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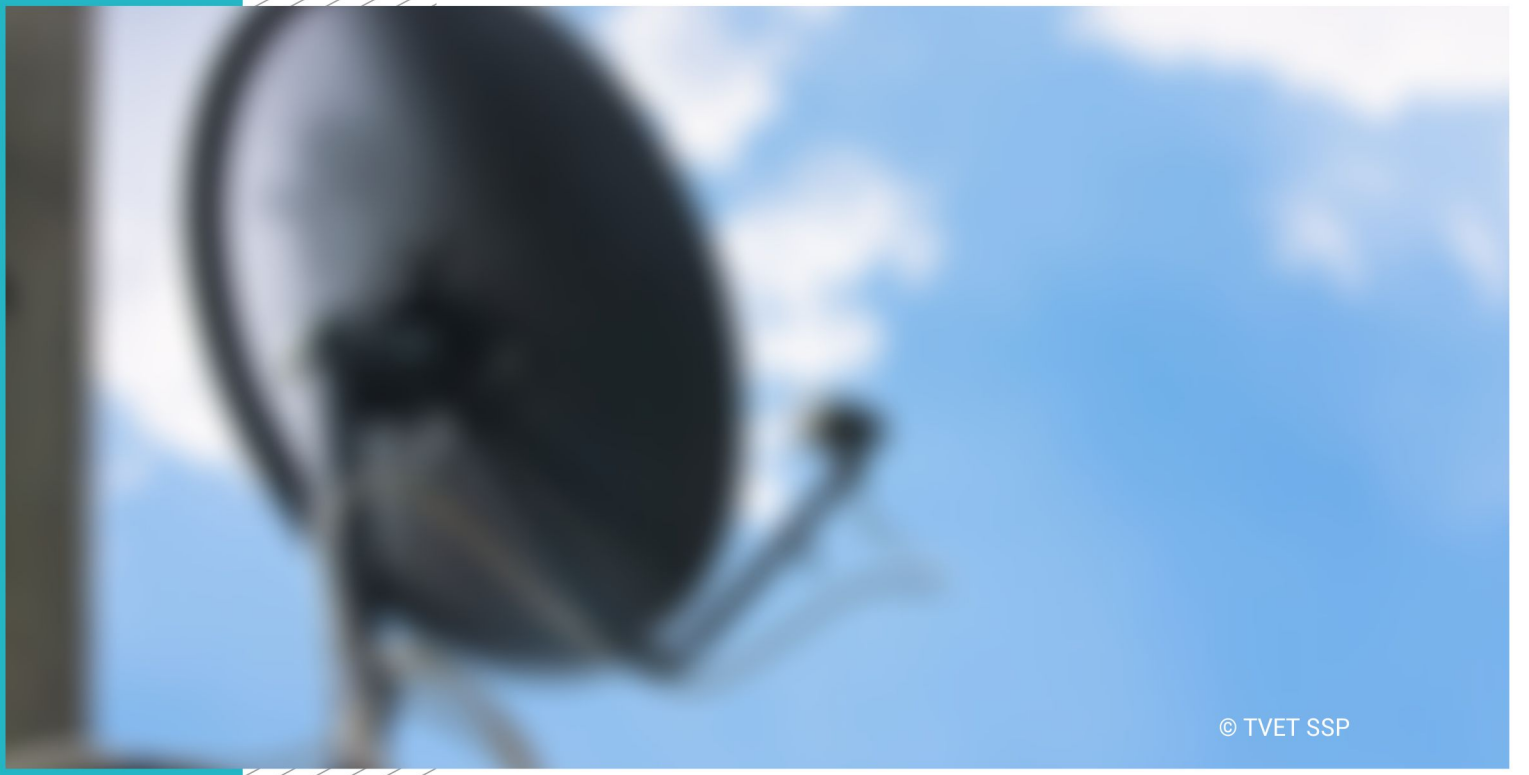
SATELLITE DISH INSTALLER



