERENCE ID: TEL/Q2301

**Aligned to:** NCO-2015/2153.0102

Brief Job Description: Native Mobile Application Developer is responsible for creating customized Applications for any Mobile platform that can be used by Smartphone or Tablets running on iOS, Android, Blackberry and Windows 8x Operating Systems. Application Developer creates User Interfaces, writes business logics for events, activities and value added services for apps. The Application Developer also performs unit tests for the codes written and also ensures that adequate security measures are taken to protect valuable data used in the app by unauthorized external agents.

**Personal Attributes:** Personal Attributes: This job requires the individual to have good analytical and problem solving Skills, flair of designing/structuring activities and comfort with working on computers.











National Occupational Standards

Qualifications Pack for Telecom Terminal Equipment Applications (Native Application)

Qualifications Pack Code	TEL/Q2301		
Job Role	Telecom Terminal Equipment Applications (Native Application)		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.0
Sector	Telecom	Drafted on	23-06-2014
Sub-sector	Application Development	Last reviewed on	24-06-2014
Occupation	Native Application Developer	Next review date	26-12-2016
NSQF Clearance on	20-07-2015		

Job Role	Customer Premises Equipment	
Role Description	Native Application Developer is responsible for interpreting the business logic required to create a Phon Mobile Phone Application, Creating User Interface, Writing Business logics for events and actions, processing data and information, testing the application and publishing application.	
NSQF level	4	
Minimum Educational Qualifications  Maximum Educational Qualifications	Preferably 10 <sup>th</sup>	
Training	Knowledge of mobile phone App would be added advantage.	
Minimum Entry Job Age	18 Years	
Experience	NIL	
Applicable National Occupational Standards (NOS)	<ul> <li>(Click to open the below hyperlinks)</li> <li>Compulsory:</li> <li>1. TEL/ N2304 (Programming in HTML5 with JavaScript and CSS3)</li> <li>2. TEL/ N2305 (Developing Native Apps Using HTML5 and JavaScript)</li> <li>3. TEL/ N2306 (Testing and Publishing Phone Applications)</li> </ul>	
Performance Criteria	As described in the relevant OS units	









# Qualifications Pack for Telecom Terminal Equipment Applications (Native Application)

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.	
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.	
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.	
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.	
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	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 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.	
Knowledge and	Knowledge and Understanding are statements which together specify the	
Understanding	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 or 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.	









Qualifications Pack for Telecom Terminal Equipment Applications (Native Application)

ronyms	
Acr	

Keywords /Terms	Description	
VS	Visual Studio	
IDE	Integrated Development Environment	
SDK	Standard Development Kit	
HTML	Hyper Text Markup Language	
CSS	Cascading Style Sheets	
DOM	Document Object Model	
JSON	JavaScript Object Notation	
UI	User Interface	
API	Application Programming Interface	
SQL	Standard Query Language	
SMS	Short Message Services	
VAS	Value Added Services	
SHE	Safety Health & Environment	
OHS	Operational Health & Safetry	

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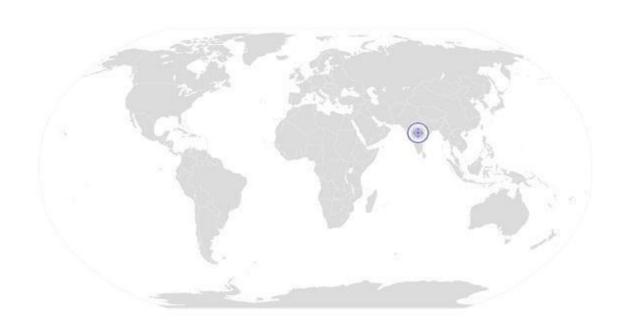






**Programming in HTML5 with JavaScript** 

# National Occupational Standard



### Ov ervi ew

This unit is about basic Implementation of HTML scripting language, manipulate document structures and objects ,Implement program flow , Access and secure data in HTML. The unit also highlights use of CSS3 in application development and usingJava Script for developing applications









TEL/N2304 Programming in HTML5 with JavaScript		rogramming in HTML5 with JavaScript
	Unit Code	TEL/N2304
ırd	Unit Title (Task)	Programming in HTML5 with JavaScript and CSS3
q	Description	This unit is about programming HTML5 and developing CSS applications
onal Occupational Standard	Scope	This unit/task covers the following:  Essentials of HTML, CSS and Java Script Implement and manipulate document structures and objects Implement program flow Access and secure data Use CSS3 in applications Using Java Script in Application Development

