



Model Curriculum

QP Name: Telecom Service Provider

QP Code: TEL/Q6220

QP Version: 1.0

NSQF Level: 3.5

Model Curriculum Version: 1.0

Telecom Sector Skill Council
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Training Parameters

Sector	Telecom
Sub-Sector	Network Managed Services
Occupation	Network Operation and Maintenance
Country	India
NSQF Level	3.5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7422.0202
Minimum Educational Qualification & Experience	<p>11th grade pass</p> <p>OR</p> <p>Completed 1st year of 3 years of diploma after 10th</p> <p>OR</p> <p>10th Grade pass and pursuing continuous schooling</p> <p>OR</p> <p>8th Grade pass with 2-years of NTC plus 1 year NAC/CITS</p> <p>OR</p> <p>8th grade pass with 3-year relevant experience</p> <p>OR</p> <p>Previous relevant Qualification of NSQF level 2.5 with 3-years of relevant exp.</p> <p>OR</p> <p>Previous relevant Qualification of NSQF level 3 with 1.5 year of relevant exp.</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	15/02/2023
Next Review Date	15/08/2023
NSQC Approval Date	15/02/2023
QP Version	1.0
Model Curriculum Creation Date	15/02/2023
Model Curriculum Valid Up to Date	15/08/2023
Model Curriculum Version	1.0
Minimum Duration of the Course	210 Hours, 0 Minutes
Maximum Duration of the Course	210 Hours, 0 Minutes

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Maintain site hygiene
- Implement site security measures
- Perform preventive maintenance
- Promote use of telecom devices
- Provide basic telecom services

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	Total Duration
TEL/N6226 – Maintain site security and hygiene NOS Version No. 4.0 NSQF Level 3.5	10:00	20:00	30:00
Module 1: Maintain site hygiene and implement security	10:00	20:00	30:00
TEL/N6227 – Perform preventive maintenance of Optical Network Terminal (ONT) components NOS Version No. 4.0 NSQF Level 3.5	10:00	20:00	30:00
Module 2: Perform preventive maintenance	10:00	20:00	30:00
TEL/N6228 – Promote use of Devices and Provide Services NOS Version No. 4.0 NSQF Level 3.5	10:00	20:00	30:00
Module 3: Promote usage of devices and provide services	10:00	20:00	30:00
Sub-Total	30:00	60:00	90:00
DGT/VSQ/N0104 Employability Skills (120 Hours) NSQF Level 6			120:00
Total Duration			210:00

Module Details

Module 1: Maintain Site Hygiene and Implement Security Mapped to TEL/N6226

Terminal Outcomes:

- Maintain site hygiene
- Implement site security measures

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Outline the standard organisational guidelines with respect to upkeep and preventive maintenance of Optical Network Terminal (ONT) • Explain the standard operating procedure maintaining hygiene at the Optical Network Terminal (ONT) site • Discuss the procedure to be followed for reporting any problems/faults associated with equipment • Explain functionality of various equipment used at the site such as Charge Controller Unit (CCU), Solar Photo Voltaic System (SPV), Telephone Junction Box (TJB), battery bank and fire extinguisher • Describe the wiring set up at the site for efficient maintenance and repair • Explain the type, functionality and working of a fire extinguisher 	<ul style="list-style-type: none"> • Perform all functions necessary to maintain site and equipment hygiene and implement security measures • Illustrate how to interact with supervisors to resolve issues and implement technology up gradation • Maintain proper coordination with Gram Panchayat for smooth operations • Demonstrate how to check functionality of various equipment/components such as Charge Controller Unit (CCU), Solar Photo Voltaic System (SPV), Telephone Junction Box (TJB), battery bank and fire extinguisher as well as cable connectors • Repair any damage associated with equipment and cables and report to supervisor in case of any issue • Demonstrate the usage of fire extinguisher for controlling fire • Maintain records of various activities as well as repair/replacement in proper format
Classroom Aids:	
Laptop, white board, marker, projector	
Tools, Equipment and Other Requirements	
Product Manuals, Charge Controller Unit (CCU), Solar Photo Voltaic System (SPV), Telephone Junction Box (TJB), battery bank and fire extinguisher Laptop with site maintenance software	