TRAINER GUIDE

National Vocational Certificate Level 3

Version 1 - October, 2019

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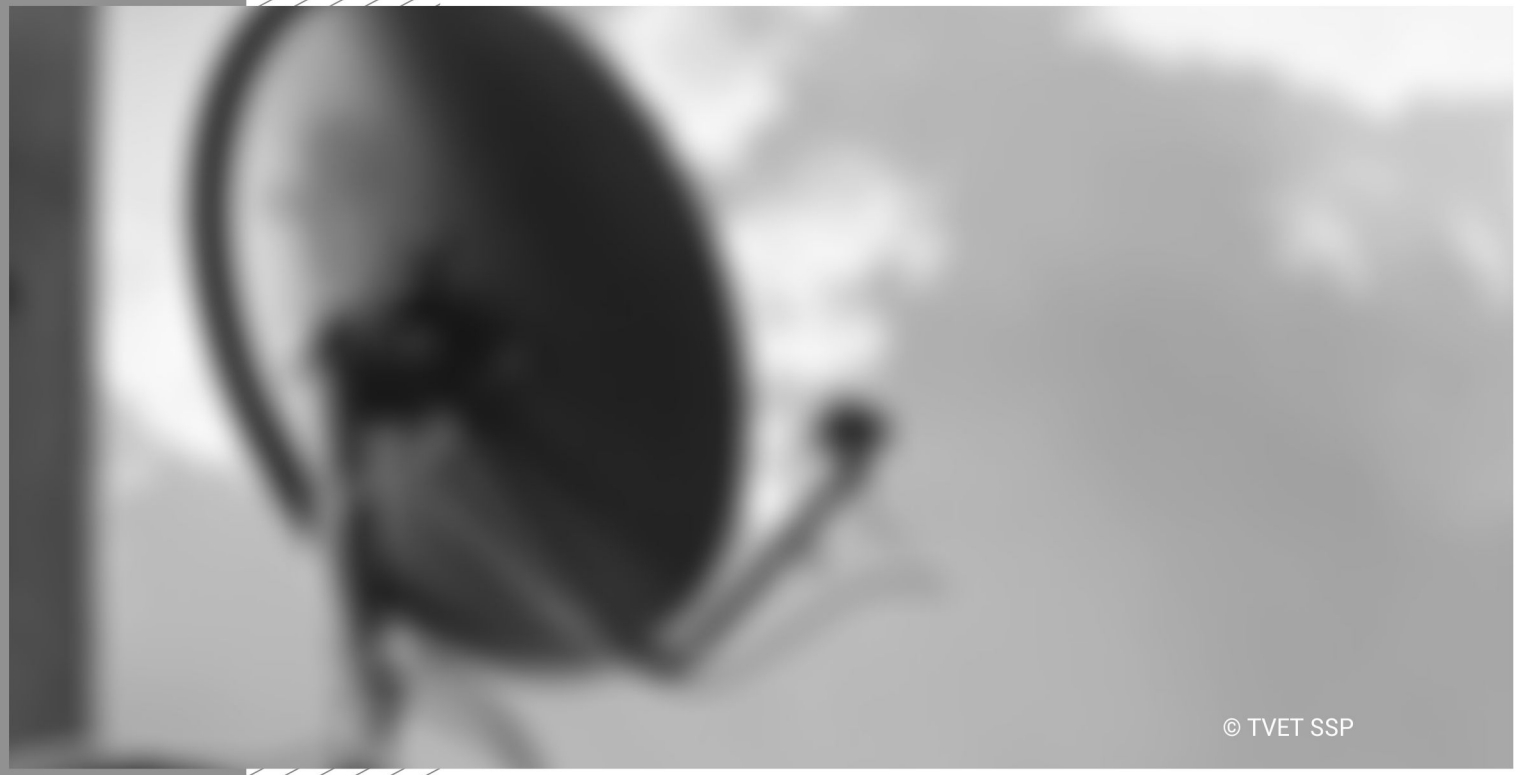

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Introduction

Competence-based training helps to bridge the gap between what is taught in training and what tasks will be performed on the job. Training trainees to perform actual job functions helps to ensure that future front-line workers have the skills, knowledge and abilities required to perform their jobs properly, safely and effectively. In addition to competence-based training, assessment based on the performance of actual work competencies helps to ensure that:

- trainees are performing their work tasks as safely as possible
- performance gaps are recognized prior to serious incidents
- training can be implemented to improve competence.

There are significant benefits to competence-based training:

1. **Cost effectiveness**

   Since training activities and assessments in a competence-based approach are goal-oriented, trainers focus on clearly defined areas of skills, knowledge and understanding that their own industry has defined in the competence standards. At the same time, trainees are more motivated to learn when they realize the benefits of improved performance.

2. **Efficiency**

   The transfer gap between the training environment and working on the job is reduced substantially in a competence-based approach. This is because training and assessment are relevant to what needs to be done on the job. As a result, it takes less time for trainees to become competent in the required areas. This, in turn, contributes to improved efficiency where training and assessment are concerned.

3. **Increased productivity**

   When trainees become competent in the competence standards that their own industry has defined, when they know what the performance expectations are and receive recognition for their abilities through successful assessments, they are likely to be more motivated and experience higher job satisfaction. The result is improved productivity for organizations. The communication and constructive feedback between future employers and employees will improve as a result of a competence-based approach, which can also increase productivity.

4. **Reduced risk**

   Using a competence-based approach to training, development, and assessment, employers are able to create project teams of people with complementary skills. A trainee's record of the skills, knowledge and understanding relating to the competence standards they have achieved can be used by a future employer to identify and provide further relevant training and assessment for new skills areas. Competence standards can shape employee development and promotional paths within an organization and give employees the opportunity to learn more competencies beyond their roles. It can also provide organizations with greater ability to scale and flex as needed, thereby reducing the risk they face.

5. **Increased customer satisfaction**

Employees who have been trained and assessed using a competence-based approach are, by the definition of the relevant competence standards, able to perform the required tasks associated with a job. The knock-on effect is that, in service-related industries, they are able to provide high service levels, thereby increasing customer satisfaction. In production or manufacturing industries, they are able to work closely to industry standards in a more effective and efficient way.

Lesson plans

This manual provides a series of lesson plans that will guide delivery of each module for the *Satellite Dish Installer* qualification. It is important for trainers to be flexible and be ready to adapt lesson plans to suit the context of the subject and the needs of their trainees.

Good teachers acknowledge that CBT means each and every trainee in the class learns at a different speed. The good teacher is prepared to throw aside the day's lesson plan and do something different (and unplanned) for the class even if it means 'writing' a lesson plan for each trainee to match their learning pace for that day or week.

Learning by doing is different from learning theory and then applying it. To learn to do something, trainees need someone looking over their shoulder saying 'it's not quite like that, it's like this', 'you do it like this because …', or even 'tell me why you chose to do it like this?'.

In this way, trainees learn that theoretical knowledge is meaningless if it is not seen in the context of what they are doing. In other words, if a trainee doesn't know why they do something, they will not do it competently (skills underpinned by knowledge = competent performer).

This is how a *Satellite Dish Installer* acquires a practical grasp of the standards expected. It's not by learning it in theory, but because those standards are acquired through correction by people who show what the standards are, and correct the trainee where they do not meet those standards, and where they repeat it correction until they have internalised those standards.

