



Model Curriculum Version: 4.0

1 | Direct Attached Storage(DAS) Set Top Box Installation & Service Technician

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Training Parameters

Sector	Electronics
Sub-Sector	Communication & Broadcasting
Occupation	After Sales Service
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7422.1203
Minimum Educational Qualification and Experience	<p>Completed 3 year diploma after 10th (Electronics/Electrical /Mechanical) with NA of experience</p> <p>OR</p> <p>12th grade Pass (Or equivalent)</p> <p>OR</p> <p>10th grade pass with 3 Years of Relevant experience</p> <p>OR</p> <p>10th grade pass with 2 Years of experience NTC/NAC</p> <p>OR</p> <p>Certificate-NSQF (Level 3.5) with 1.5 years of Relevant experience</p> <p># Relevant experience in Communication and Broadcasting</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	01.05.2025
Next Review Date	30.04.2028
NSQC Approval Date	08.05.2025
QP Version	4.0
Model Curriculum Creation Date	01.05.2025
Model Curriculum Valid Up to Date	30.04.2028
Model Curriculum Version	4.0
Minimum Duration of the Course	450 Hours
Maximum Duration of the Course	450 Hours

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:

- Demonstrate the process of installing and repairing DAS set-top box.
- Explain the importance of Comprehend customer requirement.
- Explain the importance of following inclusive practices for all genders and PwD at work.
- Demonstrate various practices to be followed to maintain health and safety at work.

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	On-the-Job Training Duration (Recommended)	On-the-Job Training Duration (Mandatory)	Total Duration
ELE/N3188: DAS Set-Top Box Service Specialist	60:00	90:00	00:00	60:00	210:00
Module 1: DAS Set-Top Box Service Specialist	60:00	90:00	00:00	60:00	210:00
ELE/N3189: Customer Requirement Analysis	60:00	90:00	00:00	60:00	210:00
Module 2: Customer Requirement Analysis	60:00	90:00	00:00	60:00	210:00
DGT/VSQ/N0101: Employability Skills (30 Hours)	30:00	00:00	00:00	00:00	30:00
Module 3: Employability Skills (30 Hours)	30:00	00:00	00:00	00:00	30:00
Total Duration	150:00	180:00	00:00	120:00	450:00

Module Details

Module 1: DAS Set-Top Box Service Specialist

Mapped to ELE/N3188

Terminal Outcomes:

- Explain the importance of collecting the customers site details and carry necessary equipment and products.
- Demonstrate the process of installing the set top box (DAS) at customers site.
- Explain the importance of providing field service and resolve faults in case of complaint.
- Explain the importance of servicing and resolving faults.
- Explain the importance of collecting documents and forms filled.
- Describe the process of completing documentation.
- Explain the importance of achieving productivity and quality targets as prescribed by company.
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Duration: 60:00	Duration: 90:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<p>☐ Describe the features, functionalities, and types of set-top boxes (Basic, Digital, Hybrid, 4K, Multi-Room, Portable).</p> <p>☐ Explain compatibility requirements with customer's TV, internet, and cable infrastructure.</p> <p>☐ Understand how to examine work orders, customer site details, and coordinate with superiors for specific requirements.</p> <p>☐ Explain key signal parameters like RF strength, Digital MER, BER, and power levels.</p> <p>☐ Understand how distribution circuits work and how to align antennas and amplifiers.</p> <p>☐ Learn the common faults in set-top box services and methods to diagnose issues using tools like multi-meters and satellite meters.</p> <p>☐ Understand how to check AC/DC outputs and identify component-level issues.</p> <p>☐ Learn how to effectively communicate features, installation procedures, and answer customer queries.</p>	<p>☐ Demonstrate step-by-step installation of various types of set-top boxes.</p> <p>☐ Connect devices (TV, home theatre systems) using HDMI, SPDIF, AV cables, etc.</p> <p>☐ Use equipment like satellite meters, multi-meters to test RF and digital signal parameters (MER, BER, Power).</p> <p>☐ Align antennas and amplifiers to ensure strong, stable signals.</p> <p>☐ Identify and rectify service faults on first visit by inspecting wires, connectors, power outputs, and box functionality.</p> <p>☐ Resume service while ensuring full customer satisfaction.</p> <p>☐ Demonstrate STB features like OTT integration, 4K resolution, parental controls, and favorite channels setup post-installation.</p> <p>☐ Fill technical fault reports for defective units and prepare them for shipment to service centers.</p> <p>☐ Properly label and tag defective components.</p> <p>☐ Collect and submit customer registration forms, program</p>

<p>☐ Understand how to collect necessary documents, identity proofs, and feedback to ensure customer satisfaction.</p> <p>☐ Explain the importance of maintaining technical records, documentation for servicing, and adhering to safety protocols as per company standards.</p>	<p>authentication, feedback, and ID proofs as per company policy.</p>
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	

Module 2: Customer Requirement Analysis

Mapped to ELE/N3189

Terminal Outcomes:

- Explain the importance of interacting with customer prior to visit and at their premises.
- Explain the importance of suggesting solutions to customer.
- Explain the importance of achieving productivity and quality.

