TVET CERTIFICATE III in COMPUTER SYSTEM TECHNOLOGY

MODEM MAINTENANCE

COSMM301

Maintain Modem

Competence

Learning hours

30

Credits: 3

Sector: ICT

Sub-sector: Computer maintenance

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Purpose statement

This core module describes the skills, knowledge and attitude required to maintain a Modem. The learner will be able to select and arrange different materials, equipment and tools used when doing Modem Maintenance

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Learning unit 1 - Prepare tools, Material and Equipment

LO1.1 - Identify tools, Material and equipment

- Content/Topic 1: Introduction to Modem

Modem is a device that converts signals produced by one type of device (such as a computer) to a form compatible with another (such as a telephone) and that is used especially to transmit and receive information between computers via landlines.

- A modem (Modulator-Demodulator) is a network hardware device that modulates one or more carrier wave signals to encode digital information for transmission and demodulates signals to decode the transmitted information.
- The word "**modem**" is a contraction of the words modulator-demodulator. A **modem** is typically used to send digital data over a phone line. The sending **modem** modulates the data into a signal that is compatible with the phone line, and the receiving **modem** demodulates the signal back into digital data.
- A **modulator** (or radio frequency **modulator**) is an electronic device whose input is a baseband signal which is used to modulate a radio frequency source.
- In electronics and telecommunications, modulation is the process of varying one or more properties of a periodic waveform, called the carrier signal, with a modulating signal that typically contains information to be transmitted
- A **demodulator** is an electronic circuit (or computer program in a software-defined radio) that is used to recover the information content from the modulated carrier wave.

  Demodulation is extracting the original information-bearing signal from a carrier wave
- **Demodulation** is the process by which the original information bearing signal, i.e. the modulation is extracted from the incoming overall received signal. The process of demodulation for signals using amplitude modulation can be achieved in a number of different techniques, each of which has its own advantage.

- **Where we use a Modem**

  We use a modem in Hospital, School, Business, Administration, home etc. ….

- **Advantages and disadvantages of Modem**

Advantages of the modem:

1. More useful in connecting LAN with the internet
2. Speed depends on the cost
3. Slow speed when compared to the hub
4. A limited number of a system can be connected
5. A modem is most probably widely used in data communication roadway
6. A modem converts that the digital signal into an analog signal

Disadvantages of the modem:

1. Acts just as an interface between LAN and internet
2. No traffic maintenance is present
3. A modem is not understood the intermediate process
4. The modem does not know about the own destination path

- Content/Topic 2: Identification of tools and equipment

- **Screwdrivers:** A screwdriver is a tool, manual or powered, for screwing and unscrewing screws. A typical simple screwdriver has a handle and a shaft, ending in a tip the user puts into the screw head before turning the handle.

Screwdriver Types?

- Flat Head or Slotted Screwdriver. This screwdriver type is probably the most common form of hand tool.

- **Phillips** Screwdriver.

- Torn or Star Screwdriver.

- Hex Screwdriver.

- Pozidriv Screwdriver.

- **Robertson** or Square Screwdriver.

- Tri Wing Screwdriver.

  - **Nose pliers:** Needle-nose pliers are both cutting and holding pliers used by artisans, jewellery designers, electricians, network engineers and other tradesmen to bend, re-position and snip wire.

- **Network cable:** Networking cables are networking hardware used to connect one network device to other network devices or to connect two or more computers to share printers, scanners etc.

- **DVD/CD:** Digital Versatile Disc or Digital Video Disc/ *Compact disc* (*CD*), a **DVD** or **DVD**-ROM is a disc capable of storing a significant amount more data than a standard compact disc.

- Content/Topic 3: Identification of Modem default parameter

User name: A **username** is a **name** that uniquely identifies someone on a computer system. For example, a computer may be setup with multiple accounts, with different usernames for each account. Many websites allow **users** to choose a **username** so that they can customize their settings or set up an online account. you write a username Your **username** can be a form of your name, such as your first name and your surname's initial. You can also choose just about anything else that's memorable and unique **to** you.

The most commonly guessed usernames are:

1. oracle.
2. admin.
3. user.
4. postgres
5. guest.
6. nagios.
7. **mysql**.
8. tomcat.

Password: A *password*, sometimes called a passcode, is a memorized secret used to confirm the identity of a user.