Demonstration of skill

Demonstration or modeling a skill is a powerful tool, which is used, in vocational training. The instructions for trainers for demonstration are as under:

a) Read the procedure mentioned in the Trainer Guide for the relevant Learning Unit before demonstration.
b) Arrange all tools, equipment and consumable material, which are required for demonstration of a skill.
c) Practice the skill before demonstration to trainees, if possible.
d) Introduce the skill to trainees clearly at the commencement of demonstration.
e) Explain how the skill relates to the skill(s) already acquired and describe the expected results or show the objects to trainees.
f) Carry out demonstration in a way that can be seen by all trainees.
g) Use the same tools and materials that the learner will be using.
h) Go through EACH of the steps involved in performing the skill.
i) Go SLOWLY - describe each step as it is completed.
j) Encourage the learners to move around and watch what you are doing from a number of different angles.
k) Identify critical or complex steps, or steps that involve safety precautions to be followed.

l) Explain theoretical knowledge where applicable and ask questions to trainees to test their understanding.
m) Try to involve the learners: Ask them questions about why they think the process may work that way.
n) Repeat critical steps in demonstration, if required.
o) Summarize the demonstration by asking questions to trainees.

Involvement in the process (actively seeing) is important at this stage. When you work on getting involved, getting people to participate, you make them a part of what is happening. Questions for clarification or explanation are important throughout the demonstration. It is up to the learners to ask questions about things they do not understand, but it is also important for trainers to seek out and elicit questions from learners. A trainer may need to do repeated demonstrations of difficult or complex skills.

Overview of the program

Course: *Satellite Dish Installer, Level - 3*	**Total Course Duration:** 200 hours
Course Overview:	
The purpose of the training is to provide skilled manpower to improve the existing capacity of Electronics sector. This training will provide the requisite skills to the trainees to Install Satellite Dish. It will enable the participants to meet the challenges in the field of Satellite Dish industry. Further, to improve the skill level of the technician and prepare them for the Electronics industry to meet the market competition nationally and internationally. The core purpose of this qualification is to produce employable Satellite Dish Installer who could Install Satellite Dish according to national and international standards. In addition this qualification will prepare unemployable youth to employee in this sector.	

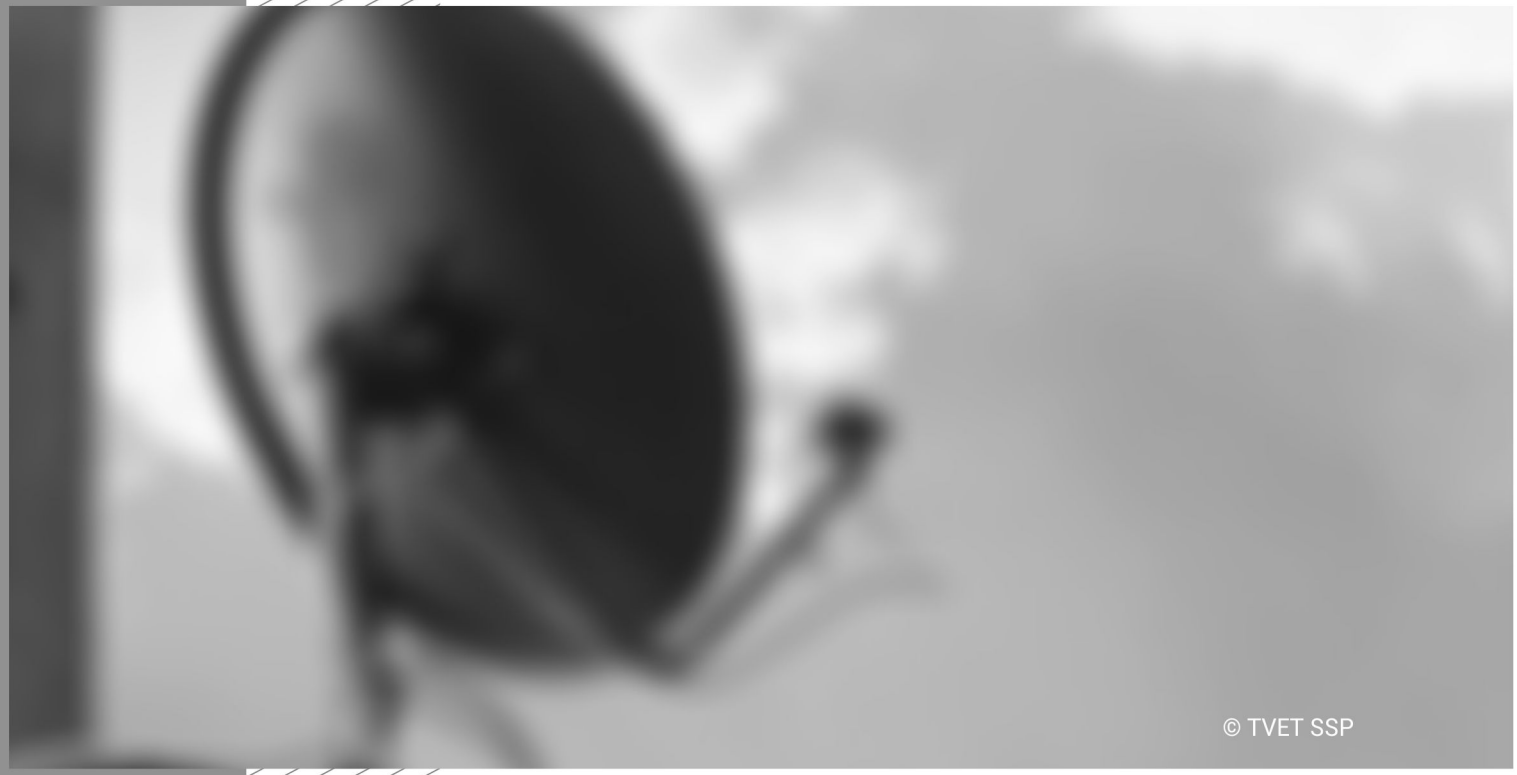
Module	Learning Unit	Duration
Module 5: Mount Dish for Uplink / Downlink **Aim:** The objective of this module is to provide skills and knowledge related to Fix Dish on Stand for Uplink / Downlink, Locate Foundation Place for Strong Signals, Conduct Signal Test for Downlink, Conduct Signal Test for Uplink, Conduct Positioning Test and Fix Dish Assembly Permanently	**LU1:** Fix Dish on Stand for Uplink / Downlink **LU2:** Conduct General Signal Test for Uplink / Downlink **LU3:** Locate appropriate Foundation Place **LU4:** Conduct Positioning Test **LU5:** Fix Dish Assembly	50 hours

