

UNESCO-NIGERIA TECHNICAL & VOCATIONAL EDUCATION REVITALISATION PROJECT-PHASE II



NATIONAL DIPLOMA IN COMPUTER SCIENCE



INTRODUCTION TO INTERNET

COURSE CODE: COM122

YEAR I- SE MESTER II

PRACTICAL BOOK

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CONTENT PAGE

WEEK 1: Concept of Internet	3
WEEK 2: Data Transmission	10
WEEK 3: Computer Network Techniques	13
WEEK 4: Classification of Computer Networks	15
WEEK 5: Benefits of the Internet	18
WEEK 6: Internet Services	22
WEEK 7: Internet Services	20
WEEK 8: The Concept of Cybercafé	32
WEEK 9: Internet Connectivity	35
WEEK 10: Connecting to the Internet	32
WEEK 11: Wireless Transmission Media	40
WEEK 12: Network Protocol	44
WEEK 13: Obstacles to Internet Growth in Nigeria	46
WEEK 14: Concept of Internet Service Provider (ISP)	48
WEEK 15: Domain Name System	52

WEEK 1 Practical: Concept of Internet

Learning Outcomes

During this practical class you will learn how to:

- Search the Internet
- Find organizations having Intranet and Extranet

Resources: Networked PCs connected to the Internet

Practical Instruction I

Searching the Internet

Commonly Used Search Engines

Alta Vista - http://www.altavista.com

Excite - http://www.excite.com

HotBot - http://www.hotbot.com

Lycos - http://www.lycos.com

Web Crawler - http://www.webcrawler.com

Yahoo - http://www.yahoo.com

The Essentials of Google Search

Click on any existing Internet Explorer shortcut you have on the desktop 1.



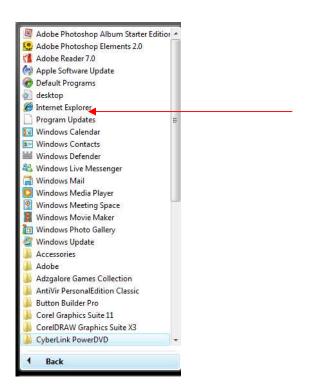
Or



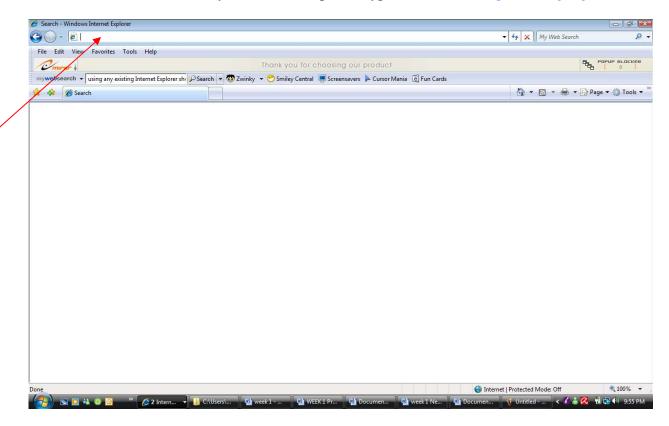
From your Start Menu click on Programs



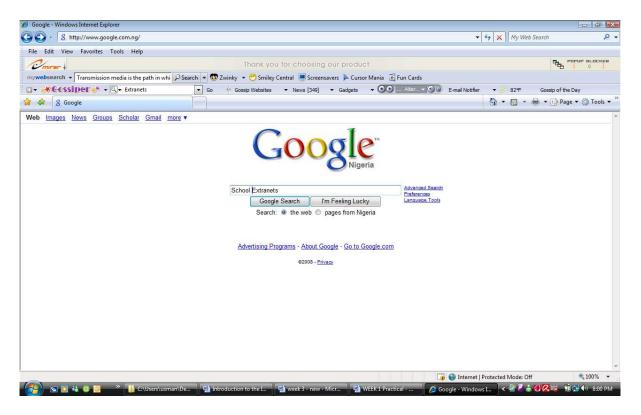
Select Internet Explorer.



4. On the address bar of your Internet explorer, type this address: http://www.google.com



5. The Google webpage will be displayed



6. Doing a search on Google is easy. Simply type one or more search terms (the words or phrase that best describe the information you want to find) into the search box and hit the 'Enter' key or click on the Google Search button.



In response, Google produces a results page: a list of web pages related to your search terms, with the most relevant page appearing first, then the next, and so on.

Here are some basic tips to help you maximize the effectiveness of your search:

Choosing search terms

Choosing the right search terms is the key to finding the information you need.

Start with the obvious – if you're looking for general information on Hawaii, try **Hawaii**. But it's often advisable to use multiple search terms; if you're planning a Hawaiian vacation, you'll do better with **vacation Hawaii** than with either **vacation** or **Hawaii** by themselves. **And vacation Hawaii** golf may produce even better (or, depending on your perspective, worse) results.



You might also ask yourself if your search terms are sufficiently specific. It's better to search on **luxury hotels Maui** than on **tropical island hotels**. But choose your search terms carefully; Google looks for the search terms you chose, so **luxury hotels Maui** will probably deliver better results than **really nice places to spend the night in Maui**.

Capitalization

Google searches are **NOT** case sensitive. All letters, regardless of how you type them, will be understood as lower case. For example, searches for **george washington**, **George Washington**, and **gEoRgE wAsHiNgToN** will all return the same results.

Automatic "and" queries

By default, Google only returns pages that include all of your search terms. There is no need to include "and" between terms. Keep in mind that the order in which the terms are typed will affect the search results. To restrict a search further, just include more terms. For example, to plan a vacation to Hawaii, simply type **vacation hawaii**.