- Sequence of characters (letters, numbers, symbols) used as a secret key for accessing a computer system or network.
- A *password* is a set of secret characters or words used to authenticate access to a digital system.
- To find the default **password**, find your Wi-Fi router and examine it. You should see a sticker somewhere on it that contains both the “SSID”–the wireless network name–and the **password**. If you haven't changed the default **password** yet, you can use that **password** to connect to the router.

IP address: a unique string of numbers separated by full stops that identifies each computer using the Internet Protocol to communicate over a network.

- An Internet Protocol address is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication.

LO1.2 - Test tools, material and equipment

- Content/Topic 1: Testing of tools and equipment

Tools and testing equipment create signals and capture electronic signatures from sensitive electronic networking equipment to trace faults, improve performance and develop more efficient circuits, configurations, and energy-saving initiatives. Common tools include cabling test kits, automatic testing equipment, signal generators, fiber microscopes for fiber-optic troubleshooting, meters, crimpers, wiring instruments, and testers. Meters include voltmeters, ohmmeters, EMF meters, LCR meters, ammeters, and multi-meters to monitor current usage. Advanced testing gear proves essential when developing circuits for IT networks. Analyzers can test circuit logic, functionality, spectral energy signatures, and protocol conformance. Even simple static meters could provide sound cost benefits by preventing dangerous static charges, which could cause extensive damage to expensive networking equipment or losses of proprietary data. Test of tools and equipment it is the process of testing and verifying how the tools and Equipment of modem its work properly or configured well as:

- **Network cable**: **Networking cables** are networking hardware used to connect one network device to other network devices or to connect two or more computers to share printers, scanners etc. Different types of network cables, such as coaxial cable, optical fiber cable, and twisted pair cables, are used depending on the network's physical layer, topology, and size.
- **DVD/CD: DVD** (abbreviation for Digital Versatile **Disc** or Digital Video **Disc**) is a digital optical **disc** data storage format invented and developed in 1995 and released in late 1996.

LO 1.3 - Arrange the workplace

- Content/Topic 1: Arrangement of tools and equipment

  At the end of using tools and equipment its better to arrange those materials according to the kind of tools and equipment. Making sure that all tools and equipment are well organised and maintained in good working condition. They should be arranged in a separate secure place so that they are safe and easy to

find. This is usually best done in a place which is separate from the office.

Lost tools are expensive to replace and much time can be wasted if they are not available and ready to use when needed.

It is usual for those who have responsibility for looking after tools, equipment and materials to keep an inventory (list) of these things.

It is a good idea to have a tool box equipped with the necessary plumbing tools and materials (washers, thread tape, O-rings) ready to be picked up and taken to a job.

This tools and equipment is used in Modem:

- Screwdrivers
- Nose pliers
- Network cable
- DVD/CD

This is the sample of tool box.

Learning Unit 2 - Troubleshoot Modem

LO 2.1 - Login into modem configuration

- Content/Topic 1. Introduction to modem configuration

Below are the troubleshooting steps to follow if you are not able to access the configuration page of your modem via its default address http://192.168.1.1.

If step 1 does not help, then try step 2 and so on until the problem is resolved.

Step 1. Access the modem's configuration page.
Accessing your modem's configuration pages does not require Internet connection as these pages are stored inside your modem. Your computer just needs to be connected to the modem. First try connecting your computer to the modem using a network cable.

Open your Internet browser e.g. Internet Explorer, Firefox, Chrome, Safari, etc. and enter the IP address of your D-Link modem in the **address bar**: http://192.168.1.1.

This should open the login page for your modem's configuration pages. Use the instructions provided with your product to login and complete the configuration.

Step 2. Check connectivity.
Verify physical connectivity by checking for solid link light on the Ethernet (LAN) port of the modem. If you do not get a solid link light, try using a different cable or connect to a different LAN port on the device if possible. If the computer is turned off, the link light may not be on.

Recycle the power on the modem. To do that, switch the power off. Wait 30 seconds. Switch the power on and wait for the lights to stabilize.

Restart the computer.