Module	Learning Unit	Duration
Module 6: Perform Tuning **Aim:** The objective of this module is to provide skills and knowledge related to Select Input Mode for Display, Select Satellite in Receiver, Perform Antenna Setting in Receiver, Perform Scanning and Make Channels Groups	**LU1:** Select Input Mode for Display **LU2:** Select Satellite in Receiver **LU3:** Perform Antenna Setting in Receiver **LU4:** Perform Scanning **LU5:** Make Channels Groups	150 hours

FORMAT FOR LESSON PLAN			
Module 5: Mount Dish for Uplink / Downlink			
Learning Unit CU2: Conduct General Signal Test for Uplink / Downlink			
Methods White Board Duster **Multimedia Projector**	Key Notes Tools, materials and equipment used for Conducting General Signal Test for Uplink / Downlink	Media	Time 10 Hrs
	Introduction		
	This session will introduce learners to the tools, techniques and material used for Conducting General Signal Test for Uplink / Downlink, using presentation, demonstration, question and answer, and practical skills development.		
	Main Body		
	• Ensure testing equipment • Ensure obstruction-free surrounding • Identify East-West directions with compass • Set arc direction for 0^o, 90^o, 180^o for revolving dish with satellite finder • Adjust limit switches at 0^o and 180^o for revolving dish		
	Conclusion		
	To conclude the session, review the tools, techniques and material used for Conducting General Signal Test for Uplink / Downlink. Give learners the opportunity to ask questions.		
	<u>Assessment</u> Question and answer, discussion groups with feedback, observation of practice skills development		
		Total time:	10 Hrs

FORMAT FOR LESSON PLAN			
Module 6: Perform Tuning			
Learning Unit CU1: Select Input Mode for Display			
Methods White Board Duster **Multimedia Projector**	Key Notes Tools, materials and equipment used for Selecting Input Mode for Display	Media	Time 30 Hrs
Introduction			
	This session will introduce learners to the tools, techniques and material used for Selecting Input Mode for Display, using presentation, demonstration, question and answer, and practical skills development.		
Main Body			
	• Ensure power supply • Select display source (VGA, AV, HDMI, RF, Scart) as per input connection		
Conclusion			
	To conclude the session, review the tools, techniques and material used for Selecting Input Mode for Display. Give learners the opportunity to ask questions.		
	<u>Assessment</u> Question and answer, discussion groups with feedback, observation of practice skills development		
		Total time:	30 Hrs

SATELLITE DISH INSTALLER



Module-5

TRAINER GUIDE

National Vocational Certificate Level 3

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Trainer's guidelines

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU1: Fix Dish on Stand for Uplink / Downlink	Deliver an illustrated presentation on Fixing Dish on Stand for Uplink / Downlink. Ensure that the presentation focuses on the following: • Identify tools and equipment • Mount dish on dish stand • Join one end of actuator with stand • Joint other end of actuator with dish Display a slide or flip chart with a key question relating to Fixing Dish on Stand for Uplink / Downlink. **Step 1 – Think** Working on their own, each learner thinks about the question and makes notes of their responses or key points which they believe to be important. **Step 2 – Pair** For the next step, each learner pairs up with a partner. The two learners exchange their ideas and make further notes to add clarity to their own ideas. **Step 3 – Share** The final step is for you to invite different pairs to share the ideas they have discussed in response to the key question relating to Fixing Dish on Stand for Uplink / Downlink. Demonstrate the tools and equipment needed for Fixing	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Cable tester • Screw driver set • L-Key • Socket set • Electric Drill Machine • Hammer • Pliers • Hack saw • Drill bits • Spirit level • Satellite finder • Compass • Satellite Directional Chart

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Dish on Stand for Uplink / Downlink. Enable learners to practice using the appropriate tools and equipment for Fixing Dish on Stand for Uplink / Downlink in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Fixing Dish on Stand for Uplink / Downlink in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU2: Conduct General Signal Test for Uplink / Downlink	Lead a brainstorm on Conducting General Signal Test for Uplink / Downlink. List the brainstorm ideas on a flipchart. If necessary, prompt learners to consider the following: • Ensure testing equipment • Ensure obstruction-free surrounding • Identify East-West directions with compass • Set arc direction for 0^o, 90^o, 180^o for revolving dish with satellite finder • Adjust limit switches at 0^o and 180^o for revolving dish Prepare either: • A flip chart • A PowerPoint slide • A handout …showing the key topics about Conducting General	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Cable tester • Screw driver set • L-Key • Socket set • Electric Drill Machine • Hammer • Pliers • Hack saw • Drill bits • Spirit level • Satellite finder • Compass • Satellite Directional Chart