Module 2: Perform Preventive Maintenance Mapped to TEL/N6227

Terminal Outcomes:

- Perform preventive maintenance

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Outline the guidelines to be followed for preventive maintenance of equipment • Describe importance of keeping the Optical Network Terminal (ONT) operational • Explain the necessity to adhere to the preventive maintenance schedule • Discuss the various troubleshooting procedures for Optical Network Terminal (ONT) • Explain functionality of various equipment used at the site such as Charge Controller Unit (CCU), Solar Photo Voltaic System (SPV), Telephone Junction Box (TJB), battery bank and fire extinguisher • Discuss the specifications of wiring patch cords and pigtails • Explain the organizational guidelines for reporting and documentation procedure 	<ul style="list-style-type: none"> • Infer the given preventive maintenance schedule, ensure availability of equipment to be maintained • Create reports and maintain records of maintenance performed in prescribed formats • Observe the parameters of the CCU panel and interpret alarms • Demonstrate an examination and replacement of patch cords, pigtails, battery bank and SPV panels • Demonstrate the procedure to report to the supervisor in case of any issue
Classroom Aids:	
Laptop, white board, marker, projector	
Tools, Equipment and Other Requirements	
Complete range of accessories, equipment repairing tool kit, Product Manuals, Charge Controller Unit (CCU), Solar Photo Voltaic System (SPV), Telephone Junction Box (TJB), battery bank Laptop with MS Office	

Module 3: Promote usage of devices and provide services Mapped to TEL/N6228

Terminal Outcomes:

- Promote use of telecom devices
- Provide basic telecom services

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe importance of making people aware of the services being provided • Explain broadband and its applications • Describe the features of various local devices • Explain functionality of various equipment such as laptop, smartphones, tablets, modem, routers, UPS, cables and e-terminals • Describe the hardware and software configuration of the device • Summarize common problems and solutions for users/customers using telecom devices 	<ul style="list-style-type: none"> • Demonstrate how to make people aware of the range of products as well as need and usage of local devices • Demonstrate the installation and configuration of personal telecom devices such as smartphone, tablets etc. • Operate and troubleshoot various telecom devices • Collect fees/bill from users after distributing the bill • Exhibit the maintenance of all records and documentation (like rent agreements, utility bills, etc.) and reporting to the supervisor punctually.
Classroom Aids:	
Laptop, white board, marker, projector	
Tools, Equipment and Other Requirements	
Complete range of accessories, equipment repairing tool kit, Product Manuals, Charge Controller Unit (CCU), Solar Photo Voltaic System (SPV), Telephone Junction Box (TJB), battery bank Laptop with MS Office	

Module 4: DGT/VSQ/N0104 Employability Skills (120 hours)

Mapped to Telecom Service Provider

Mandatory Duration: 120:00

Location: On-Site

S.No.	Module Name	Key Learning Outcomes	Duration (hours)
1.	Introduction to Employability Skills	<ul style="list-style-type: none"> Outline the importance of Employability Skills for the current job market and future of work List different learning and employability related GOI and private portals and their usage Research and prepare a note on different industries, trends, required skills and the available opportunities 	3
2.	Constitutional values - Citizenship	<ul style="list-style-type: none"> Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen Discuss the role of personal values and ethics such as honesty, integrity, caring and respecting others, etc. in personal and social development Identify and practice different environmentally sustainable practices 	3
3.	Becoming a Professional in the 21st Century	<ul style="list-style-type: none"> Discuss relevant 21st century skills required for employment Highlight the importance of practicing 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life Create a pathway for adopting a continuous learning mindset for personal and professional development 	5
4.	Basic English Skills	<ul style="list-style-type: none"> Use appropriate grammar and sentences while interacting with others Read English text with appropriate articulation Role plays a situation on how to talk appropriately to a customer in English, over the phone or in person Write a brief note/paragraph / letter/e -mail using correct English 	20
5.	Career Development & Goal Setting	<ul style="list-style-type: none"> Create a career development plan Identify well-defined short- and long-term goals 	5
6.	Communication Skills	<ul style="list-style-type: none"> Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette Write a brief note/paragraph on a familiar topic Explain the importance of communication etiquette including active listening for effective communication Role play a situation on how to work collaboratively with others in a team 	10
7.	Diversity & Inclusion	<ul style="list-style-type: none"> Exhibit how to behave, communicate, and conduct oneself appropriately with all genders and PwD Discuss the POSH Act and its significance 	5
8.	Financial and Legal Literacy	<ul style="list-style-type: none"> Discuss various financial institutions, products, and services Demonstrate how to conduct offline and online financial transactions, safely and securely and check passbook/statement Explain the common components of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), tax deductions 	10