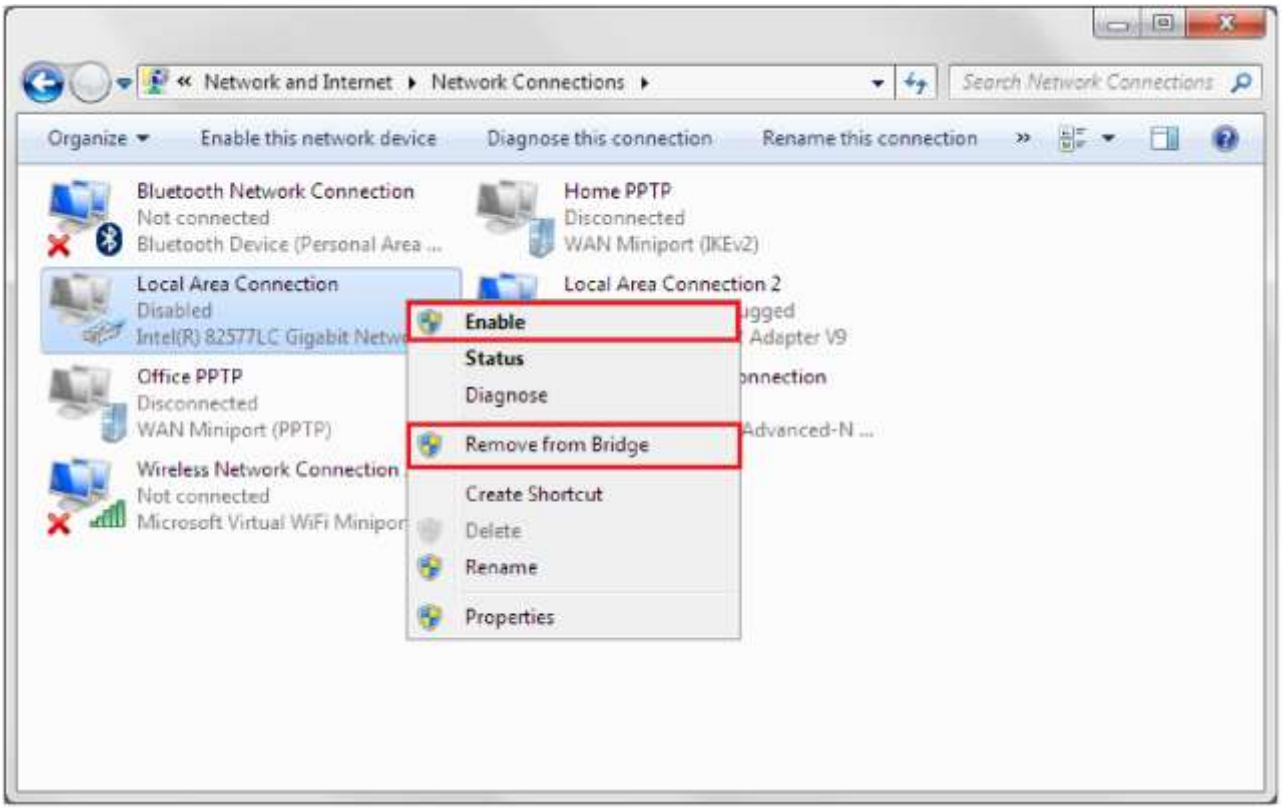
After your computer restarts check the link light on the modem's Ethernet (LAN) port.

Step 3. Check your Internet Browser settings.
Make sure your Internet browser is not set to use a proxy server. In Internet Explorer you can check this by going to Tools > Internet Options > Connections > LAN Settings.

Try accessing your modem with “Automatically detect settings” option disabled. Close all your browser windows and re-open it after changing the settings.

Step 4. Check Network Adapter settings (For Windows Only).

If you are using Windows XP, Vista, 7 or 8 - Please go to Control Panel >Network and Internet > Network Connections... Make sure that your Local Area Connection is enabled and not bridged with any other connection. If you see any icon there which is called “Bridge” - delete it. If you see your Local Area Connection marked as Bridged - right-click and select Remove from Bridge.



Step 5. Set your computer with static IP address.
Windows XP: Control Panel > Network Connections > Local Area Connection > Properties > Internet protocol TCP/IP > Properties...

Windows Vista: Control Panel > Network and Internet > [Network and Sharing Centre] > View Network Status and Tasks > View Status > Properties > Internet Protocol v4 > Properties...

Windows 7 and 8: Control Panel > Network and Internet > [Network and Sharing Centre] > Click on [Change adapter settings] on the left hand side menu.