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

Element	Performance Criteria		
Element			
Implement and manipulate document structures and objects	To be competent, the user/individual on the job must be able to  PC1. Create the document structure using HTML tags((Section, Article, Nav, Header, Footer, and Aside and other tags)  PC2. Working with UI elements. Programmatically add and modify HTML elements; implement media controls.implement HTML5 canvas and SVG graphics  PC3. Implement HTML5 APIs  PC4. Establish the scope of objects and variables  PC5. Create and implement objects and methods		
Implement program flow	PC6. Working with Control Statements PC7. Handle common events exposed by DOM PC8. Implement exception handling PC9. Implement a callback PC10. Create a web worker process		
Access and secure data	PC11. Validate user input by using HTML5 elements PC12. Validate user input by using JavaScript PC13. Consume JSON and XML data PC14. Serialize, deserialize, and transmit data		
Use CSS3 in Application Development  PC15. Style HTML text properties, box properties PC16. Create a flexible content layout & animated and adaptive UI PC17. Find elements by using CSS selectors and jQuery PC18. Structure a CSS file by using CSS selectors			
Using Java Script and advanced operations in Application	PC19. Creating Objects and Methods by Using JavaScript PC20. Refining Code for Maintainability and Extensibility PC21. Creating Interactive Pages using HTML5 APIs		









TEL/N2304 Programming in HTML5 with JavaScript

	04 Programming in HTML5 with JavaScript		
Development	PC22. Adding Offline Support to Web Applications		
	PC23. Implementing an Adaptive User Interface		
	PC24. Implementing Generics		
	PC25. Working with Advanced Graphics and Animating User Interface Elements		
	PC26. Implementing Real-Time Communications by Using Web Sockets		
Knowledge and Unders	standing (K)		
A. Organizational	The user/individual on the job needs to know and understand:		
Context	KA1. Project Management concepts and applications		
(Knowledge of the	KA2. Risk and impact of not following defined procedures/work instructions		
company /	KA3. Escalation matrix for reporting identified incidents, troubles and/or		
• • •	emergencies e.g. system failures ,fire and power failures		
organization and	KA4. records to be maintained and implications of non-maintenance of the same		
its processes)	KA5. SHE and OHS guidelines and regulations as per company's norms		
	RAS. SHE and OHS guidennes and Tegulations as per company shorms		
B. Technical	The user/individual on the job needs to know and understand:		
Knowledge			
Kilowicuge	KB1. Knowledge of any programming language would be added advantage		
Skills (S)			
3KIII5 (3)	Paris Panding 9 Weiting Chille		
	Basic Reading & Writing Skills		
	The user/ individual on the job needs to know and understand how to:		
	SA1. fill up appropriate technical forms, activity logs in required format of the		
	company		
	SA2. maintain proper records as per given format		
A. Core Skills/	SA3. read and understand manuals, work orders, health and safety instructions,		
Generic Skills	memos, reports etc.		
	Communication Skills		
	Communication Skills		
	Communication Skills  The user/ individual on the job needs to know and understand how to:		
	The user/ individual on the job needs to know and understand how to:		
	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers		
	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills		
	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers		
	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers  SA7. communicate in the local language (preferable)		
	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers  SA7. communicate in the local language (preferable)  IDE installation/Task ManagementSkills		
B. Professional Skills	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers  SA7. communicate in the local language (preferable)  IDE installation/Task ManagementSkills  The user/individual on the job needs to know and understand how to:  SB1. install Native Application Development suite/tools		
B. Professional Skills	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers  SA7. communicate in the local language (preferable)  IDE installation/Task ManagementSkills  The user/individual on the job needs to know and understand how to:  SB1. install Native Application Development suite/tools  SB2. Configurae the Native Application Suite/Tools for Application Development		
B. Professional Skills	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers  SA7. communicate in the local language (preferable)  IDE installation/Task ManagementSkills  The user/individual on the job needs to know and understand how to:  SB1. install Native Application Development suite/tools  SB2. Configurae the Native Application Suite/Tools for Application Development  SB3. Install and Set up Emulator		
B. Professional Skills	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers  SA7. communicate in the local language (preferable)  IDE installation/Task ManagementSkills  The user/individual on the job needs to know and understand how to:  SB1. install Native Application Development suite/tools  SB2. Configurae the Native Application Suite/Tools for Application Development  SB3. Install and Set up Emulator  SB4. Work systematically with required attention to detail and adherence to all		
B. Professional Skills	The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers  SA7. communicate in the local language (preferable)  IDE installation/Task ManagementSkills  The user/individual on the job needs to know and understand how to:  SB1. install Native Application Development suite/tools  SB2. Configurae the Native Application Suite/Tools for Application Development  SB3. Install and Set up Emulator		



