SATELLITE DISH INSTALLER

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TRAINER GUIDE

National Vocational Certificate Level 4

Version 1 - October, 2019

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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 - 4*	**Total Course Duration:** 600 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 7: Perform Troubleshooting **Aim:** The objective of this module is to provide skills and knowledge related to Check Signals, Check Power Supply, check Weather Effects. Check Interference Effects, Diagnose Software Fault and Diagnose Hardware Fault.	**LU1:** Check Signals **LU2:** Check Power Supply **LU3:** Check Weather Effects **LU4:** Check Interference Effects **LU5:** Diagnose Software Faults **LU6:** Diagnose Hardware Faults	200 hours
Module 8: Conduct Site Survey **Aim:** The objective of this module is to provide skills and knowledge related to Document Customer Demand, Select Location. Check Environmental factors, Inspect Cable Routing, Locate Satellite and Prepare Feasibility Report	**LU1:** Document Customer Demand **LU2:** Select Location **LU3:** Check Environmental factors **LU4:** Inspect Cable Routing **LU5:** Locate Satellite	200 hours
Module 9: Implement Network Security **Aim:** The objective of this module is to provide skills and knowledge related to developnetwork server, Connect Receiver with Network, Provide Scrambled Services, Apply	**LU1:** Develop Network **LU2:** Connect Receiver with Network **LU3:** Provide Scrambled Services **LU4:** Apply Parental Lock **LU5:** Follow Security Protocols as per Govt. Policies	150 hours

Module	Learning Unit	Duration
Parental Lock and Follow Security Protocols as per Govt. Policies		
Module 10: Plan Work **Aim:** The objective of this module is to provide skills and knowledge required to assess site hazards, Follow work procedures, Follow symbols and Drawings, Manage Installation Time, Control Installation Quality, Maintain Customer Record and Label Tags on Accessories to Arrange Tools & Equipment, Maintain Tool Kit, Insulate Tools and Equipment, Calibrate measuring instruments and Manage Inventory of tools and equipment.	**LU1:** Assess site hazards **LU2:** Follow work procedures **LU3:** Follow symbols and Drawings **LU4:** Manage Installation Time **LU5:** Control Installation Quality **LU6:** Maintain Customer Record **LU7:** Label Tags on Accessories	50 hours

FORMAT FOR LESSON PLAN		
Module 7: Perform Troubleshooting		
Learning Unit CU6: Diagnose Hardware Faults		

Methods White Board Duster **Multimedia Projector**	Key Notes Tools, materials and equipment used for Diagnosing Hardware Faults	Media	Time 40 Hrs
	Introduction		
	This session will introduce learners to the tools, techniques and material used for Diagnosing Hardware Faults, using presentation, demonstration, question and answer, and practical skills development.		
	Main Body		
	- Check continuity of power cables - Check continuity of input/output cables (AV, VGA, HDMI, S-video, Scart) - Check continuity of input/output ports - Diagnose miss scanning fault - Diagnose auto change of channels - Diagnose receiver overheating fault - Diagnose sound noise fault		
	Conclusion		
	To conclude the session, review the tools, techniques and material used for Diagnosing Hardware Faults. Give learners the opportunity to ask questions.		
	Assessment Question and answer, discussion groups with feedback, observation of practice skills development		
		Total time:	40 Hrs

FORMAT FOR LESSON PLAN			
Module 8: Conduct Site Survey			
Learning Unit CU2: Select Location			
Methods White Board Duster **Multimedia Projector**	Key Notes Tools, materials and equipment used for Selecting Location	Media	Time 40 Hrs
	Introduction		
	This session will introduce learners to the tools, techniques and material used for Selecting Location, using presentation, demonstration, question and answer, and practical skills development.		
	Main Body		
	• Ensure availability of desired channels at installation area • Select appropriate place for dish installation as per customer demand • Ensure local regulation in installation area • Ensure obstruction-free area for dish installation		
	Conclusion		
	To conclude the session, review the tools, techniques and material used for Selecting Location. Give learners the opportunity to ask questions.		
	Assessment Question and answer, discussion groups with feedback, observation of practice skills development		
		Total time:	40 Hrs