Right click on [Local Area Connection] > [Properties] > [Internet Protocol Version 4] > [Properties]

Select the "Use the following IP address" option:

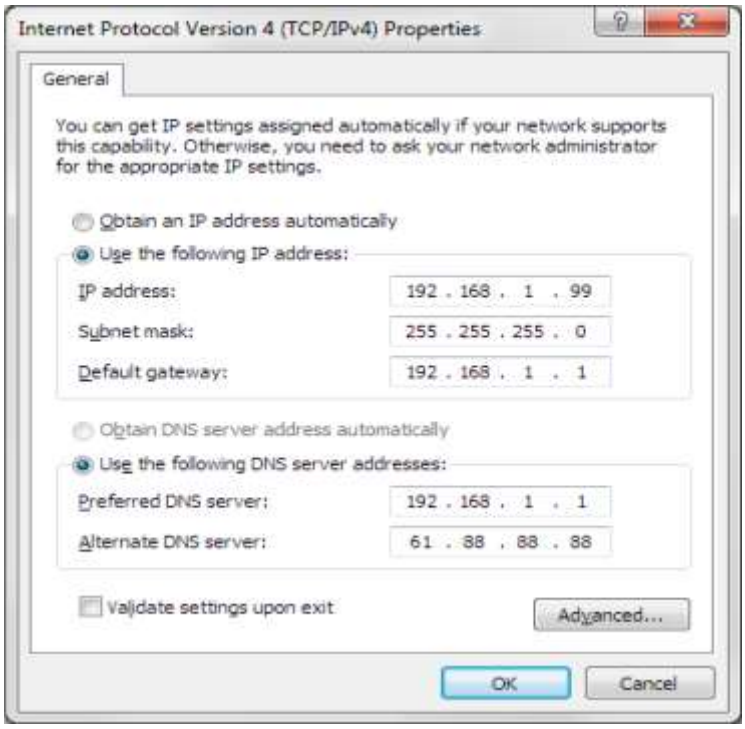
IP address: 192.168.1.99

Subnet mask: 255.255.255.0

Default Gateway: 192.168.1.1 (your modem's address)

DNS: 192.168.1.1 and 61.88.88.88 (or whichever your provider is using).

Click on OK.



Step 6. Factory reset the modem.
While the modem is powered on - press and hold the reset button for 10 sec. Release the button and wait until the modem boots up (1 min).

Please NOTE: the factory reset will change all the modem's settings back to factory defaults, which means all the changes you applied to the modem will be reverted (including passwords). Please have your Internet Provider's login details (your Username and Password) with you, which you will need to re-enter into the modem's Internet Settings field.

Step 7. Configure your Internet settings.
Go to Start > Settings > Control Panel. Double click the Internet Options Icon. From the Security tab, click the button to restore the settings to their defaults. Click to the Connection tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Nothing should be checked. Click OK. Go to the Advanced tab and click the button to restore these settings to their defaults. Click OK out to the desktop and close any open windows.

Step 8. Disable any Internet security software running on the computer.
Software firewalls like Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, etc. may block access to the configuration pages of your modem. Check the help files included with your firewall software for more information on disabling or configuring it.

Below is an example screenshot of firewall software configuration options.

Step 9. Try to access the router using a different Internet Browser.
Open an alternative Internet browser e.g. Internet Explorer, Firefox, Chrome, Safari, etc. and enter the IP address of your D-Link modem in the **address bar**: http://192.168.1.1.

Try these options in the address bar of your Internet Browser:

192.168.1.1 http://192.168.1.1

http://192.168.1.1:88

Step 10: Try accessing the modem from a different computer.
If after following these steps you still cannot log into your modem please contact D-Link Technical Support.

- Content/Topic 2: Logging into the Modem.

First try connecting your computer to the **modem** using a network cable. Open your Internet browser e.g. Internet Explorer, Firefox, Chrome, Safari, etc. and enter the IP address of your D-Link **modem in** the address bar: http://192.168.1.1. This should open the **login** page for your **modem's** configuration pages. Please note: Accessing your modem's configuration pages does not require Internet connection as these pages are stored inside your modem. Your computer just needs to be connected to the modem.

1. Open your Internet browser e.g. Internet Explorer, Firefox, Chrome, Safari, etc. and enter the IP address of your D-Link modem in the **address bar**: http://192.168.1.1

2. When prompted type in the Username and Password then click on the "Log In" button.
   If you have not changed the password for the modem administration, the factory settings are:

Username: admin

Password: admin

If you cannot recall the password you assigned to your modem you will need to reset the modem to factory defaults by pressing the reset button for 10 seconds. Please note that this will revert all the settings in the modem to factory settings and you will have to reconfigure it with your Internet settings and Wireless security. Make sure you have your Internet account details (given by your Internet Provider) handy.