Duration: 60:00	Duration: 90:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the role of requirement analysis in ensuring customer satisfaction and delivering customized services/products. • Understand explicit (stated) and implicit (unstated) customer needs, preferences, and expectations in various service scenarios. • Learn the principles of clear, professional communication and active listening techniques to gather accurate information. • Understand how to document customer requirements, queries, and preferences accurately for internal use and future reference. • Learn how to analyze customer requirements to suggest the most appropriate, cost-effective, and technically feasible solutions. 	<ul style="list-style-type: none"> • Demonstrate the ability to ask relevant questions, listen actively, and clarify customer requirements during service visits or calls. • Fill out customer requirement forms or digital records accurately and validate them with the customer for confirmation. • Identify suitable products, tools, or services that match the customer's technical and budgetary requirements. • Address customer concerns or objections effectively and offer viable alternatives that meet their expectations. • Communicate collected customer requirements with technical or sales teams to ensure proper planning and execution of service delivery.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	

Module 3: Employability Skills (30 Hours) Mapped to DGT/VSQ/N0101

Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements
- Describe opportunities as an entrepreneur.
- Describe ways of preparing for apprenticeship & Jobs appropriately.

Duration: 30:00	Duration: 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain constitutional values, civic rights, responsibility towards society to become a responsible citizen • Discuss 21st century skills • Explain use of basic English phrases and sentences. • Demonstrate how to communicate in a well-behaved manner • Demonstrate how to work with others • Demonstrate how to operate digital devices • Discuss the significance of Internet and Computer/ Laptops • Discuss the need for identifying business opportunities • Discuss about types of customers. • Discuss on creation of biodata • Discuss about apprenticeship and opportunities related to it. 	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Computer, UPS, Scanner, Computer Tables, LCD Projector, Computer Chairs, White Board OR Computer Lab	

Module 4: On-the-Job Training

Mapped to Direct Attached Storage(DAS) Set Top Box Installation & Service Technician

Mandatory Duration: 120:00	Recommended Duration: 00:00
Location: On Site	
<p>Terminal Outcomes</p> <ol style="list-style-type: none"> 1. Explain how to coordinate with stores department to collect the set box and other components or tools required for installation. 2. Explain the functions of the set top box and remote control. 3. Explain how to connect set top box with TV. 4. Explain the transmission of television signals and functioning of television sets. 5. Explain the concepts of modulation, demodulation, encryption, decryption, decoding, signal ingress, cross modulation, tuning, amplifying, coupling, attenuation, equalisation, digitising, etc., and their purposes. 6. Explain Quality of Service (QoS) and End of Line (EoL) parameters and optimum range as specified by IS13420. 7. Explain etiquette to be followed at customer's premises. 8. Administer first aid in case of a minor accident. 9. Use a fire extinguisher in case of a fire incident. 	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma/ ITI/ Certified in relevant CITS Trade	Electronics/ Electrical/ Mechanical	1	Set Top Box Installation	1 year preferably	Electronics	

Trainer Certification	
Domain Certification	Platform Certification
“Direct Attached Storage(DAS) Set Top Box Installation & Service Technician”, “ELE/Q8102, v4.0”, Minimum accepted score is 80%	Recommended that the Trainer is certified for the Direct Attached Storage(DAS) Set Top Box Installation & Service Technician “Trainer (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2601, V2.0”, with minimum score of 80%

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma/ ITI/ Certified in relevant CITS Trade	Electronics/ Electrical/ Mechanical	2	Set Top Box Installation	1 year preferably	Electronics	

Assessor Certification	
Domain Certification	Platform Certification
“Direct Attached Storage(DAS) Set Top Box Installation & Service Technician”, “ELE/Q8102, v4.0”, Minimum accepted score is 80%	Recommended that the Assessor is certified for the Direct Attached Storage(DAS) Set Top Box Installation & Service Technician “Assessor (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2701, V2.0”, with minimum score of 80%

Assessment Strategy

1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- The assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

2. Testing Environment

To ensure a conducive environment for conducting a test, the trainer will:

- 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 10 a.m. and 5 p.m. respectively
- Ensure there are 2 Assessors if the batch size is more than 30.
- 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
- The assessor must be ToA certified and the trainer must be ToT Certified
- The 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
- Centre 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:

To verify the details submitted by the training centre, the assessor will undertake:

- A surprise visit to the assessment location
- A random audit of the batch
- A random audit of any candidate

6. Method for assessment documentation, archiving, and access

To protect the assessment papers and information, the assessor will ensure:

- 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 on the Hard drive

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	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
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
ISO	International Organization for Standardization
NCO	National Occupational Standards
NOS	National Skills Qualification Committee
NSQF	National Skills Qualification Framework
OJT	On-the-Job Training
OMR	Optical Mark Recognition
PC	Performance Criteria
PwD	Persons with Disabilities
QP	Qualification Pack
SDMS	Skill Development & Management System
SIP	Skill India Portal
SME	Small and Medium Enterprises
SOP	Standard Operating Procedure
SSC	Sector Skill Council
TC	Trainer Certificate
ToA	Training of Assessors
ToT	Training of Trainers
TP	Training Provider