

# Model Curriculum

## ICT Technician

**SECTOR: TELECOM**  
**SUB-SECTOR: NETWORK MANAGED SERVICE**  
**OCCUPATION: OPERATION & MAINTENANCE**  
**REF ID: TEL/Q62o6**  
**NSQF LEVEL: 4**



## Certificate

### COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**TELECOM SECTOR SKILL COUNCIL**

for

### MODEL CURRICULUM

Complying to National Occupational Standards of Job Role/  
Qualification Pack: 'ICT Technician'  
QP No. TEL/Q6206 NSQF Level 4

Date of Issuance: **May 15<sup>th</sup>, 2016**

Valid up to\*: **May 15<sup>th</sup>, 2018**

\*Valid up to the next review date of the Qualification Pack or the  
'Valid up to' date mentioned above (whichever is earlier)



Authorised Signatory  
(Telecom Sector Skill Council)

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# ICT Technician

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “ICT Technician”, in the “Telecom” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	ICT Technician		
<b>Qualification Pack Name &amp; Reference ID. ID</b>	TEL/Q6202, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	10-10-2016
<b>Pre-requisites to Training</b>	<ul style="list-style-type: none"> <li>10+2 and/or ITI Diploma in Electronics, Computer Science, IT or related fields</li> </ul>		
<b>Training Outcomes</b>	<p><b>After completing this programme, participants will be able to:</b></p> <p>Carry out the role of ICT Technician which involves</p> <ul style="list-style-type: none"> <li>Maintain ICT Nodes/installations 24x7 (NodeB/eNodeB, IP, TDM Tx Equipment, IP and Packet Core Switch, Cloud and Data Center Equipment)</li> <li>Maintaining basic site hygiene , site management, change management</li> <li>Undertake L1 repairs for the installed equipment at site</li> <li>Carry out specified corrective and preventive maintenance</li> <li>Knowledge on various reports and logs to be maintained</li> <li>Knowledge on reporting and escalation procedures</li> <li>Carry out effective site supervision and equipment fault management</li> <li>Health and safety at site</li> <li>Compliance to the company procedures and norms</li> </ul>		

This course encompasses 4 out of 4 National Occupational Standards (NOS) of “ICT Technician” Qualification Pack issued by “Telecom Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Overview</b></p> <p><b>Theory Duration</b> (hh:mm) 25:00</p> <p><b>Practical Duration</b> (hh:mm) 00:00</p> <p>Corresponding <b>NOS Code</b> NA</p>	<ul style="list-style-type: none"> <li>• Complete overview about the ICT node, equipment, operations and standard safety precautions.</li> <li>• Overview of various types of equipment and technology along with test tools and procedures</li> </ul>	ICT Node setup
2	<p><b>Site Hygiene</b></p> <p><b>Theory Duration</b> (hh:mm) 25:00</p> <p><b>Practical Duration</b> (hh:mm) 50:00</p> <p>Corresponding <b>NOS Code</b> TEL/N6222</p>	<ul style="list-style-type: none"> <li>• Understand and check Mechanical stability and rack layout parameters</li> <li>• Maintenance of basic site hygiene {electrical, installation and operational perspective}</li> <li>• Check power consumption patterns and record vis-à-vis standard parameters</li> <li>• Understand documentation to be maintained and parameters to be recorded</li> <li>• Understand the right escalation matrix</li> </ul>	ICT Node Setup
3	<p><b>Preventive Maintenance</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 50:00</p> <p><b>Corresponding NOS Code</b> TEL/N6223</p>	<ul style="list-style-type: none"> <li>• Perform preventive maintenance at ICT sites</li> <li>• Maintain site uptime</li> <li>• Understand and undertake health check-up of the site</li> <li>• Understand the optimal parameters of the site equipment</li> <li>• Understand and maintain logs and record parameters</li> </ul>	<ul style="list-style-type: none"> <li>• ICT Node Setup</li> <li>• Test Equipment</li> <li>• Sample Log/Record books</li> </ul>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
4	<b>Site Management</b>  <b>Theory Duration</b> (hh:mm) 30:00 <b>Practical Duration</b> (hh:mm) 35:00  <b>Corresponding NOS Code</b> TEL/N6224	<ul style="list-style-type: none"> <li>Develop maintenance work plans keeping the operational parameters as the focus</li> <li>Operational maintenance including configuration changes and control {system login/access to change/update software/patches etc as required}</li> <li>Maintain system up-time as per agreed SLA/Policy</li> <li>Ensuring alarms generated at the site are attended as per the SLA</li> <li>Co-ordinate and assist the superiors to maintain the timelines</li> </ul>	<ul style="list-style-type: none"> <li>ICT Node Setup</li> <li>Test Equipment</li> <li>Software upgrade/change setup including PC/Laptop, connecting cables etc</li> <li>Sample Log/Record books</li> </ul>
5	<b>Corrective Maintenance</b>  <b>Theory Duration</b> (hh:mm) 20:00 <b>Practical Duration</b> (hh:mm) 45:00  <b>Corresponding NOS Code</b> TEL/N6225	<ul style="list-style-type: none"> <li>Perform Diagnosis on the node to isolate the fault</li> <li>Perform corrective maintenance of ICT sites</li> <li>Perform fault management of ICT sites</li> </ul>	<ul style="list-style-type: none"> <li>ICT Node Setup</li> <li>Test Equipment</li> <li>Diagnostic Set-up</li> <li>Sample Log/Record books</li> </ul>
	<b>Total Duration</b>  <b>Theory Duration</b> <b>120:00</b>  <b>Practical Duration</b> <b>180:00</b>	<b>Unique Equipment Required:</b> ICT Node Setup, ICT Diagnostic Tools (Hardware & Software)	