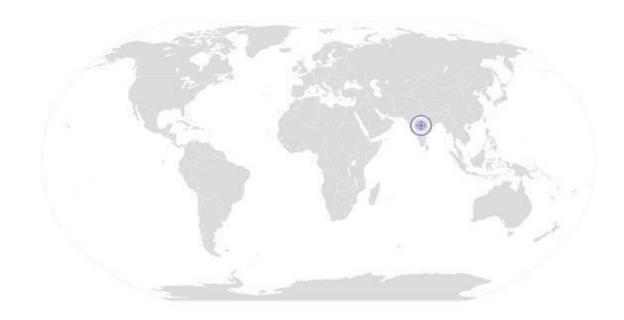






#### Programming in HTML5 with JavaScript

ı ı Uğı	gramming in trivits with savascript		
	The user/individual on the job needs to know and understand how to:		
	SB5.	Read and comprehend/understand equipment installation and configuration	
		manual	
	SB6.	Interpreting Application Requirements	
	SB7.	Interpreting UI requirements	
	SB8.	Interpreting application logic/control flow	











# Programming in HTML5 with JavaScript

# **NOS Version Control**

NOS Code	TEL /N2304		
Credits(NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Telecom	Drafted on	23-06-2014
Industry Sub-sector	Native Application Development	Last reviewed on	24-06-2014
		Next review date	26-12-2016



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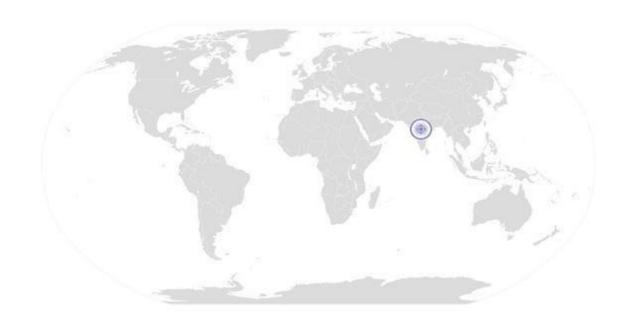






Developing Native Apps Using HTML5 and JavaScript

# National Occupational Standard



# Ov ervi ew

This unit is about setting up Native Application Development tools/suite, Developing basic and VAS Native Applications Using HTML5 and JavaScript for various Mobile operating systems.









# TEL/N2305 Developing Native Apps Using HTML5 and JavaScript

Unit Code	TEL/N2305		
Unit Title (Task)	Developing Native Apps Using HTML5 and JavaScript		
(Task)	Involves in working with user Interface components and building phone Apps. This include		
Description	<ul> <li>Essentials of Native Application platform and features, Tools</li> <li>Installation of Native Application Platform Suite/Toolkit and configuration</li> <li>Installation of Emulators and other application support tools</li> <li>Essentials of various app User interface</li> <li>Create the user interface (UI) layout and structure for an Application</li> <li>Using templates to create the UI</li> <li>Use data binding to present data in the UI</li> <li>Handle files, streams, Data structures and Database</li> <li>Design and implement Process Lifetime Management (PLM)</li> <li>Handle navigation scenarios in a Windows Store app</li> <li>Implement Platform (OS) specific features</li> <li>Respond to mouse, keyboard, and touch events, including gestures</li> <li>Create VAS Applications</li> </ul>		
Scope	<ul> <li>This unit/task covers the following:</li> <li>Essentials of Native Application platform Suite/ Tools and Configuration</li> <li>Principles and components of UI Design, Layouts and controls</li> <li>Handling Data, Files, Streams and database operations</li> <li>Process Lifetime Management and Navigation in a App</li> <li>Developing VAS Applications</li> </ul>		
Performance Criteria(PC)	w.r.t. the Scope		
Element	Performance Criteria		
Essentials of Native Application platform Suite/ Tools and Configuration	To be competent, the user/individual on the job must be able to PC1. Indetify various Native Application Development tools/suite available from difirent vendors, features and benefits.  PC2. Installation of Native Application suite/tools and make necessary configuration for app ready platform.  PC3. Setting up the Emulator		
Principles and components of UI Design, Layouts and	PC4. Ideate and formulate a theme of User Interface and navigation flow PC5. Exploring the Native Application Development Platform and features. Knowing the features of various Mobile OS platforms.		