FORMAT FOR LESSON PLAN			
Module 9: Implement Network Security			
Learning Unit CU4: Apply Parental Lock			
Methods White Board Duster **Multimedia Projector**	Key Notes Tools, materials and equipment used for Applying Parental Lock	Media	Time 30 Hrs
	Introduction		
	This session will introduce learners to the tools, techniques and material used for Applying Parental Lock, using presentation, demonstration, question and answer, and practical skills development.		
	Main Body		
	- Open receiver main menu - Select channel edit option - Select parental lock option - Change the default password - Add channels in the parental lock		
	Conclusion		
	To conclude the session, review the tools, techniques and material used for Applying Parental Lock. Give learners the opportunity to ask questions.		
	Assessment Question and answer, discussion groups with feedback, observation of practice skills development		
		Total time:	30 Hrs

FORMAT FOR LESSON PLAN			
Module 10: Plan Work			
Learning Unit CU4: Manage Installation Time			
Methods White Board Duster **Multimedia Projector**	Key Notes Tools, materials and equipment used for Managing Installation Time	Media	Time 07 Hrs
	Introduction		
	This session will introduce learners to the tools, techniques and material used for Managing Installation Time, using presentation, demonstration, question and answer, and practical skills development.		
	Main Body		
	• Assemble dish antenna in given time frame as per SOPs. • Schedule time frame for cabling and connections. • Manage time for tuning		
	Conclusion		
	To conclude the session, review the tools, techniques and material used for Managing Installation Time. Give learners the opportunity to ask questions.		
	Assessment Question and answer, discussion groups with feedback, observation of practice skills development		
		Total time:	07 Hrs

SATELLITE DISH INSTALLER

Module-7
TRAINER GUIDE
National Vocational Certificate Level 4

Version 1 - October, 2019

Trainer's guidelines

Module 7: 0619001088 Perform Troubleshooting			
Learning Unit	**Suggested Teaching/ Learning Activities**	**Delivery Context**	**Media**
LU1: Check Signals	Lead a discussion on Checking Signals. Encourage ALL trainees to participate in the discussion. Ensure that the discussion addresses the following points: • Check LNB with satellite finder • Check co-axial cable continuity for signals with multi-meter/satellite finder • Check Diseqc switch/splitter with satellite finder • Check output down converter of receiver with multi-meter Prepare either: • A flip chart • A PowerPoint slide • A handout …showing the key topics about Checking Signals. 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	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite finder • Multi-meter • System Software

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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 Checking Signals. 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 Checking Signals. Enable learners to practice using the appropriate tools and equipment for Checking Signals in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Checking Signals in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU2: Check Power Supply	Deliver an illustrated presentation on Checking Power Supply. Ensure that the presentation focuses on the following: • Check receiver power supply	Practical: Lab/ Field	Learner guide Multi-media projector Handouts

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	• Check LNB power supply from receiver • Check power supply of actuator stepper motor for revolving dish • Check voltage of limit switches • Check low voltage problem Learners need to devise 10 quiz questions with answers based on Checking Power Supply. They must make sure their questions cover key topics for Checking Power Supply. Issue each learner with 10 blank cards. Each learner should number the cards and write their name on one side with a question about Checking Power Supply. 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		Videos **Tools and equipment** • Satellite finder • Multi-meter • System Software

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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. Demonstrate the tools and equipment needed for Checking Power Supply. Enable learners to practice using the appropriate tools and equipment for Checking Power Supply in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Checking Power Supply in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU3: Check Weather Effects	Invite an experienced colleague to deliver a presentation about Checking Weather Effects. Ensure that the presentation addresses the following points: • Check LNB/LNA overheating effects • Check rusty cables and connectors • Check short circuit of LNB/LNA due to thunder/lighting storm • Check wind effects	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite finder • Multi-meter • System Software

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Checking Weather Effects. 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 Checking Weather Effects. 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 Checking Weather Effects. Enable learners to practice using the appropriate tools and equipment for Checking Weather Effects in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Checking Weather		