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Signal Test for Uplink / Downlink. Go through all the key topics briefly and then allocate **one key topic** to each group. Learners need to work in their small groups discussing the key topic that has been allocated to their group. Each group should use a sheet of flip chart paper to record **three main points** from their discussions that relate to **their key topic**. After the discussion, begin the feedback session. Ask one group to come to the front of the class with their flipchart. Put up the flipchart where it can be easily seen by other learners. Ask the group to share the main points they have recorded for their key topic for Conducting General Signal Test for Uplink / Downlink. Discuss these main points briefly with the whole group. Learners should make additional notes **on the flip chart** to record additional points their group had not identified. Then ask the next group to share their flipchart showing the main points they have recorded for the next key topic. Repeat the discussion process. Continue until you have covered all the key topics. End the group discussion activity with a summary. Photograph or scan all the flipcharts and use these to create a handout to distribute to all learners. Demonstrate the tools and equipment needed for Conducting General Signal Test for Uplink / Downlink. Enable learners to practice using the appropriate tools and equipment for Conducting General Signal Test for Uplink / Downlink in a controlled environment.		

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Learners must be able to practice and develop their knowledge and skills relating to Conducting General Signal Test for Uplink / Downlink in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU3: Locate appropriate Foundation Place	Lead a discussion on Locating appropriate Foundation Place. Encourage ALL trainees to participate in the discussion. Ensure that the discussion addresses the following points: • Identify leveled place for foundation. • Ensure obstruction-free around the foundation place in case of revolving dish • Make leveled place for foundation if required. Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Locating appropriate Foundation Place. Learners need to work in small groups discussing the key topics. Each group should make notes from their discussions that identify **three main points** that related to **each key topic**. After the discussion, begin the feedback session. Ask one group to share the main points they have recorded for the first key topic for Locating appropriate Foundation	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Cable tester • Screw driver set • L-Key • Socket set • Electric Drill Machine • Hammer • Pliers • Hack saw • Drill bits • Spirit level • Satellite finder • Compass • Satellite Directional Chart

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Place. Discuss these main points briefly with the whole group. Learners should make additional notes to record additional points their group had not identified. Then ask the next group to share the main points they have recorded for the second key topic. Repeat the discussion process. Continue until you have covered all the key topics. End the group discussion activity with a summary. Demonstrate the tools and equipment needed for Locating Appropriate Foundation Place. Enable learners to practice using the appropriate tools and equipment for Locating Appropriate Foundation Place in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Locating Appropriate Foundation Place in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU4: Conduct Positioning Test	Deliver an illustrated presentation on Conducting Positioning Test. Ensure that the presentation focuses on the following: • Place assembled dish antenna on the selected foundation • Place non-revolving dish antenna as per requirement • Locate pointing angles at different degrees for	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Cable tester • Screw driver set • L-Key • Socket set

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	revolving dish. Learners need to devise 10 quiz questions with answers based on Conducting Positioning Test. They must make sure their questions cover key topics for Conducting Positioning Test. Issue each learner with 10 blank cards. Each learner should number the cards and write their name on one side with a question about Conducting Positioning Test. On the reverse of the card, they should write an appropriate answer to their question. For the quiz, arrange learners in two equal teams. Ask one learner to keep score using a suitable score-card. Player 1 for Team A asks one of their questions to Player 1 of Team B, who needs to answer the question. Discuss the answer with the group and ask the group to determine if the answer is correct. Player 1 of Team A then confirms the answer they had devised. (You need to correct answers if the learner's answer was not wholly correct.) The scorekeeper records 1 mark for a correct answer under the appropriate team's score column. Play then passes to Player 1 of Team B, who asks their question to Player 1 of Team A, and so on. Total the scores at the end of the quiz to see which team won. After the quiz, collect learners' question/answer cards and check that answers provided were correct. Return		• Electric Drill Machine • Hammer • Pliers • Hack saw • Drill bits • Spirit level • Satellite finder • Compass • Satellite Directional Chart

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	any incorrect answers to learners and ask them to change their answer to the correct one. Demonstrate the tools and equipment needed for Conducting Positioning Test. Enable learners to practice using the appropriate tools and equipment for Conducting Positioning Test in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Conducting Positioning Test in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU5: Fix Dish Assembly	Deliver an illustrated presentation on Fixing Dish Assembly. Ensure that the presentation focuses on the following: • Identify tools and equipment • Fix base of the dish stand with concrete • Mount base of the dish stand with rawl bolt • Perform signal confirmation test. Display a slide or flip chart with a key question relating to Fixing Dish Assembly. **Step 1 – Think** Working on their own, each learner thinks about the question and makes notes of their responses or key points which they believe to be important. **Step 2 – Pair** For the next step, each learner pairs up with a partner. The two learners exchange their ideas and make further	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Cable tester • Screw driver set • L-Key • Socket set • Electric Drill Machine • Hammer • Pliers • Hack saw • Drill bits • Spirit level • Satellite finder

Module 5: 0619001084 Mount Dish for Uplink / Downlink			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	notes to add clarity to their own ideas. **Step 3 – Share** The final step is for you to invite different pairs to share the ideas they have discussed in response to the key question relating to Fixing Dish Assembly. Demonstrate the tools and equipment needed for Fixing Dish Assembly. Enable learners to practice using the appropriate tools and equipment for Fixing Dish Assembly in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Fixing Dish Assembly in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		• Compass • Satellite Directional Chart