TEL/N2305	Developing	Native Apps Using HTML5 and JavaScript
,		

TEL/N2305 Deve	eloping Native Apps Using HTML5 and JavaScript
controls	PC6. Creating Layout Controls and Templates for user interface design
	PC7. Working with Controls specific to OS platforms
	PC8. Implementing Tiles, Live Tiles, Secondary Tiles, and Badge Notifications and
	Implementing Toast Notifications for Window Platofrm
	PC7. Implementing Other iOS apecific and Android Specific interfaces design.
	PC8. Responding to Mouse and Touch and other actions
	PC9. Designing and Implementing a Data Access Strategy
	PC10. Handling Files and Streams for Apps and Working with File User Interface
Handling Files and Date	Components
Handling Files and Data	PC11. Writing Data to the Notes File and Reading Data from the Notes File
	PC12. Working with SQL lite
	PC13. Explore the Different PLM States
Process Lifetime	PC14. Implement State Management PC15.
	Handling Navigation in Store Apps PC16.
Management and	Semantic Zoom for windows platform
Navigation in a App	PC17. Working on specific features of Android and iOS
Davidoning VAC	PC21. Working with Network components and Controls, GPRS Based Apps
Developing VAS	2 3 1 5 K K C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Applications	PC22. Working with Mail
Knowledge and Understa	anding (K)
Milowicage and Ondersto	
A. Organizational	The user/individual on the job needs to know and understand:
Context (Knowledge	KA6. Project Management concepts and applications
	KA7. Risk and impact of not following defined procedures/work instructions
of the company /	KA8. Escalation matrix for reporting identified incidents, troubles and/ or
organization and its	emergencies e.g. system failures ,fire and power failures
processes)	KA9. records to be maintained and implications of non-maintenance of the same
	KA10. SHE and OHS guidelines and regulations as per company's norms
	TATO. SHE and One guidelines and regulations as per company shorms
D. Tochwice!	The user/individual on the job needs to know and understand:
B. Technical	The decignation the job needs to know and understand.
Knowledge	KB2. Knowledge of any HTML, CSS, Java Script programming language
	KB3. Knowledge of UI design fundamentals
	The first stage of the design runnamentals
Skills (S)	
	Basic Reading & Writing Skills
	The user/ individual on the job needs to know and understand how to:
	SA1. fill up appropriate technical forms, activity logs in required format of the
A. Core Skills/ Generic	
	company
Skills	SA2. maintain proper records as per given format
	SA3. read and understand manuals, work orders, health and safety instructions,
	memos, reports etc.
	Communication Skills









# TEL/N2305 Developing Native Apps Using HTML5 and JavaScript

	The user/individual on the job needs to know and understand how to:			
	SA4. corteous to the customers			
	5. Liaisioning and coordination skills			
	communicate with supervisor and peers			
	SA7. communicate in the local language (preferable)			
	IDE installation/Task ManagementSkills			
	The user/individual on the job needs to know and understand how to:			
	SB1. install Native Application Development suite/tools			
	SB2. Configurae the Native Application Suite/Tools for Application Development			
	SB3. Install and Set up Emulator			
B. Professional Skills	SB4. Work systematically with required attention to detail and adherence to all			
	safety requirements			
	Technical Skills			
	The user/individual on the job needs to know and understand how to:			
	SB5. Read and comprehend/understand equipment installation manual			
	SB6. Interpreting Application Requirements			
	SB7. Interpreting UI requirements			