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	Effects in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU4: Check Interference Effects	Deliver an illustrated presentation on Checking Interference Effects. Ensure that the presentation focuses on the following: • Check no noisy signal in surrounding • Check no mobile tower in surrounding • Check no high-tension transmission line • Check no building/trees obstruction Check unwanted signals due to reflection, refraction, diffraction and scattering Display a slide or flip chart with a key question relating to Checking Interference Effects. **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**	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite finder • Multi-meter • System Software

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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 Checking Interference Effects. Demonstrate the tools and equipment needed for Checking Interference Effects. Enable learners to practice using the appropriate tools and equipment for Checking Interference Effects in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Checking Interference Effects in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU5: Diagnose Software Faults	Invite an experienced colleague to deliver a presentation about Diagnosing Software Faults. Ensure that the presentation addresses the following points: • Check stuck picture fault • Check if receiver/remote is not working • Check if the receiver is on standby mode • Check receiver hang fault, • Check delay in sound &picture • Check stuck on the main menu Prepare either: • A flip chart • A PowerPoint slide	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite finder • Multi-meter • System Software

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	• A handout		
	…showing key topics for Diagnosing Software Faults. 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 Diagnosing Software Faults. 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 Diagnosing Software Faults. Enable learners to practice using the appropriate tools and equipment for Diagnosing Software Faults in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Diagnosing Software Faults in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
LU6: Diagnose Hardware Faults	Deliver an illustrated presentation on Diagnosing Hardware Faults. Ensure that the presentation focuses on the following: • Check continuity of power cables • Check continuity of input/output cables (AV, VGA, HDMI, S-video, Scart) • Check continuity of input/output ports • Diagnose miss scanning fault • Diagnose auto change of channels • Diagnose receiver overheating fault • Diagnose sound noise fault Learners need to devise 10 quiz questions with answers based on Diagnosing Hardware Faults. They must make sure their questions cover key topics for Diagnosing Hardware Faults. Issue each learner with 10 blank cards. Each learner should number the cards and write their name on one side with a question about Diagnosing Hardware Faults. 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	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Satellite finder • Multi-meter • System Software

Module 7: 0619001088 Perform Troubleshooting

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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.		
	Demonstrate the tools and equipment needed for Diagnosing Hardware Faults. Enable learners to practice using the appropriate tools and equipment for Diagnosing Hardware Faults in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Diagnosing Hardware Faults in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		

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Module-8
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National Vocational Certificate Level 4

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Module 8: 0619001089 Conduct Site Survey

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
LU1: Document Customer Demand	Lead a discussion on Documenting Customer Demand. Encourage ALL trainees to participate in the discussion. Ensure that the discussion addresses the following points: • Enlist desired channels • Prepare estimated budget as per demand • Keep record of customer demand Prepare either: • A flip chart • A PowerPoint slide • A handout …showing the key topics about Documenting Customer Demand. 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 Documenting Customer Demand. Discuss these main points briefly with the whole group. Learners should	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Measuring tape • Compass • Satellite finder • Report format

Module 8: 0619001089 Conduct Site Survey

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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. Learners must be able to practice and develop their knowledge and skills relating to Documenting Customer Demand in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU2: Select Location	Deliver an illustrated presentation on Selecting Location. Ensure that the presentation focuses on the following: - Ensure availability of desired channels at installation area - Select appropriate place for dish installation as per customer demand - Ensure local regulation in installation area - Ensure obstruction-free area for dish installation Learners need to devise 10 quiz questions with answers based on Selecting Location. They must make sure their questions cover key topics for Selecting Location. Issue each learner with 10 blank cards. Each learner	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** - Measuring tape - Compass - Satellite finder - Report format

Module 8: 0619001089 Conduct Site Survey

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	should number the cards and write their name on one side with a question about Selecting Location. 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.		
	Demonstrate the tools and equipment needed for Selecting Location. Enable learners to practice using the appropriate tools and equipment for Selecting Location in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Selecting Location in an		

Module 8: 0619001089 Conduct Site Survey

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU3: Check Environmental factors	Invite an experienced colleague to deliver a presentation about Checking Environmental factors. Ensure that the presentation addresses the following points: • Take weather history (wind pressure, humidity, temperature, rain and snow fall) of dish installation area • Select best quality of dish and dish components as per wind pressure, snow fall and temperature • Ensure strong foundation for dish stand against wind pressure Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Checking Environmental factors. 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 Checking Environmental factors. 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** • Measuring tape • Compass • Satellite finder • Report format