3. You should now be presented with the modem's configuration pages (Web-based Configuration):

- Content/Topic 3: Description of Types, model and Default parameters of modem

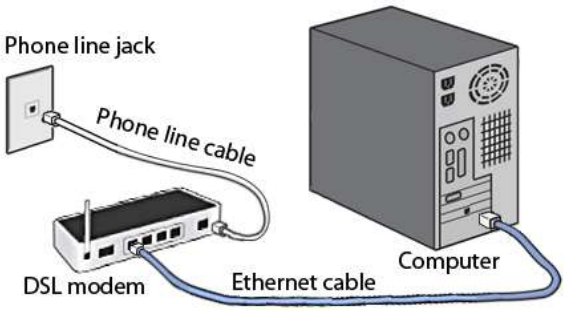
- **Types of Modem**

  There are two common different **types of modem**: Ethernet **modems** that plug into the network card in the computer, and wireless **modems** that connect to a computer using a wireless LAN (WLAN). Some **modems** offer dual Ethernet and USB connection. There are also routers with integrated ADSL (Analog and Digital Services Line) **modem**.

1. **Analog modems** are used for dial-up connections.

- *Analog modem* is A device that converts the computer's digital pulses to tones that can be carried over *analog* telephone lines, and vice versa.

2. **DSL and cable modems** are high-speed broadband connections.
   - DSL: Digital subscriber line is a family of technologies that are used to transmit digital data over telephone lines.
   - A *cable modem* is a hardware device that allows your computer to communicate with an Internet service provider over a landline connection.



3. **ISDN modems** transfer information in channels of 64 kilobits per second (Kpbs) which can be combined for higher speeds.
   - Integrated Services Digital Network (**ISDN**) is a set of communication standards for simultaneous digital transmission of voice, video, data, and other network services over the traditional circuits of the public switched telephone network.

❖ **Modem model**

To check the model of modem which is installed in your computer, use the following steps to find out.

Microsoft Windows users

Microsoft Windows users can determine the modem that is currently installed in their computer by following the steps below.

1. Click the Start Button and then click the "Programs" folder.
2. Next, click the "Accessories" and then the "System Information" folder.
3. Within the **System Information** window, click the **+** symbol next to **Components**.
4. Click "Modem" and in the right side of the window you should be able to locate complete information about the modem.

Note: If nothing is listed you don't have a Modem in the computer.

Other methods of determining the modem type

One of the best methods of determining the modem within a computer is to physically inspect the modem. On the modem you should see the manufacturer, model number, and speed by opening the computer and physically looking at the modem.

If you are unable to locate a manufacturer or model number of the modem, but can locate an FCC identification number, it is recommended that you perform an FCC search using that number.

Product listing or specifications

If you are trying to list all the specific information about your computer modem, specifying the manufacturer, type, model, and speed of the modem is sufficient.

- **Default parameters**

A **default argument** is a value provided in a function declaration that is automatically assigned by the compiler if the caller of the function doesn't provide a value for the **argument** with a **default** value.it has three default Parameters which named User name, Password and IP Address.

- **User name:** A **username** is a **name** that uniquely identifies someone on a computer system.
- **Password:** A *password*, sometimes called a passcode, is a memorized secret used to confirm the identity of a user.
- Sequence of characters (letters, numbers, symbols) used as a secret key for accessing a computer system or network.
- A *password* is a set of secret characters or words used to authenticate access to a digital system.

- **IP address:** a unique string of numbers separated by full stops that identifies each computer using the Internet Protocol to communicate over a network.
- An Internet Protocol address is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication.

LO2.2: Manage the modem configuration

- **Topic 1: identification of Modem installation stapes, feature or service and modem Configuration.**

1. Step 1: Connecting Your Wireless **Modem**. Connect the GREY phone line cable into the **modem** port marked "DSL".
2. Step 2: Connecting Your Computer to Your Wireless **Modem**. Connect the YELLOW Ethernet cable to the "Eth1" port on your **modem**.
3. Step 3: Waiting on Your **Modem** Lights to Turn Green. ...
4. Step 4: Open browser.
5. Open your web browser and then key in your router's default gateway: 192.168. 254.254. Type "user" as your username and **password**. For PPPoE users, just enter the broadband username and **password**, click on 'Connect' button, and then click 'Save and reboot'.

