

## QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR TELECOM INDUSTRY

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### 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
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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### Introduction

## Qualifications Pack- Installation Engineer- L2 & L3

**SECTOR:** TELECOM

**SUB-SECTOR:** Network Managed Services

**OCCUPATION:** Project Engineering

**REFERENCE ID:** TEL/Q6301

**ALIGNED TO:** NCO-2015/3114.0901

**Installation Engineer in the telecom industry is also known as Field Engineer/ Acceptance Testing Engineer/Commissioning Engineer**

**Brief Job Description:** An Installation engineer is responsible for installing L2 and L3 equipment in the site and carrying out site acceptance testing. As an optional responsibility the engineer may need to undertake commissioning of the site based on network topology.

**Personal Attributes:** Attention to detail, excellent problem-solving capabilities, strong quantitative abilities, strong interpersonal skills, ability to work with people, ability to multitask and track multiple projects simultaneously, dedication and willingness to stay current on changing technologies.





















































**PERFORMANCE CRITERIA**

**Job Role** : Installation Engineer L2 & L3  
**Qualification Pack** : TEL/Q6301  
**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.
2. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
3. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
4. Individual assessment agencies will create unique question papers for theory and skill practical part for each candidate at each examination/training center.
5. 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.

		Total Mark (200+ 100)	Out Of	Theory	Skills Practical
TEL/N6300	shipment Verify	PC1. ensure all line items required for installation is available in the shipment and matches with Bill of Material (BOM)	5	3	2
		PC2. ensure availability of installation kit required for the installation as mentioned in installation guide.	2	1	1
		PC3. access installation plan from the Planning team.	2	2	0
		PC4. recommends any modifications in installation plan that might be needed.	3	3	0
		PC5. verify availability of adequate installation Racks in the site.	1	1	0
		PC6. determines if any additional equipment, accessories are needed to complete the job.	2	2	0
	Undertake Installation as per guidelines	PC1. understand installation plan.	6	5	1
		PC2. ensure proper order and sequence of equipment is maintained in the installation Rack as per the installation plan.	2	2	0
		PC3. ensure adequate gap is maintained in between two equipment in the rack as per installation plan.	3	1	1
		PC4. ensure adequate space is available for cable routing.	0	0	0
		PC5. ensure Power and traffic cables are connected to the installed equipment.	3	1	2
		PC6. ensure all installation guidelines are followed for the installation.	2	1	1
	Connect Power and Traffic cable	PC1. identify right MCBs to be used at the rack for the installation as per power consumption of the equipment mentioned in installation guide.	2	1	1
		PC2. identify -48V DC, 0V and Ground Point in MCB and equipment in case of DC power supply.	4	2	2
		PC3. identify optical patch cords and electrical cables used for telecom equipment.	2	1	1
		PC4. connect and route power cable properly.	1	1	1
		PC5. understand advantages and disadvantages of different types of cables.	2	2	0
		PC6. connect and route traffic cable properly.	2	1	1
		PC7. distinguish different types of connectors for appropriate cables.	2	1	1
		PC8. take precautions to avoid damages for cables and connectors during connecting and disconnecting.	2	1	1
		PC9. understand the requirement and process of cleaning of optical fiber connectors with Isopropyl alcohol/appropriate cleaning agent during installation	3	1	2
		PC10. mark traffic cables with appropriate printed stickers.	1	0	1
	Record & Report	PC1. prepare installation report in specified format.	3	3	0
		PC2. ensure all relevant information is provided in installation report.	0	0	0
		PC3. ensure the installation report is signed by appropriate authority as mentioned in installation plan.	0	0	0
		PC4. communicate installation progress to the Project Manager.	0	0	0
		PC5. ensure that documents that are required to be updated are identified and updated.	0	0	0
		PC6. ensure that documents are available to all appropriate authorities to inspect.	0	0	0
	Health & Safety	PC1. ensure compliance with the site risk control, OHS, environmental and quality requirements as per company's norms.	15	10	5
		PC2. ensure that work is carried out in accordance to the level of competence and legal requirements.	10	10	0
		PC3. ensure that sites are periodically assessed for health and safety risk as per company's guidelines.	10	5	5
		PC4. ensure that ESD devices like anti-static bands are appropriately used as required.	0	0	0
		PC5. ensure compliance to health and safety guidelines both contractually and on site by the third party vendors and infra technicians.	5	5	0
		PC6. ensure availability of first aid box at site.	0	0	0
		PC7. ensure escalation of safety incidents to relevant authorities as per Guidelines	5	5	0
TEL/N6303	Develop site acceptance testing plan and test Procedure	PC1. develop step by step Acceptance testing plan for the equipment.	13	3	10
		PC2. document the plan guideline in specified format.	1	1	0
		PC3. get the prepared document verified from appropriate authority.	0	0	0
		PC4. incorporate necessary feedback points to the test plan and guidelines.	0	0	0
		PC5. maintain and update the Acceptance Testing document.	1	1	0
	Configure equipment as per guideline	PC1. verify power connectivity and switch on the power to the equipment.	3	1	2
		PC2. configure the equipment step by step following Acceptance Testing guidelines document.	11	1	10
		PC3. verify the configuration checklist as per AT document.	6	1	5
	Label ports and cables	PC1. arrange printed stickers to label equipment ports.	1	0	1
		PC2. label port number appropriately as per Acceptance testing (AT) reference guideline.	1	0	1
		PC3. ensure that label clarifies the connectivity between two ends of a cable.	1	0	1
	Test Effectiveness and close activity	PC1. test the equipment as per the guidelines with the help of L2 and L3 test sets.	30	10	20
		PC2. update the test report as per the test result.	15	5	10
		PC3. ensure completion of administrative jobs like site clearance, return of test equipment.	5	5	0
	Report and Record	PC1. document site acceptance testing as per AT specified format.	10	5	5
		PC2. ensure that documents that are required to be updated are identified and updated.	2	2	0
		PC3. ensure that documents are available to all appropriate authorities to inspect.	0	0	0
TEL/N6304	Understand Network topology and Equipment Provisioning	PC1. understand LAN/WAN architecture of the site.	15	10	5
		PC2. understand features and working functionalities related to the L2/L3 equipment under commissioning.	15	5	10
		PC3. understand provisioning with reference to the user guide.	10	5	5
	Develop commissioning plan and test Procedure	PC1. develop step by step commissioning plan for the equipment.	10	5	5
		PC2. document the commissioning guideline in specified format.	1	1	0
		PC3. develop Test procedure for the commissioned equipment.	8	5	3
		PC4. document the test procedure guidelines.	1	1	0
		PC5. maintain and update site specific document.	1	1	0
	Configure equipment as per guideline	PC1. verify power cable and switch it on.	3	2	1
		PC2. configure the equipment as per commissioning guide.	5	2	3
PC3. verify the configuration checklist as per commissioning guide.		4	1	3	
Test Effectiveness and close activity	PC1. test the equipment as per the guidelines with the help of Ethernet test sets.	10	5	5	
	PC2. update the test report as per the test result.	7	3	4	
	PC3. ensure completion of administrative jobs like site clearance, return of test equipment.	5	5	0	
Report and Record	PC1. ensure commissioning report is prepared as per the specified format capturing all details as per the guidelines.	3	1	2	
	PC2. ensure that documents that are required to be updated are identified and updated.	2	1	1	
	PC3. ensure that documents are available to all appropriate authorities to inspect.	0	0	0	