Module 8: 0619001089 Conduct Site Survey

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 Checking Environmental factors. Enable learners to practice using the appropriate tools and equipment for Checking Environmental factors in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Checking Environmental factors in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU4: Inspect Cable Routing	Deliver an illustrated presentation on Inspecting Cable Routing. Ensure that the presentation focuses on the following: - Follow building rules and regulations - Draw layout for cable routing - Measure length of cable - Identify cable gauge - Identify line amplifier if required Display a slide or flip chart with a key question relating	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** - Measuring tape - Compass - Satellite finder - Report format

Module 8: 0619001089 Conduct Site Survey

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	to Inspecting Cable Routing.		
	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 Inspecting Cable Routing.		
	Demonstrate the tools and equipment needed for Inspecting Cable Routing. Enable learners to practice using the appropriate tools and equipment for Inspecting Cable Routing in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Inspecting Cable Routing in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU5: Locate Satellite	Invite an experienced colleague to deliver a presentation about Locating Satellite. Ensure that the presentation addresses the following points: • Ensure tools and equipment • Identify East-West directions with compass	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos

Module 8: 0619001089 Conduct Site Survey

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	• Check availability of satellite as per customer demand in dish installation area • Identify dish size for the availability of strong signals of the desired satellite Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Locating Satellite. 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 Satellite. 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 Satellite. Enable learners to practice using the appropriate tools and equipment for Locating Satellite in		**Tools and equipment** • Measuring tape • Compass • Satellite finder • Report format

Module 8: 0619001089 Conduct Site Survey

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Locating Satellite in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		

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Module-9
TRAINER GUIDE
National Vocational Certificate Level 4

Version 1 - October, 2019

Module 9: 0619001086 Implement Network Security

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
LU1: Develop Network	Lead a discussion on Developing Network. Encourage ALL trainees to participate in the discussion. Ensure that the discussion addresses the following points: • Connect one dish with multiple receivers • Connect multiple dishes with one receiver • Connect one receiver with multiple displays • Connect multiple satellite receivers with multiple dishes. Prepare either: • A flip chart • A PowerPoint slide • A handout …showing the key topics about Developing Network. 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 Developing Network. Discuss these main points briefly	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Different gauges of coaxial cables. • Multiple ports splitters. • Display cables. • Cable stripper • Knife • Pliers • Cable tester

Module 9: 0619001086 Implement Network Security

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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 Developing Network. Enable learners to practice using the appropriate tools and equipment for Developing Network in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Developing Network in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU2: Connect Receiver with Network	Deliver an illustrated presentation on Connecting Receiver with Network. Ensure that the presentation focuses on the following: • Connect satellite receiver with internet through Wi-Fi or Ethernet cable • Connect receiver with multiple displays through video transmitter • Connect video transmitter with UHF/VHF	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Different types of Satellite Receiver with remotes • Universal Remote

Module 9: 0619001086 Implement Network Security

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	antenna		
	Learners need to devise 10 quiz questions with answers based on Connecting Receiver with Network. They must make sure their questions cover key topics for Connecting Receiver with Network.		
	Issue each learner with 10 blank cards. Each learner should number the cards and write their name on one side with a question about Connecting Receiver with Network. 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		

Module 9: 0619001086 Implement Network Security

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 Connecting Receiver with Network. Enable learners to practice using the appropriate tools and equipment for Connecting Receiver with Network in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Connecting Receiver with Network in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU3: Provide Scrambled Services	Invite an experienced colleague to deliver a presentation about Providing Scrambled Services. Ensure that the presentation addresses the following points: • Connect satellite receiver with server • Open receiver main menu • Select desired cam • Insert card in the socket to descramble given data. Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Providing Scrambled Services. Learners need to work in small groups discussing the	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Different types of Satellite Receiver with remotes • Universal Remote