❖ **Modem features**

- At command help screens. At commands allow you to control many of functions of your Modem
- Automatic calling card dialing
- Automatic cable sensor
- Call progress detection
- Call ID
- Analog cellular communication
- Dialing stored phone numbers
- Digital line guard

❖ **Modem configuration stapes**

1. Step 1. Open up a web browser and type in the IP Address of the DSL-300T (default is 192.168.1.1). Press Enter
2. Enter the Login Name and Password (default is admin/admin). Click on Login

3. Click on the setup tab at the top. Click on **connection** on the left.
4. Configure the following for your connection :
    - **Type-** set the connection type to PPPoA (asused in the UK)
    - **Name –**type in the name for the connection
    - **Encapsulation –** set the encapsulation as recommended by your ISP
    - **User name-** type in the ISP login username
    - **Password –** type in the login password

    Click on **Apply** when done
5. Click on the status tab at the top and then click on Connection status on the left side. The connection information can be seen in the WAN section of the page. Once connected, your machine will now get the IP address from the ISP.
6. Click on **tools** at the top. Click on **System Commands** on the left click on **save** all to permanently save the changes.

- **recover modem password**

If you can't access the router's web-based setup page or **forgot** the router's **password**, you may reset the router to its default factory settings. To do this, press and hold the Reset button for 10 seconds. NOTE: Resetting your router to its default factory settings will also reset your router's **password**.

- **Change Router's Login Information**

Enter **your** router's IP address into **your** favorite web browser.

Log in with **the** default username and **password** (both admin, usually).

Go to settings.

Select **Change** Router **Password** or **a** similar option.

Enter **the** new **password**.

Save **the** new settings.

LO 2.3: Test the modem

Content/Topic 1: outlook of testing modem

Test the modem is a procedure intended to establish the quality, performance, or reliability of something, especially before it is taken into widespread use.

Before you test the modem, you must first have an understanding of how to troubleshoot possible modem problems. Knowing what tests to run and when to run them is key to this troubleshooting procedure.

- **Testing the modem installation and configuration**

To verify that your modem is functioning properly, use the following procedure to test the problems.

Run the handshake **test**.

Run the handshake **test** again.

If the handshake **test** is successful, run the offhook **test**.

Perform the offhook **test** again.

If either the handshake or the offhook **test** fails again, reset the **modem**.

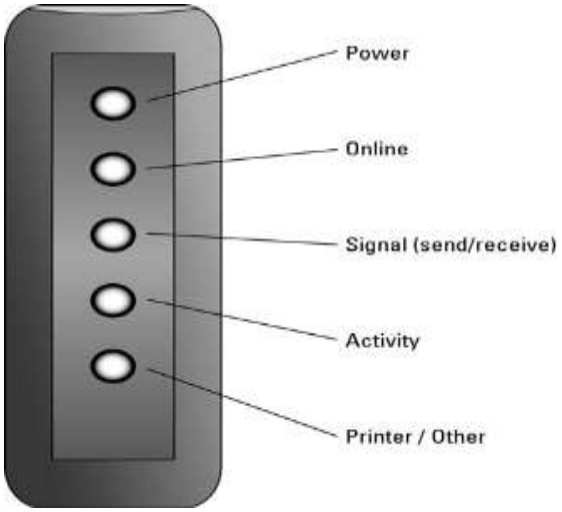
- **How to Test Broadband Internet Connection**

Connecting to the Internet is taken for granted. Until something goes wrong. Don't panic. Test and troubleshoot. Check these items when you experience problems getting or staying online:

Power source: Confirm that you have power — when the power goes out, the Internet goes out.

Other signals: If you're using cable Internet access, for example, check the cable TV. If the TV signal is out, your problem is with the cable system. On a DSL connection, check the phone line: No dial tone means no Internet.

Modem lights: Broadband modems feature lights that do more than just look impressive. Ensure that your modem's lights are on, have the proper color, and, if appropriate, are blinking.



Here's what the lights can mean and how they factor into checking the Internet connection. Not all modems have the variety of lights listed.

Lamp Name	What the Modem Is Doing When the Lamp Is Lit
Power	Receiving power and operating normally.
Online	Letting you know that it's connected to the service, but not necessarily to the Internet.
Signal	Sending information to, and receiving it from, the Internet.
Send	Sending information to the Internet.
Receive	Receiving information from the Internet.
Activity	(Flashing) Sending communications to, or receiving it from, the computer or local network.
Status	Working or having issues. The lamp may change color, depending on the modem's condition or connection.

First, check the power light. Is the modem turned on? Check the power connection from the modem to the wall socket. No power means no Internet.

Second, check the modem's signal or receive light. When the light is off, blinking, or colored red or orange, the Internet connection has a problem. Specifically, a signal isn't being broadcast. You can phone your ISP for assistance or wait a few seconds to see whether the problem clears itself.