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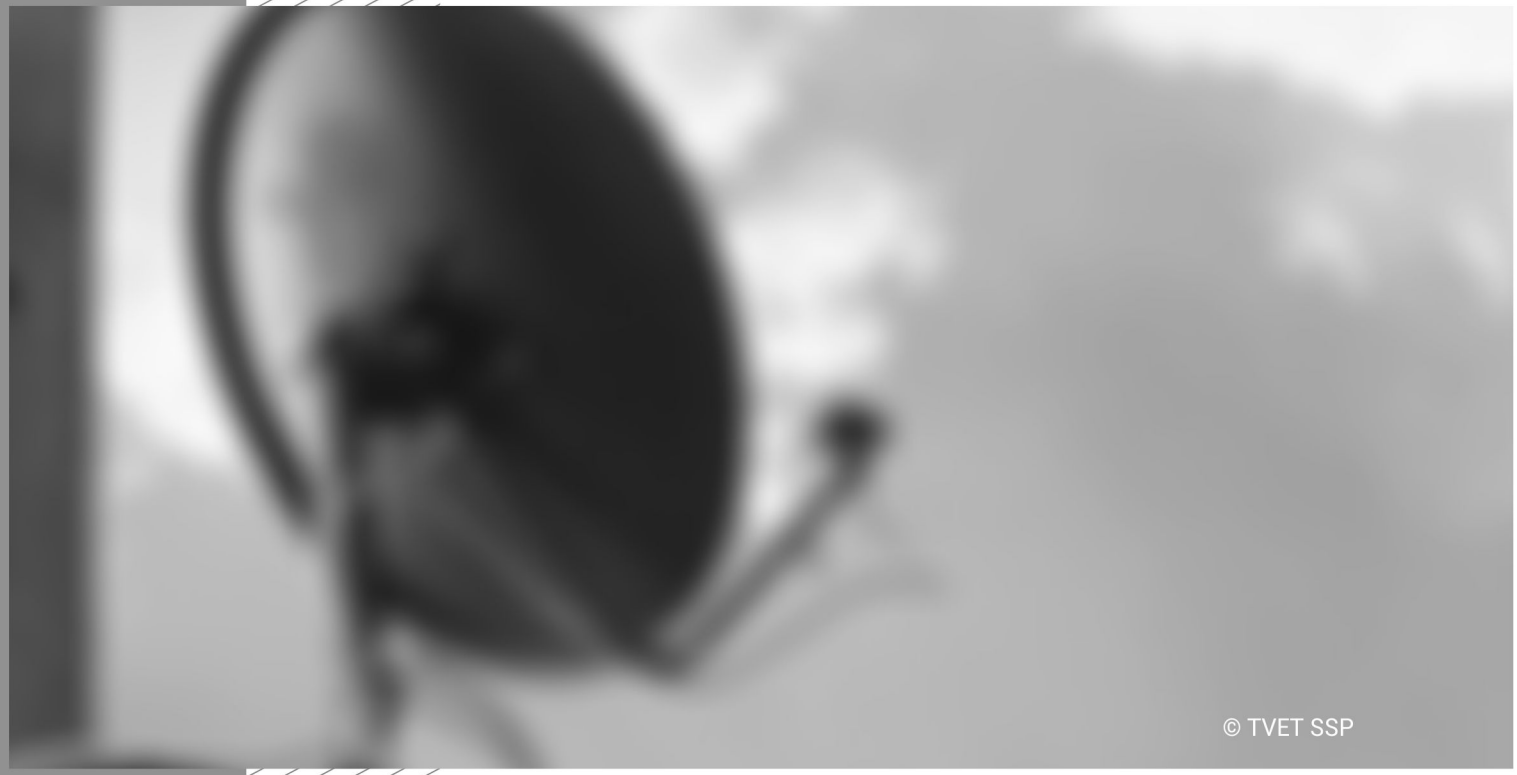

Module-6

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Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU1: Select Input Mode for Display	Lead a discussion on Selecting Input Mode for Display. Encourage ALL trainees to participate in the discussion. Ensure that the discussion addresses the following points: • Ensure power supply • Select display source (VGA, AV, HDMI, RF, Scart) as per input connection Prepare either: • A flip chart • A PowerPoint slide • A handout …showing the key topics about Selecting Input Mode for Display. Go through all the key topics briefly and then allocate **one key topic** to each group. Learners need to work in their small groups discussing the key topic that has been allocated to their group. Each group should use a sheet of flip chart paper to record **three main points** from their discussions that relate to **their key topic**. After the discussion, begin the feedback session. Ask one group to come to the front of the class with their flipchart. Put up the flipchart where it can be easily seen by other learners. Ask the group to share the main points they have recorded for their key topic for Selecting Input Mode for Display. Discuss these main points briefly with the whole group. Learners should make additional notes **on the flip chart** to record	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite information manual (updated) • Receiver user manual

Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	additional points their group had not identified. Then ask the next group to share their flipchart showing the main points they have recorded for the next key topic. Repeat the discussion process. Continue until you have covered all the key topics. End the group discussion activity with a summary. Photograph or scan all the flipcharts and use these to create a handout to distribute to all learners. Demonstrate the tools and equipment needed for Selecting Input Mode for Display. Enable learners to practice using the appropriate tools and equipment for Selecting Input Mode for Display in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Selecting Input Mode for Display in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU2: Select Satellite in Receiver	Deliver an illustrated presentation on Selecting Satellite in Receiver. Ensure that the presentation focuses on the following: • Open main menu of the receiver • Select installation mode • Select required satellite for non-revolving dish • Select different satellites for revolving dish	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite information manual (updated) • Receiver user manual

Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Learners need to devise 10 quiz questions with answers based on Selecting Satellite in Receiver. They must make sure their questions cover key topics for Selecting Satellite in Receiver. Issue each learner with 10 blank cards. Each learner should number the cards and write their name on one side with a question about Selecting Satellite in Receiver. On the reverse of the card, they should write an appropriate answer to their question. For the quiz, arrange learners in two equal teams. Ask one learner to keep score using a suitable score-card. Player 1 for Team A asks one of their questions to Player 1 of Team B, who needs to answer the question. Discuss the answer with the group and ask the group to determine if the answer is correct. Player 1 of Team A then confirms the answer they had devised. (You need to correct answers if the learner's answer was not wholly correct.) The scorekeeper records 1 mark for a correct answer under the appropriate team's score column. Play then passes to Player 1 of Team B, who asks their question to Player 1 of Team A, and so on. Total the scores at the end of the quiz to see which team won. After the quiz, collect learners' question/answer cards and check that answers provided were correct. Return any incorrect answers to learners and ask them to change their answer to the correct one.		

Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	Demonstrate the tools and equipment needed for Selecting Satellite in Receiver. Enable learners to practice using the appropriate tools and equipment for Selecting Satellite in Receiver in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Selecting Satellite in Receiver in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU3: Perform Antenna Setting in Receiver	Invite an experienced colleague to deliver a presentation about Performing Antenna Setting in Receiver. Ensure that the presentation addresses the following points: • Open antenna setting • Select LNB power on/off • Select C-band/Ku-band frequencies • Select Diseqc switch ports • Select tone/pulse switch Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Performing Antenna Setting in Receiver. Learners need to work in small groups discussing the key topics. Each group should make notes from their discussions that identify **three main**	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite information manual (updated) • Receiver user manual

Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	points that related to **each key topic**. After the discussion, begin the feedback session. Ask one group to share the main points they have recorded for the first key topic for Performing Antenna Setting in Receiver. Discuss these main points briefly with the whole group. Learners should make additional notes to record additional points their group had not identified. Then ask the next group to share the main points they have recorded for the second key topic. Repeat the discussion process. Continue until you have covered all the key topics. End the group discussion activity with a summary. Demonstrate the tools and equipment needed for Performing Antenna Setting in Receiver. Enable learners to practice using the appropriate tools and equipment for Performing Antenna Setting in Receiver in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Performing Antenna Setting in Receiver in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU4: Perform Scanning	Deliver an illustrated presentation on Performing Scanning. Ensure that the presentation focuses on the following: • Perform transponder scanning • Perform scanning mode (manual, auto, blind,	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment**

Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	super blind, pre-set) • Scan different satellites for revolving dish • Save all settings Display a slide or flip chart with a key question relating to Performing Scanning. **Step 1 – Think** Working on their own, each learner thinks about the question and makes notes of their responses or key points which they believe to be important. **Step 2 – Pair** For the next step, each learner pairs up with a partner. The two learners exchange their ideas and make further notes to add clarity to their own ideas. **Step 3 – Share** The final step is for you to invite different pairs to share the ideas they have discussed in response to the key question relating to Performing Scanning. Demonstrate the tools and equipment needed for Performing Scanning. Enable learners to practice using the appropriate tools and equipment for Performing Scanning in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Performing Scanning in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their		• Satellite information manual (updated) • Receiver user manual

Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	understanding.		
LU5: Make Channels Groups	Invite an experienced colleague to deliver a presentation about Making Channels Groups. Ensure that the presentation addresses the following points: • Open channel setting • Open channels list • Perform setting options (Move, Delete, Rename, Favorite, Groups) • Save all settings. Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Making Channels Groups. Learners need to work in small groups discussing the key topics. Each group should make notes from their discussions that identify **three main points** that related to **each key topic**. After the discussion, begin the feedback session. Ask one group to share the main points they have recorded for the first key topic for Making Channels Groups. Discuss these main points briefly with the whole group. Learners should make additional notes to record	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite information manual (updated) • Receiver user manual

Module 6: 0619001085 Perform Tuning			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
	additional points their group had not identified. Then ask the next group to share the main points they have recorded for the second key topic. Repeat the discussion process. Continue until you have covered all the key topics. End the group discussion activity with a summary. Demonstrate the tools and equipment needed for Making Channels Groups. Enable learners to practice using the appropriate tools and equipment for Making Channels Groups in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Making Channels Groups in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		

Frequently Asked Questions

1. What is Competency Based Training (CBT) and how is it different from currently offered trainings in institutes?	Competency-based training (CBT) is an approach to vocational education and training that places emphasis on what a person can do in the workplace as a result of completing a program of training. Compared to conventional programs, the competency based training is not primarily content based; it rather focuses on the competence requirement of the envisaged job role. The whole qualification refers to certain industry standard criterion and is modularized in nature rather than being course oriented.
2. What is the passing criterion for CBT certificate?	You shall be required to be declared “Competent” in the summative assessment to attain the certificate.
3. What are the entry requirements for this course?	The entry requirement for this course is as follow. • Middle (Grade 8) for level-1 • Level-1 for level-2 • Level-2 for level-3 • Level-3 for level-4
4. How can I progress in my educational career after attaining this certificate?	You shall be able to progress further to National Vocational Certificate Level-4 in satellite Dish Installer; and take admission in a level-5, DAE or equivalent course. In certain case, you may be required to attain an equivalence certificate from The Inter Board Committee of Chairmen (IBCC).
5. If I have the experience and skills mentioned in the competency standards, do I still need to attend the course to attain this certificate?	You can opt to take part in the Recognition of Prior Learning (RPL) program by contacting the relevant training institute and getting assessed by providing the required evidences.