Module 9: 0619001086 Implement Network Security

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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 Providing Scrambled Services. 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 Providing Scrambled Services. Enable learners to practice using the appropriate tools and equipment for Providing Scrambled Services in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Providing Scrambled Services in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU4: Apply Parental Lock	Deliver an illustrated presentation on Applying Parental Lock. Ensure that the presentation focuses on the following: • Open receiver main menu	Practical: Lab/ Field	Learner guide Multi-media projector Handouts

Module 9: 0619001086 Implement Network Security

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	• Select channel edit option • Select parental lock option • Change the default password • Add channels in the parental lock Display a slide or flip chart with a key question relating to Applying Parental Lock. **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 Applying Parental Lock. Demonstrate the tools and equipment needed for Applying Parental Lock. Enable learners to practice using the appropriate tools and equipment for Applying Parental Lock in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Applying Parental Lock in an appropriate practical setting. Ensure that learners		Videos **Tools and equipment** • Different types of Satellite Receiver with remotes • Universal Remote

Module 9: 0619001086 Implement Network Security

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	have the opportunity to ask questions to support their understanding.		
LU5: Follow Security Protocols as per Govt. Policies	Invite an experienced colleague to deliver a presentation about Follow Security Protocols as per Govt. Policies. Ensure that the presentation addresses the following points: • Interpret government policy about security protocols • Follow cyber rules and regulations Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Follow Security Protocols as per Govt. Policies. 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 Follow Security Protocols as per Govt. Policies. 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	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Government Rules Book • Marker • White Board • Duster • Multimedia Projector

Module 9: 0619001086 Implement Network Security

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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 Following Security Protocols as per Govt. Policies. Enable learners to practice using the appropriate tools and equipment for Following Security Protocols as per Govt. Policies in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Following Security Protocols as per Govt. Policies in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		

SATELLITE DISH INSTALLER

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Module-10
TRAINER GUIDE
National Vocational Certificate Level 4

Version 1 - October, 2019

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
LU1: Assess site hazards	Lead a discussion on Assessing site hazards. Encourage ALL trainees to participate in the discussion. Ensure that the discussion addresses the following points: • Inspect site visually • Communicate with site supervisor • Identify actual and potential hazards Prepare either: • A flip chart • A PowerPoint slide • A handout …showing the key topics about Assessing site hazards. 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 Assessing site hazards. Discuss these main points briefly with the whole group. Learners should make	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Handbooks • Pencils • Rubber • Sharpeners • Paper Cutter • Scissor • Colors • White charts • Brown sheets • White board markers • Permanent markers • File cover and files • Computer • Printer • Scanner

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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 Assessing site hazards. Enable learners to practice using the appropriate tools and equipment for Assessing site hazards in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Assessing site hazards in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU2: Follow work procedures	Deliver an illustrated presentation on Following work procedures. Ensure that the presentation focuses on the following: • Identify equipment and attachments needed to do the job. • Determine appropriate starting point. • Identify access and exit points on site. • Plan work procedures for efficiency, effectiveness and safety.	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Handbooks • Pencils • Rubber • Sharpeners

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	• Sequence job tasks to co-ordinate activities with others. Learners need to devise 10 quiz questions with answers based on Following work procedures. They must make sure their questions cover key topics for Following work procedures. Issue each learner with 10 blank cards. Each learner should number the cards and write their name on one side with a question about Following work procedures. 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		• Paper Cutter • Scissor • Colors • White charts • Brown sheets • White board markers • Permanent markers • File cover and files • Computer • Printer • Scanner

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	and check that answers provided were correct. Return any incorrect answers to learners and ask them to change their answer to the correct one. Demonstrate the tools and equipment needed for Following work procedures. Enable learners to practice using the appropriate tools and equipment for Following work procedures in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Following work procedures in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU3: Follow symbols and Drawings	Invite an experienced colleague to deliver a presentation about Following symbols and Drawings. Ensure that the presentation addresses the following points: - Identify Emergency and Warning symbols - Adopt emergency/warning symbols on site - Interpret building drawings. - Interpret abbreviations and symbols common to Electrical/Electronics/Mechanical drawings - Follow drawings of gas and water supply lines. Prepare either: - A flip chart - A PowerPoint slide - A handout …showing key topics for Following symbols and	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** - Handbooks - Pencils - Rubber - Sharpeners - Paper Cutter - Scissor - Colors - White charts - Brown sheets