### TEL/N2305 Developing Native Apps Using HTML5 and JavaScript

# NO S Versio n Cont ro I

NOS Code	TEL /N2305		
Credits(NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Telecom	Drafted on	23-06-2014
Industry Sub-sector	Applocation Development	Last reviewed on	24-06-2014
		Next review date	26-12-2016



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**Testing and Publishing Native Phone Applications** 

# National Occupational Standard

# Ov ervi ew

This unit is about Testing and Publishing Native Phone Applications

National Occupational Standard







# **Testing and Publishing Native Phone Applications**

Unit Code	TEL/N2306				
Unit Title	Testing and Publishing Native Phone Applications				
(Task)					
Description	This unit is about Creating Applications for various platform specific Phone				
	Applications				
Scope	This unit/task covers the following:				
	Application Testing				
	Securing Phone Applications				
	<ul> <li>Application configuration, Publishing Phone Applications in various OS specific app</li> </ul>				
	stores				
Performance Criteria(P	C) w r t the Scane				
Periorinance Criteria(P	c) w.r.t. the scope				
Element	Performance Criteria				
	To be competent, the user/individual on the job must be able to				
	PC1. Testing fundamentals, Types of Testing				
	PC2. Testing Phone Application using Unit Testing				
Phone Application	PC3. Functional /Usability Testing Windows Phone Applications				
Testing	PC4. UI Testing				
	PC5. Performance Testing				
	PC6. Localization issues & Battery Impact				
	PC7. Application Security Testing				
Securing Phone	PC8. Security Best Practices for VAS Applications				
Applications	Teo. Security Best Fractices for VAS Applications				
Application	PC9. Configuration options in the App Manifest file				
configuration,	PC10. App Certification				
<b>Publishing Phone</b>	PC11. Enterprise App Deployment across various platforms				
Applications in					
various OS specific					
app stores					
Knowledge and Unders	standing (K)				
A Organizational	The user/individual on the job needs to know and understand:				
A. Organizational Context	KA1. Project Management concepts and applications				
(Knowledge of the	KA2. risk and impact of not following defined procedures/work instructions				
	KA3. escalation matrix for reporting identified incidents, troubles and/ or				
company / organization and	emergencies e.g. system failures ,fire and power failures				
organization and	KA4. records to be maintained and implications of non-maintenance of the same				









### **Testing and Publishing Native Phone Applications**

KA5. SHE and OHS guidelines and regulations as per company's norms
The contract of the contract o
The user/individual on the job needs to know and understand:  KB1. Object Oriented Programming  KB2. Native Application kit  KB3. Testing essentials and use of testing tools and concepts
Basic Reading & Writing Skills  The user/ individual on the job needs to know and understand how to:  SA1. fill up appropriate technical forms, activity logs in required format of the company  SA2. maintain proper records as per given format  SA3. read and understand manuals, work orders, health and safety instructions, memos, reports etc.  Communication Skills  The user/ individual on the job needs to know and understand how to:  SA4. corteous to the customers  SA5. Liaisioning and coordination skills  SA6. communicate with supervisor and peers
The user/individual on the job needs to know and understand how to:  SB1. install Native Application Development suite/tools  SB2. Configurae the Native Application Suite/Tools for Application Development  SB3. Install and Set up Emulator  SB4. Work systematically with required attention to detail and adherence to all safety requirements  Technical Skills  The user/individual on the job needs to know and understand how to:  SB5. Read and comprehend/understand equipment installation manual  SB6. Interpreting Application Requirements visa vis the the application for test  SB7. Interpreting testing requirements  Basic Reading & Writing Skills  The user/ individual on the job needs to know and understand how to:  SA7. fill up appropriate technical forms, activity logs in required format of the company  SA8. maintain proper records as per given format  SA9. read and understand manuals, work orders, health and safety instructions,