6. What is the entry requirement for Recognition of Prior Learning program (RPL)?	There is no general entry requirement. The institute shall assess you, identify your competence gaps and offer you courses to cover the gaps; after which you can take up the final assessment.
7. Is there any age restriction for entry in this course or Recognition of Prior Learning program (RPL)?	There are no age restrictions to enter this course or take up the Recognition of Prior Learning program
8. What is the duration of this course?	The duration of the course work is ……..
9. What are the class timings?	The classes are normally offered 25 days a month from 08:00am to 01:30pm. These may vary according to the practices of certain institutes.
10. What is equivalence of this certificate with other qualifications?	As per the national vocational qualifications framework, the level-4 certificate is equivalent to Matriculation. The criteria for equivalence and equivalence certificate can be obtained from The Inter Board Committee of Chairmen (IBCC).
11. What is the importance of this certificate in National and International job market?	This certificate is based on the nationally standardized and notified competency standards by National Vocational and Technical Training Commission (NAVTTC). These standards are also recognized worldwide as all the standards are coded using international methodology and are accessible to the employers worldwide through NAVTTC website.
12. Which jobs can I get after attaining this certificate? Are there job for this certificate in public sector as well?	You shall be able to take up jobs in the Satellite Dish Installation industry with the following designations • Domestic Satellite Dish Installer • Industrial Satellite Dish Installer • Satellite dish Technician • Satellite dish supervisor • Satellite installation technician • Satellite dish Trainer • Cable distributer,

	• Internet Service Provider • TV Network distributor, • TV Technician • work in Telecommunication.
13. What are possible career progressions in industry after attaining this certificate?	You shall be able to progress up to the level of supervisor after attaining sufficient experience, knowledge and skills during the job. Attaining additional relevant qualifications may aid your career advancement to even higher levels.
14. Is this certificate recognized by any competent authority in Pakistan?	This certificate is based on the nationally standardized and notified competency standards by National Vocational and Technical Training Commission (NAVTTC). The official certificates shall be awarded by the relevant certificate awarding body.
15. Is on-the-job training mandatory for this certificate? If yes, what is the duration of on-the-job training?	On-the-job training is not a requirement for final / summative assessment of this certificate. However, taking up on-the-job training after or during the course work may add your chances to get a job afterwards.
16. How much salary can I get on job after attaining this certificate?	The minimum wages announced by the Government of Pakistan in 2019 are PKR 17,500. This may vary in subsequent years and different regions of the country. Progressive employers may pay more than the mentioned amount.
17. Are there any alternative certificates which I can take up?	There are some short courses offered by some training institutes on this subject. Some institutes may still be offering conventional certificate courses in the field.
18. What is the teaching language of this course?	The leaching language of this course is Urdu and English.
19. Is it possible to switch to other certificate programs during the course?	Partially no, but if you have covered the Generic and functional competencies of this course and you want to switch to other certificate or want to enroll in other course, then you will take exemptions from the generic and functional competencies of the same level.
20. What is the examination / assessment system in this program?	Competency based assessments are organized by training institutes during the course which serve the purpose of assessing the progress and preparedness of each student. Final /

	summative assessments are organized by the relevant qualification awarding bodies at the end of the certificate program. You shall be required to be declared “Competent” in the summative assessment to attain the certificate.
21. Does this certificate enable me to work as freelancer?	Yes! You can start your small business of Installation of satellite dish or other telecom equipment. You may need additional skills on entrepreneurship to support your initiative.

Test Yourself (Multiple Choice Questions)

MODULE 5

Question 1 A stage in transponder and downlink system which amplifies the signal and ensuring that noise is suppressed as possible

A Mixer

B Demodulator

C LNA

D IF amplifier

Question 2 Satellite-to-satellite link is also called_____, it improves overall communication effecincy

A Uplink

B Downlink

C Crosslink

D Weakest link

Question 3 The expression for satellite link frequencies such as 14/12 GHz denotes that

A 12 GHz is the uplink frequency and 14 GHz is the downlink frequency

B the system is operating at a mean frequency of 13 Ghz

C 14 GHz is the uplink frequency and 12 GHz is the downlink frequency

D the 14 GHz frequency is backup for 12 GHz frequency or vice versa

Question 4 A satellite equipped with electronic devices to receive, amplify, convert, and retransmit signals.

A Passive

B Active

C Uplink

D Downlink

Question 5 _____ detects the satellite signal relayed from the feed and converts it to an electric current, amplifies and lower its frequency.

A Feedhorn

B Satellite dish

C Satellite receiver

D LNA

MODULE 6

Question 6 Satellites used for intercontinental communications are known as

A Comsat

B Domsat

C Marisat

D Intelsat

Question 7 A satellite signal transmitted from a satellite transponder to earth's station.

A Uplink

B Downlink

C Terrestrial

D Earthbound

Question 8 Collects very weak signals from a broadcast satellite and designed to transmit and receive radio signals.

A Helical Antenna

B Satellite Dish

C LNA

D TWT

Question 9 The frequency of Ku band for satellite communications

A 6/4 GHz

B 14/11 GHz

C 12/14 GHz

D 4/8 GHz

Question 10 AsiaSat 1 was a communication satellite launched mainly for radio communication, The location of AsiaSat I was_____.

A 105.5° East

B 151.5° East

C 115.5° East

D 170.5° East

Answers

Questions	Answer
1	C
2	C
3	C
4	B
5	D
6	D
7	B
8	B
9	B
10	A

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