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	Drawings. 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 Following symbols and Drawings. 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 Following symbols and Drawings. Enable learners to practice using the appropriate tools and equipment for Following symbols and Drawings in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Following symbols and Drawings in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		• White board markers • Permanent markers • File cover and files • Computer • Printer • Scanner
LU4: Manage Installation Time	Deliver an illustrated presentation on Managing Installation Time. Ensure that the presentation focuses on the following:	Practical: Lab/ Field	Learner guide Multi-media projector Handouts

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	• Assemble dish antenna in given time frame as per SOPs. • Schedule time frame for cabling and connections. • Manage time for tuning Display a slide or flip chart with a key question relating to Managing Installation Time. **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 Managing Installation Time. Learners must be able to practice and develop their knowledge and skills relating to Managing Installation Time in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		Videos **Tools and equipment** • Handbooks • Pencils • Rubber • Sharpeners • Paper Cutter • Scissor • Colors • White charts • Brown sheets • White board markers • Permanent markers • File cover and files • Computer • Printer • Scanner

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
LU5: Control Installation Quality	Invite an experienced colleague to deliver a presentation about Controlling Installation Quality. Ensure that the presentation addresses the following points: • Inspect cable layout • Adopt satellite dish installation techniques as per service provider's SOPs. • Ensure best signal quality. • Ensure the workability of input/ output ports. • Ensure customer satisfactory feedback. Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Controlling Installation Quality. 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 Controlling Installation Quality. 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	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Handbooks • Pencils • Rubber • Sharpeners • Paper Cutter • Scissor • Colors • White charts • Brown sheets • White board markers • Permanent markers • File cover and files • Computer • Printer • Scanner

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	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 Controlling Installation Quality. Enable learners to practice using the appropriate tools and equipment for Controlling Installation Quality in a controlled environment. Learners must be able to practice and develop their knowledge and skills relating to Controlling Installation Quality in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU6: Maintain Customer Record	Deliver an illustrated presentation on Maintaining Customer Record. Ensure that the presentation focuses on the following: • Keep record of customer personal detail • Keep record of dish installation relevant components • Keep record of customer complaints Learners need to devise 10 quiz questions with answers based on Maintaining Customer Record. They must make sure their questions cover key topics for Maintaining Customer Record. Issue each learner with 10 blank cards. Each learner should number the cards and write their name on one	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Handbooks • Pencils • Rubber • Sharpeners • Paper Cutter • Scissor • Colors • White charts

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	side with a question about Maintaining Customer Record. On the reverse of the card, they should write an appropriate answer to their question.		• Brown sheets • White board markers • Permanent markers • File cover and files • Computer • Printer • Scanner
	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.		
	Demonstrate the tools and equipment needed for Maintaining Customer Record. Enable learners to practice using the appropriate tools and equipment for Maintaining Customer Record in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Maintaining Customer		

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	Record in an appropriate practical setting. Ensure that learners have the opportunity to ask questions to support their understanding.		
LU7: Label Tags on Accessories	Lead a brainstorm on Labeling Tags on Accessories. List the brainstorm ideas on a flipchart. If necessary, prompt learners to consider the following: • Provide instructional tags on main devices • Provide name tags on different cables Prepare either: • A flip chart • A PowerPoint slide • A handout …showing key topics for Labeling Tags on Accessories. 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 Labeling Tags on Accessories. 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	Practical: Lab/ Field	Learner guide Multi-media projector Handouts Videos **Tools and equipment** • Handbooks • Pencils • Rubber • Sharpeners • Paper Cutter • Scissor • Colors • White charts • Brown sheets • White board markers • Permanent markers • File cover and files • Computer • Printer • Scanner

Module 10: 0619001087 Plan Work

Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
	the key topics.		
	End the group discussion activity with a summary.		
	Demonstrate the tools and equipment needed for Labeling Tags on Accessories. Enable learners to practice using the appropriate tools and equipment for Labeling Tags on Accessories in a controlled environment.		
	Learners must be able to practice and develop their knowledge and skills relating to Labeling Tags on Accessories 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 7

Question 1 AsiaSat 1 launched as Westar 6 on Space Shuttle mission STS-41B, became stranded in orbit, was retrieved by Space Shuttle mission STS-51A in November 1984, sold to AsiaSat, AsiaSat I covers how many countries in Asia?

