

Model Curriculum

Optical Fiber Technician

SECTOR: TELECOM

SUB-SECTOR: NETWORK MANAGED SERVICES

**OCCUPATION: NETWORK OPERATIONS &
MAINTENANCE - OPTICAL**

REF ID: TEL/Q6401

NSQF LEVEL: 4



  

Certificate

**CURRICULUM COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL
STANDARDS**

is hereby issued by the

TELECOM SECTOR SKILL COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: Optical Fiber Technician OP No. TEL/Q6401 NSQF Level 4

Date of Issuance:
Valid up to:

Authorized Signatory
(Telecom Sector Skill Council)

* Valid up to the next review date of the Qualification Pack

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Optical Fiber Technician

CURRICULUM / SYLLABUS

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

Program Name	Optical Fiber Technician		
Qualification Pack Name & Reference ID.	TEL/Q6401,Version Number 1.0		
Version No.	1.0	Version Update Date	28 –12 – 2015
Pre-requisites to Training	<ul style="list-style-type: none"> Class VIII / ITI/Diploma/Bachelor in Technology (any field) Technical training on standard splicing process for both underground and overhead cables, Interpreting the colour coding to avoid cross fibre (preferably) 		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> Acquaint self with facets of trenching, laying, jointing and blowing of cables by: authenticating and confirming cable drum is placed near site, cable marking is as per guideline, trenching is according to the route plan Comprehend inspecting criteria of route plan, clearance, schedule and patrolling by: acquiring route plans, their clearance and check for safety of the site for cable installation Identify importance of fault maintenance, maintenance of POPs and repairs to OFC by: compliance to enterprise policy, coordinate with NOC, and carry out planned maintenance. Aggregate potential knowledge and skill to vouchsafe the importance of health and safety by: safeguard compliance of safety regulations, personal protection and environmental conditions. Comprehend and initiate the importance of report and record by: ensuring cable id, cable markings, drum numbers, OTDR findings, are documented for future reference. 		

This course encompasses 3 out of 3 National Occupational Standards (NOS) of “Optical Fiber Technician” Qualification Pack issued by “TSSC: Telecom Sector Skills Council”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction to Fiber Optics</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code TEL/N6402</p>	<ul style="list-style-type: none"> Imparting knowledge on optical fiber, different kinds and their application Educating working principles of Optical fiber and Fiber optic communication system Learning the main characteristics of Optical Fiber like attenuation and bending Making the candidate understand technical terms related to fiber optical connectors and splicers Understanding the importance of documenting every step and procedure 	Fiber optic cable made of glass and plastic, various kind of connectors
2	<p>Network Design and documentation</p> <p>Theory Duration (hh:mm) 15:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code TEL/N6402</p>	<ul style="list-style-type: none"> Acquire the basics of fiber optic network design, transmission equipment, carrying out inspection of route plan, managing and documenting project Comprehend reporting and documenting the status of installation, and cable plant 	CPM and PERT management software
3	<p>Network Installation</p> <p>Theory Duration (hh:mm) 30:00</p> <p>Practical Duration (hh:mm) 25:00</p> <p>Corresponding NOS Code TEL/N6402</p>	<ul style="list-style-type: none"> Planning key points of project, time scheduling, and resource organization, as per project plan Understanding the importance of route inspection, procedure for cable trenching, laying, jointing and blowing activities Learning about the tools required for installation, tests, etc. Developing feedback mechanism to make the network robust and fault free 	Cleaver, mechanical, protection sleeves, fiber stripper, OTDR, power meter, PIU panel, SMPS
4	<p>Restoration and maintenance</p>	<ul style="list-style-type: none"> Training restoration techniques Determine the importance of planned maintenance testing and repairs Making candidate understand testing 	Signal tester, OTDR, power meter, PIU panel, splicer,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 10:00 Practical Duration (hh:mm) 15:00 Corresponding NOS Code TEL/N6403	effectiveness of the splicing through OTDR and power meter tests	interface
5	Network Testing Theory Duration (hh:mm) 15:00 Practical Duration (hh:mm) 35:00 Corresponding NOS Code TEL/N6402 TEL/N6403 TEL/N6404	<ul style="list-style-type: none"> • Training for testing effectiveness of the splicing through OTDR, power meter, and other required tools for ensuring quality • Learning about fault localization, rectification • Learning about maintenance testing of dark/spare OFC and POPs • Learning about various testing tools and equipment, tests runs 	Optical Power Meter, Test Source, OLTS, Reference Test Cables, OTDR, Mating Adapter, Fiber Tracer, Visual Fault Locator, Microscope
6	Health and Safety Theory Duration (hh:mm) 05:00 Practical Duration (hh:mm) 15:00 Corresponding NOS Code TEL/N6402 TEL/N6403 TEL/N6404	<ul style="list-style-type: none"> • Educating safety guidelines for technician • Understanding the importance personal protective equipment like safety Harness, helmet, gloves, eye glasses, earplugs, nose mask etc. and their application under different working conditions 	Protection sleeves, safety glasses, apron, helmets, harness, earplugs
	Total Duration: Theory Duration 80:00 Practical Duration 120:00	Unique Equipment Required: Optical fiber splicers, Connectors, Interfaces for different kinds of network, Fiber stripper, Optical power meter	

Grand Total Course Duration: 200 Hours, 0 Minutes

(This syllabus/ curriculum has been approved by TSSC: Telecom Sector Skill Council)

Trainer Prerequisites for Job role: “Optical Fiber Technician” mapped to Qualification Pack: “TEL/Q6401” Version No. 1.0

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “TEL/Q6401”, Version No. 1.0.
2	Personal Attributes	The individual should be able to work closely with multiple teams and operate in field which may consist of difficult terrain. The individual should be able to handle high pressure situations and be analytical to successfully perform the assigned responsibilities. It is preferred that individual is well versed with local language to coordinate with local labors.
3	Minimum Educational Qualifications	Preferably equivalent to Diploma in Fiber Optics
4a	Domain Certification	Certified for Job Role: “Optical Fiber Technician” mapped to QP: “TEL/Q6401” Version No. 1.0. Minimum accepted score as per respective TSSC guidelines.
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “TEL/Q6401” Version No. 1.0. Minimum accepted score as per respective TSSC guidelines.
5	Experience	<ul style="list-style-type: none"> The trainer should be certified by TSSC as ‘Train the Trainer’ and Assessor and Worked as Optical fiber technician for minimum 4-5 years if educational qualification is ITI/ Diploma or Worked as optical fiber technician for 2-3 years if educational qualification is Bachelor in Technology (BTech and BE)

Annexure: Assessment Criteria

Assessment Criteria for Optical Fiber Technician	
Job Role	Optical Fiber Technician
Qualification Pack	TEL/Q6401, Version No. 1.0
Sector Skill Council	Telecom

Sr. No.	Guidelines for Assessment
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 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 70% pass percentage overall.
5	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.

Sr. No.	NOS No.	NOS Name	Total Marks	Marks Allocation: Skills	Marks Allocation: Knowledge	Marks Allocation: Behaviour
1	TEL/N6402	Co-ordinate Installation & Commissioning of Optical fiber cables	100	45	55	
2	TEL/N6403	Undertake Condition based Maintenance & Planned repair activities	100	34	66	
3	TEL/N6404	Perform corrective maintenance/ restoration of optical faults	100	42	58	
Total:			300	121	179	
Percentage Weightage:				40.3%	59.7%	
Minimum Pass% to qualify:			70%	60%	40%	



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