		<ul style="list-style-type: none"> • Calculate income and expenditure for budgeting • Discuss the legal rights, laws, and aids 	
9.	Essential Digital Skills	<ul style="list-style-type: none"> • Describe the role of digital technology in day-to-day life and the workplace • Demonstrate how to operate digital devices and use the associated applications and features, safely and securely • Demonstrate how to connect devices securely to internet using different means • Follow the dos and don'ts of cyber security to protect against cyber crimes • Discuss the significance of displaying responsible online behavior while using various social media platforms • Create an e-mail id and follow e- mail etiquette to exchange e -mails • Show how to create documents, spreadsheets and presentations using appropriate applications • utilize virtual collaboration tools to work effectively 	20
10.	Entrepreneurship	<ul style="list-style-type: none"> • Describe the types of entrepreneurship and enterprises • Discuss the process of identifying opportunities for potential business and relevant regulatory and statutory requirements • Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement • Create a sample business plan, for the selected business opportunity • Discuss various sources of funding and identify associated financial and legal risks with its mitigation plan 	14
11.	Customer Service	<ul style="list-style-type: none"> • Describe different types of customers • Role plays a situation on how to identify customer needs and respond to them in a professional manner • Explain various tools used to collect customer feedback • Discuss the significance of maintaining hygiene and dressing appropriately 	5
12	Getting ready for apprenticeship & Jobs	<ul style="list-style-type: none"> • Draft a professional Curriculum Vitae (CV) • Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively • Demonstrate how to apply to identified job openings using offline /online methods as per requirement • Discuss how to prepare for an interview • Role plays a mock interview • List the steps for searching and registering for apprenticeship opportunities 	20

LIST OF TOOLS & EQUIPMENT FOR EMPLOYABILITY SKILLS		
S No.	Name of the Equipment	Quantity
1.	Computer (PC) with latest configurations – and Internet connection with standard operating system and standard word processor and worksheet software (Licensed) (all software should either be latest version or one/two version below)	As required
2.	UPS	As required
3.	Scanner cum Printer	As required
4.	Computer Tables	As required
5.	Computer Chairs	As required
6.	LCD Projector	As required
7.	White Board 1200mm x 900mm	As required

Note: Above Tools & Equipment not required, if Computer LAB is available in the institute.

Annexure

Trainer Requirements (*Telecom Service Provider*)

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma	Science/Electronics/ Telecom/IT and other related domains	2	Optical Fiber/ Broadband Domain	0	NA	Eligible for ToT program
Graduate	Science/Electronics/ Telecom/IT and other relevant domains	1	Optical Fiber/ Broadband Domain	0	NA	Eligible for ToT program

Trainer Certification	
Domain Certification	Platform Certification
Job Role: "Telecom Service Provider Level 3.5" "TEL/Q6220 v1.0", Minimum accepted score is 80%	Job Role: "Trainer", "MEP/Q2601 v2.0", Minimum Accepted score is 80%

Assessor Requirements (*Telecom Service Provider*)