A 38

B 10

C 28

D 15

Question 2 What is the delay time for satellite transmission from earth transmitter to earth receiver?

A 0.5 s

B 1.0 s

C 5 ms

D 0.25 ms

Question 3   What happen when weather is rainy or cloudy on satellite communication?

A   Enhance

B   Distort

C   Amplify

D   Nothing

Question 4   If satellite dish receiver or DVR freezes at regular intervals, suffers signal loss and get into the search mode, then you have to check

A   Alignment of Dish antenna

B   DVR version

C   Remote

D   Satellite tv

Question 5   Which tool is necessary to check exact location of specific satellite?

A   Compass

B   satellite finder

C   Cable tester

D   Compression tool

MODULE 8

Question 6   When conducting site survey location identified by customer must have

A   clear line of sight

B   Wall

C   Water

D   None

Question 7   Engineers and technicians uses different kinds of tools and equipment for safety of human life and materials, in that context what does PPE stands for_____?

A   Personal protective equipment

B   Programmable protective equipment

C   Permanent protective equipment

D   Perfect protection equipment

Question 8   It is consideration in site survey to monitor_____, because site survey is the identification and documentation of site and everything impacting its surroundings.

A   Water availability

B   Weather condition

C   Transportation mechanism

D   Nearest sea

Question 9 Sometime big numbers are stated in scientific notation (i.e in the powers of tens) to shorten the length of the number, so 1 GHz of frequency will be equal to

A 10^7 Hz

B 10^{-7} Hz

C 10^9 Hz

D 10^{-9} Hz

Question 10 Rays that travel in a narrow beam and easily pass through atmosphere of Earth are

A microwaves

B x-rays

C gamma rays

D infrared rays

MODULE 9

Question 11 Angular velocity of a satellite is selected to have fixed point on the equator, so a satellite covers longitude of earth up to

A 110°

B 120°

C 150°

D 180°

Question 12 Geostationary satellites revolves in the same direction as earth and place at an altitude of 22200 miles, so whole world can be covered with_____.

A 2 geo-stationary satellites

B 3 geo-stationary satellites

C 4 geo-stationary satellites

D 5 geo-stationary satellites

Question 13 GEO refers to an orbit above earths equator at the altitude of 35786 KM, GEO stands for_____.

A   Geostationary Earth Orbit

B   Geographical Earth Orbit

C   Geostructure Element Orbit

D   Geostructure Earth Orbit

Question 14 Satellites process microwaves with bidirectional antennas, which is

A   Line of Signals

B   Line of Sight

C   Line of Direction

D   Line of Stations

Question 15 Line-of-sight propagation is a characteristic of Electromagnetic wave propagation which means that propagated signals will travel in straight line from transmitter to receiver, it is done by_____.

A MEO Satellites

B GEO Satellites

C LEO Satellites

D None

MODULE 10

Question 16 _____ is the process of collecting job related information.

A Job analysis

B Job design

C Methods of collecting job data

D None of the above

Question 17 What is the reason for carrying multiple transponders in a satellite?

A   More number of operating channel

B   Better reception

C   More gain

D   More gain

Question 18 Why are VHF, UHF, and microwave signals used in satellite communication?

A   More bandwidth

B   More spectrum space

C   Are not diffracted by the ionosphere

D   Economically viable

Question 19 What is the reason for shifting from c band to ku band in satellite communication?

A   Lesser attenuation

B   Less power requirements

C   More bandwidth

D   Overcrowding

Question 20 Which technique uses two different antennas to reduce traffic on the same frequency?

A   Spatial isolation

B   Frequency reuse

C   Multiplexing

D   Modulation

Answers

Questions	Answer	Questions	Answer
1	A	11	B
2	A	12	B
3	B	13	A
4	A	14	B
5	B	15	B
6	A	16	A
7	A	17	A
8	B	18	C
9	C	19	D
10	A	20	C