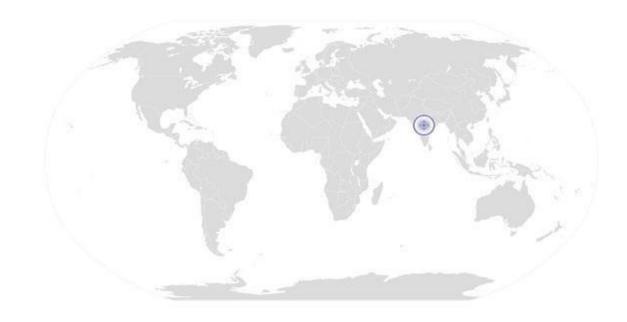






# **Testing and Publishing Native Phone Applications**

NOS Code	TEL /N2306			
Credits(NSQF) [OPTIONAL]	TBD	Version number	1.0	
Industry	Telecom	Drafted on	23-06-2014	
Industry Sub-sector	Applocation Development	Last reviewed on	24-06-2014	
		Next review date	26-12-2016	



#### **PERFORMANCE CRITERIA**

Job Role : Telecom Terminal Equipment Application Developer- Native

Qualification Pack : TEL/Q2301 Sector Skill Council : Telecom

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 theory part will be based on knowledge bank of questions created by the SSC.
- 3. Individual assessment agencies will create unique question papers for theory and skill practical part for each candidate at each examination/training center.
- 4. To pass the Qualification Pack, every trainee should score a minimum of 40% in every NOS and overall 50% Pass percentage
- 6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

TELN2304 Imperment and an analysis in the control of the trapped of the control of the trapped of the control o			Total Mark (300)	Out Of	Theory	Skills Practical
implement and manipulated occurrent and manipulated occurrent structure and objects of control structure and manipulated occurrent and manipulated	TEL/N2304 Implement and manipulate			10	4	6
PCL implement program   PCL register and variables				10	4	6
CS. create and implement objects and methods		PC3. implement HTML5 APIs	] [	6	2	4
CS. working with Control Statements	objects	, ,	] [	6	2	4
Principles and component of the Principles and component of the Principles and component of Principles and Configuration Principles and Principles and Principles and Principles and Principles and		PC5. create and implement objects and methods		4	2	2
Principles and component of the Principles and component of the Principles and component of Principles and Configuration Principles and Principles and Principles and Principles and Principles and		PC6. working with Control Statements	-	4	2	2
PC3. Implements callback   PC3. Implements callback   PC3. Implements callback   PC3. Implements callback   PC3. Implements (PC3. Implements			1	4	2	2
Access and secure data	Implement program flow	PC8. implement exception handling		4	2	2
Access and secure data		PC9. implement a callback		4	2	2
C22. wildistate user inpus by using JavaScript		PC10. create a web worker process	] [	4	2	2
PC12. validate user injunct by using JavaScript   PC13. commun SDA Man AVII. data   PC14. seriality, de-seriality, and transmit data   PC14. seriality, de-seriality, and transmit data   PC14. seriality, de-seriality, and transmit data   PC14. seriality, de-seriality, de-seriality, de-seriality, deservation   PC15. Create is elicible content livous (& salimated and adaptive UI   PC15. Create is elicible content livous (& salimated and adaptive UI   PC15. This delements by using \$25 selectors   PC15. structure a CSS like by using \$25 selectors and (Lucy PC15. structure a CSS like by using \$25 selectors and (Lucy PC15. structure a CSS like by using \$25 selectors   PC15. structure a CSS like by using \$25 selectors   PC15. structure a CSS like by using \$25 selectors   PC15. seriality (Code for Maintainability and Extensibility   PC1. decrease properties in Application PC2. Adding Offline Support to Web Applications   PC2. seriality (Lucy Pc25. supportenting Report for Wall Pc16. support to Web Applications   PC2. supportent pc26. implementing and adaptive User Interface Blements   PC2. implementing and adaptive User Interface Blements   PC2. implementing and adaptive User Interface Blements   PC2. implementing of the Adaptive User Interface PC2. supportent User Interface PC2. implementing of the Wall Pc2. supportent User Interface PC2. implements   PC2. interface PC2. interface PC2. implementing of the Wall Pc2. supportent Interface PC2. supportent PC2. interface PC2. interface PC2. supportent PC2. interface PC2. supportent	Access and secure data		]	4	2	2
PC4. serialize, deserialize, and transmit data	7.00000 0.110 00001.0 0010	. , , , , , , , , , , , , , , , , , , ,	100			
PCLS   Style HTML test properties   box properties   bo				-		
Dec.   Care at a flexible content layout & animated and adaptive U		· · · · · · · · · · · · · · · · · · ·				
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Using Java Script and advanced operations in Application		<u> </u>	1			-
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