Grand Total Course Duration: 300Hours, 0 Minutes

(This syllabus/ curriculum has been approved by [Telecom Sector Skill Council](#))

## Trainer Prerequisites for Job role: “ICT Technician” mapped to Qualification Pack: “TEL/Q6206, v1.0”

Sr. No.	Area	Details
1	<b>Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “TEL/Q6206”, Version No. 1.0.
2	<b>Personal Attributes</b>	Personal Attributes: This job requires the individual to be technically qualified, self-disciplined, assertive, team player, action-orientated, possess analytical skills & problem solving ability, effective communication skills and ability to work under pressure. Individual should be capable of working in remote areas and over the entire geography covered by the network.
3	<b>Minimum Educational Qualifications</b>	10+2 and/or ITI Diploma in Electronics, Computer Science, IT or related fields
4a	<b>Domain Certification</b>	Certified for Job Role: “ICT Technician” mapped to QP: “TEL/Q6206” Version No. 1.0. Minimum accepted score as per respective TSSC guidelines.
4b	<b>Platform Certification</b>	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “TEL/Q6206” Version No. 1.0. Minimum accepted score as per respective TSSC guidelines.
5	<b>Experience</b>	<ul style="list-style-type: none"> <li>• The trainer should be certified by TSSC as ‘Train the Trainer’ and Assessor and</li> <li>• Worked as ICT Technician for minimum 4-5 years if educational qualification is ITI/ Diploma or</li> <li>• Worked as ICT Technician for 2-3 years if educational qualification is Bachelor in Technology (BTech and BE)</li> </ul>

### Annexure: Assessment Criteria

<b>Assessment Criteria</b>	
<b>Job Role</b>	<b>ICT Technician</b>
<b>Qualification Pack</b>	<b>TEL/Q6206, v1.0</b>
<b>Sector Skill Council</b>	<b>Telecom</b>

<b>Sr. No.</b>	<b>Guidelines for Assessment</b>
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. TSSC 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 TSSC.
3	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre(as per assessment criteria below)
4	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below)
5	To pass the Qualification Pack, every trainee should score 70% overall.
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.



Assessable Outcomes	Assessment Criteria	Total Mark (400)	Out Of	Theory	Skills Practical
1. TEL/N6222 site hygiene	PC1. Maintain site hygiene of ICT equipment, as per organization's norms	100	25	10	15
	PC2. Check placement and mechanical stability of equipment racks at the ICT site		20	5	15
	PC3. Check power consumption pattern and report any unusual consumption to supervisor		20	5	15
	PC4. Maintain the escalation matrix in case of emergency		10	5	5
	PC5: Maintain the list of equipment, Rack etc		15	5	10
	PC6: Prioritize and execute tasks in a high-pressure environment		10	5	5
				<b>35</b>	<b>65</b>
2. TEL/N6223 Perform preventive maintenance at ICT nodes	PC1. Obtain the preventive maintenance schedule from the supervisors and adhere to the same	100	20	10	10
	PC2. Keep a check on site up-time and make the logs		25	10	15
	PC3. Notify the network operations center (NOC) or supervisor as per the laid plan prior to undertaking the maintenance work as per the schedule		15	10	5
	PC4. Perform health check on site like checking power etc		25	10	15
	PC5: Document the work done & prepare a report along with ICT Engineer/ NOC		15	5	10
				<b>45</b>	<b>55</b>
3. TEL/N6224 Site management	PC1. Receive change requests from the Configuration Management team or the NOC	100	15	5	10
	PC2. Identify criticality, and timelines for carrying out the changes with ICT engineer and NOC		15	5	10
	PC3. Assist to ICT Engineer in developing work plan and identify dependencies		15	5	10
	PC4. Check number of alarms active at the site		30	10	20
	PC5. Attend alarms within the defined SLA(Service level Acknowledgments)		25	10	15
				<b>35</b>	<b>65</b>
4. TEL/N6225 Perform Corrective maintenance/ Fault Management at ICT nodes	PC1. Effective corrective maintenance on all equipment	100	20	10	10
	PC2. Login to equipment using Console cable		20	5	15
	PC3. Escalate faults/issues at site to supervisor		10	5	5
	PC4. Work closely with ICT Engineer/ NOC and work in tandem for fault rectification		15	5	10
	PC5. Assist ICT Engineer &NOC in filling the corrective maintenance checklists/reports		20	5	15
	PC5. Close maximum number of faults reported		15	5	10
Total				<b>35</b>	<b>65</b>
<b>Grand Total</b>		400	400	150	250
<b>Percentage Weightage:</b>				40%	60%
<b>Minimum Pass% to qualify (aggregate):</b>					70%