Disable the standby or loopback switch. Some modems feature a diagnostic switch, which can be labeled Standby or Loopback. Ensure that the switch is in the proper position for the modem to communicate.

Check physical connections. Is the modem connected to a router? Is the router plugged in and functioning? Are the network connections working? Can your computer access other computers on the local network? Can you *ping* the router?

Restart the modem. Restarting the modem is perhaps the most common trick for getting a broadband connection back up and running.

Testing for Analog modem

This might even mean using older PCs and subscribing to inexpensive dial-up Internet service. This means using either an external or built-in dial-up modem. To test the modem to see if it is in proper working order after installation, you use the Windows Phone and Modem utility to locate the modem and perform diagnostics. Then Windows can determine whether the modem is properly installed and able to dial into a network.

-Click Start, then "Control Panel," then "Phone and Modem."

-Click the "Modems" tab.

-Select the modem from the list. If the modem does not appear, it is not installed in Windows or Windows does not detect it.

-Click the "Properties" button.

-Click the "Diagnostics" tab, then click "Query Modem." Windows now tests the modem to make sure it is responding and returns any errors reported by the modem or the operating system.

Learning unit 3: Document the work done

LO3.1: Document the review process

- **Content /Topic 1: Description of modem before**

  ✓ **Status of network infrastructure**

  When you are making a report you have to describe or to make a good explanation on how the network was before you start to work. Designing, installing and managing IT infrastructure requires a wide spectrum of experience and skills. Commercial and government clients have been turned to us for these skills for over 30 years. With cost effective IT infrastructure solutions from Tier One vendors such as **HP**, **Dell**, **Juniper**, **Aruba** and **Microsoft**, KIS can help streamline your networks.

- **describe problems found**

  is to explain the Status of network infrastructure and describe problems of network that handed. Four computers and two printers are not connected to the network. Usernames and password of network backup storage devices are not matching; wireless network portable devices are not able to connect to the network, antivirus is not updated and network devices are not cleaned (Hardware and system software).

- **Content /Topic 2: Review of user manual and previous report**

  A user guide or user's guide, also commonly known as a manual, is a technical communication document intended to give assistance to people using a particular system.

  So maybe there are some other technicians came before you have to consult what they said, like the problems they faced and how they resolved those issues.

  Having an expert review any existing *network implementation plan* document will definitely help identify any gaps or risks that may have not been highlighted. The *network implementation plan review* service provides this additional level of diligence needed to ensure project tasks are optimally planned and deliver on the promise with minimum risk.

- **Suggestion of solutions on problems found**

  Suggestion is an idea or plan put forward for consideration. So you have to suggest to solution according to what you have seen is a problem.

What you can do: is a Description of solution implementation and procedures of how that task can be accomplished. Regarding to the Network Devices, equipment and materials that can be used.

- **Content /Topic 3: Description of solution implementation**

IT is networking that is going to decide much of your work performances and be the most effective accelerator for your digital transformation. This enabler therefore needs to be less complicated, highly simplified and indefinitely agile. Therefore it's best to hire experts to deploy, operate, optimize, manage and most importantly integrate it with cloud and virtualization seamlessly.

The *network implementation plan* service provides you with expert project planners who review the *high-level design and detailed design* and prepare a *network implementation plan* document that will implement the planned change in the most efficient manner with minimum disruption to your existing services. Our designated consultants will provide guidance on synchronizing the plan deliverables into your existing project plan in case this network change is part of a wider project rollout. Leveraging experts from Avian will minimize your risk and ensure quality deployment with a faster turn-up of your new infrastructure elements. We have designed and implemented secure and reliable networks. Our experienced system engineers provide a complete solution to your IT network requirements. Turn to us for server, infrastructure, power, security, wireless, cloud and backup solutions.

- **Content /Topic 4: Description of procedures of the task accomplished**

A set of step-by-step procedures for accomplishing a task is known as a(n) algorithm.

An algorithm is a well-defined procedure that allows a computer to solve a problem. Another way to describe an algorithm is a sequence of unambiguous instructions. ... In fact, it is difficult to think of a task performed by your computer that does not use algorithms.

A programming algorithm is a computer procedure that is a lot like a recipe (called a procedure) and tells your computer precisely what steps to take to solve a problem or reach a goal. The ingredients are called inputs, while the results are called the outputs.