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma	Science/Electronics/ Telecom/IT and other related domains	2	Optical Fiber/ Broadband Domain	0	NA	Eligible for ToA program
Graduate	Science/Electronics/ Telecom/IT and other relevant domains	1	Optical Fiber/ Broadband Domain	0	NA	Eligible for ToA program

Assessor Certification	
Domain Certification	Platform Certification
Job Role: “Telecom Service Provider Level 3.5” “TEL/Q6220 v1.0”, Minimum accepted score is 80%	Job Role: “Assessor”, “MEP/Q2701 v2.0”, Minimum Accepted score is 80%

Trainer Requirements (Employability Skills 120 hours)

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' experience. (Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above)	short term ToTCourse in Employability Skillsfrom DGT institutes.					
Graduate/CITS	Any discipline			2	Teaching experience	Prospective ES trainer should:
Current ITI trainers or Existing Social Studies Instructors	Employability Skills Training (3 days full-time course done between 2019-2022)					<ul style="list-style-type: none"> • have good communication skills • be well versed in English • have digital skills • have attention to detail • be adaptable • have willingness to learn
Certified current EEE trainers (155hours)	from Management SSC (MEPSC)					
Certified Trainer	Qualification Pack: Trainer (MEP/Q0102)					

Trainer Certification	
Domain Certification	Platform Certification
Certified in 120-hour Employability NOS (2022), with a minimum score of 80%	NA

Master Trainer Requirements (Employability Skills 1200 hours)

Master Trainer Prerequisites

Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate/CITS	Any discipline			3	Employability Skills curriculum training experience with an interest to train as well as orient other peertrainers	Prospective ES Master trainer should: <ul style="list-style-type: none"> • have good communication skills • be well versed in English • have basic digital skills
Certified Master Trainer	Qualification Pack: Master Trainer (MEP/Q2602)			3	EEE training of Management SSC (MEPSC) (155 hours)	<ul style="list-style-type: none"> • have attention to detail • be adaptable • have willingness to learn • be able to grasp concepts fast and is creative with teaching practices and likes sharing back their learning with others

Master Trainer Certification

Domain Certification	Platform Certification
Certified in 120-hour Employability NOS (2022), with a minimum score of 90% .	NA

Assessment Strategy

1. Assessment System Overview:
 - Batches assigned to the assessment agencies for conducting the assessment on SDSM/SIP or email
 - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
 - Assessment agency deploys the ToA certified Assessor for executing the assessment
 - SSC monitors the assessment process & records
2. Testing Environment:
 - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
 - Check the duration of the training.
 - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
 - If the batch size is more than 30, then there should be 2 Assessors.
 - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
 - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
 - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
 - Check the availability of the Lab Equipment for the particular Job Role.
3. Assessment Quality Assurance levels / Framework:
 - Question papers created by the Subject Matter Experts (SME)
 - Question papers created by the SME verified by the other subject Matter Experts
 - Questions are mapped with NOS and PC
 - Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
 - Assessor must be ToA certified & trainer must be ToT Certified
 - Assessment agency must follow the assessment guidelines to conduct the assessment
4. Types of evidence or evidence-gathering protocol:
 - Time-stamped & geotagged reporting of the assessor from assessment location
 - Center photographs with signboards and scheme specific branding
 - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
 - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos
5. Method of verification or validation:
 - Surprise visit to the assessment location
 - Random audit of the batch
 - Random audit of any candidate
6. Method for assessment documentation, archiving, and access
 - Hard copies of the documents are stored
 - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
 - Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

Assessment Strategy (Employability Skills 120 hours)

The trainee will be tested for the acquired skill, knowledge and attitude through formative/summative assessment at the end of the course and as this NOS and MC is adopted across sectors and qualifications, the respective AB can conduct the assessments as per their requirements.

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
SOP	Standard Operating Procedures
OLT	Optical Line Terminal
NOC	Network Operation Centre
ONT	Optical Network Terminal
CCU	Charge Controller Unit
SPV	Solar Photo Voltaic
TJB	Telephone Junction Box
ES	Employability Skills