- **Content /Topic 5: list Devices, equipment and materials used**

1. LAN Cable
2. Connectors
3. Crimping tools
4. Krone tools

5. UTP Connector
6. Punch down tool
7. Cable tester
8. Coaxial cable
9. WAN,MAN, and LAN
10. USB Wireless interface
11. Wireless pc card
12. WAP
13. ADSL Modem
14. Cable modem
15. Router
16. Switch

- **Content /Topic 6: Description of modem after work, Technical journal and recommendation report**

❖ **Modem status after work**

After the implementation, show what you have done if you have successes or not and explain how the things are now going.

❖ **Technical journal**

The definition of **journal** is a **diary** you keep of daily events or of your thoughts or a publication dealing with a specific industry or field for example IT Field as Network Administrator. An **example** of a **journal** is a **diary** in which you write about what happens to your network status and what you are thinking possible upgrading if there any clarification.(The terms "**journal**" and "diary" apply to a record of events that is maintained on a regular basis).

❖ **Recommendation report**

A recommendation Report is a paper that compares two or more products or solutions, and makes a recommendation about which is the best option. It includes seven parts: the introduction, background information, requirements, options, category-by-category comparisons, conclusion and finally, the recommendation.

Learning Outcome 3.2: Report the procedures of the task accomplished are in place and used

- **Content/Topic 1: outline Report Format and Sample Report**

Report Writing Format

Here are the main sections of the standard report writing format: Title Section – This includes the name of the author(s) and the date of report preparation. Summary – There needs to be a summary of the major points, conclusions, and recommendations. Body – This is the main section of the report.

Here are the main sections of the standard report writing format:

- **Title Section**: This includes the name of the author(s) and the date of report preparation.
- **Summary**: There needs to be a summary of the major points, conclusions, and recommendations. It needs to be short as it is a general overview of the report. Some people will read the summary and only skim the report, so make sure you include all the relevant information. It would be best to write this last so you will include everything, even the points that might be added at the last minute.
- **Introduction:** The first page of the report needs to have an introduction. You will explain the problem and show the reader why the report is being made. You need to give a definition of terms if you did not include these in the title section, and explain how the details of the report are arranged.
- **Body:** This is the main section of the report. There needs to be several sections, with each having a subtitle. Information is usually arranged in order of importance with the most important information coming first.
- **Conclusion**: This is where everything comes together. Keep this section free of jargon as most people will read the Summary and Conclusion.
- **Recommendations**: This is what needs to be done. In plain English, explain your recommendations, putting them in order of priority.
- **Appendices**: This includes information that the experts in the field will read. It has all the technical details that support your conclusions.

Remember that the information needs to be organized logically with the most important information coming first.

Sample Report

Typical structure template for writing a committee report:

- **Members to which the report is meant for**
    - [Name, institution, location, Chair]
    - [Name, institution, location, member]
- **[Date, Time, and Location]**
    - [Provide simple documentation of any meetings of the committee or subset of the committee, in whatever mode and format, e.g., in person, conference call, etc.]
- **Purpose**
    - [Here you mention the purpose of the report in a brief. This enables the reader to understand the purpose behind writing the format.]
- **Issues** [Write different issues as sub headings and explain their highlights in bullet points below the respective sub headings]
        - network status before

describe problems found

- user manual and previous report
- solutions on problems found
- solution implementation
- procedures of the task accomplished

- Network Devices, equipment and materials used

- **Near-Term Plans / Main Body of the Report** [Use Sub Headings as and where needed. In bullet form, outline near-term actions and plans as well under those sub headings.]

- **Informal Recommendation(s)** [An opportunity to make recommendations, suggestions, and comments to the Board and Executive Director]

    - network status after work

    - Technical journal and recommendation report

Respectfully Submitted,

[<Author's Name>]

LO 3.3 Write technical journal and recommendation

- **Content/Topic 1: written Technical journal and recommendation report**

WORK REPORT OF A NETWORK TECHNICIAN

Company/Technician Address
Company /Technician Name:
Website /Email address
PO BOX :
Office /Mobile Phone Contact :
Company /Technician office Location:

Customer Address
Company/ Individual Person Name: Website /Email address PO BOX : Office /Mobile Phone Contact : Company /Individual Person office Location:
Status Before Work
User manual and previous report
Solutions on problems found
Solution And Implementation
procedures of the task accomplished
Network Devices, equipment and materials used
Status After Work

Observations /Recommendations
Customer Verification Names: Signature /stamp Date:
Company /Technician Verification Name: Signature/stamp Date:

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12. Linksys .Cable modem with USB and Ethernet connection Copyright © 2003 Cisco Systems, Inc.