Automatic exclusion of common words

Google ignores common words and characters such as "where" and "how", as well as certain single digits and single letters, because they tend to slow down your search without improving the results. Google will indicate if a common word has been excluded by displaying details on the results page below the search box.

If a common word is essential to getting the results you want, you can include it by putting a "+" sign in front of it. (Be sure to include a space before the "+" sign.)

Another method for doing this is conducting a phrase search, which simply means putting quotation marks around two or more words. Common words in a phrase search (e.g., "where are you") are included in the search.

For example, to search for Star Wars, Episode I, use:

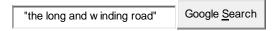


Word variations (stemming)

Google now uses stemming technology. Thus, when appropriate, it will search not only for your search terms, but also for words that are similar to some or all of those terms. If you search for **pet lemur dietary needs**, Google will also search for **pet lemur diet needs**, and other related variations of your terms. Any variants of your terms that were searched for will be highlighted in the snippet of text accompanying each result.

Phrase searches

Sometimes you'll only want results that include an exact phrase. In this case, simply put quotation marks around your search terms.



Phrase searches are particularly effective if you're searching for proper names ("George Washington"), lyrics ("the long and winding road"), or other famous phrases ("This was their finest hour").

Negative terms

If your search term has more than one meaning (bass, for example, could refer to fishing or music) you can focus your search by putting a minus sign ("-") in front of words related to the meaning you want to avoid.

For example, here's how you'd find pages about bass-heavy lakes, but not bass-heavy music:



Note: when you include a negative term in your search, be sure to include a space before the minus sign.

Practical Instruction II

Guide to finding Organizations having Intranet

- 1. On the address bar of your Internet explorer, type this address: http://www.soas.ac.uk/library/intranet/library-intranet.html
- 2. Press Enter

Questions I

1.	The displayed Webpage is for which school?
2.	The school's Library Intranet is accessible to
3.	To log on to the Intranet you need
4. 5.	Does your School Library have an Intranet?
6.	If no , what documents do you think should be made available to students apart from those stated in the webpage?

• • • • • •	
7.	Check out this Library Intranet on http://www.hkbu.edu.hk/lib/others/intranet.html , how is this library Intranet different from the other?
•••••	
8.	Check out this hospital Intranet on http://www.concordhospital.org/about/bridge.php how is this Intranet different from the other two?
9.	Search for a Polytechnic or University in Nigeria with an Intranet. Type its web address below:
	ctical Instruction III le to finding Organizations having Extranet
1.	On the address bar of your Internet explorer, type this address: http://www.google.com
2.	Type School Extranets as displayed below
3.	Press Enter
4.	Select any of the schools displayed on the list
Que	estions II
1.	Print the webpage displayed and attach to your practical manual
2.	The school's extranet is accessible to
3.	If you are to design an extranet for your school, what services would you want to be accessible to students? Why?

WEEK 2 Practical: Data Transmission

Learning Outcomes

During this practical class you will learn how to:

- Check the speed of your Internet connection
- Identify the different transmission media used for your internet connection

Resources: Networked PCs connected to the Internet

Practical Instruction

Guide to checking the speed of your Internet connection

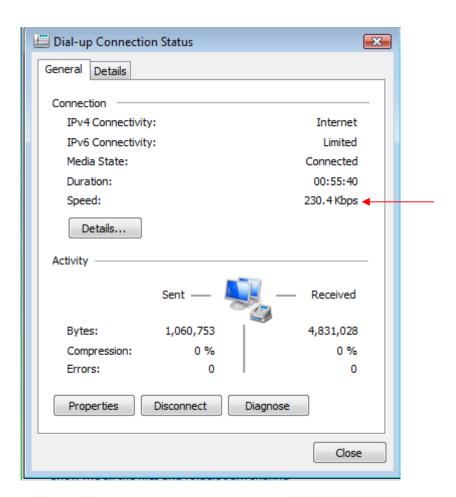
- 1. on the taskbar click on
- 2. Click on Dial-up Connection



3. Click on view status



4. Read the speed as stated in the Dial-up Connection Status window displayed



Questions

	What is the speed of your Internet connection?
2.	What are the different transmission media used for this Internet connection?
3.	Do you think the transmission media used have an effect on the speed of this connection? How?
••••	

WEEK 3 Practical: Data Transmission

Learning Outcomes

During this practical class you will learn how to:

- Obtain materials from the Internet about the structure of the ARPANET, NSFNET and MILNET
- Generate a search report

Practical Instruction

Guide to obtaining materials from the Internet about the structure of the ARPANET, NSFNET and MILNET

- Connect to the Internet
- Use your web browser and your favorite search engine to collect information on the structure of *ARPANET*, *NSFNET and MILNET*
- In order to generate a report presenting the results of your researches, copy the multimedia content found in the different web pages to a new word document
- Your report should meet the following requirements.

Present 4 to 6 pages (A4 Format)

Use basically Arial font, size 12

Include multimedia content

Include links to data sources and related Site

Append a summary at the end of the report

Include appropriate footer to your presentation

Include a cover page including

Institution name

Institution logo

Report title

Date/year

Student's name

Student's number

• Save your report in your folder as

Project-Student's name-Number

• Save a copy of your report in your folder as a HTML document

Project-Student's name-Number

WEEK 4 Practical: Classification of computer networks

Learning Outcomes

During this practical class you will learn how to classify computer networks by:

- Geographical coverage
- Connection method
- Internetwork connection method
- Functional relationship (network architectures)

Practical Instruction

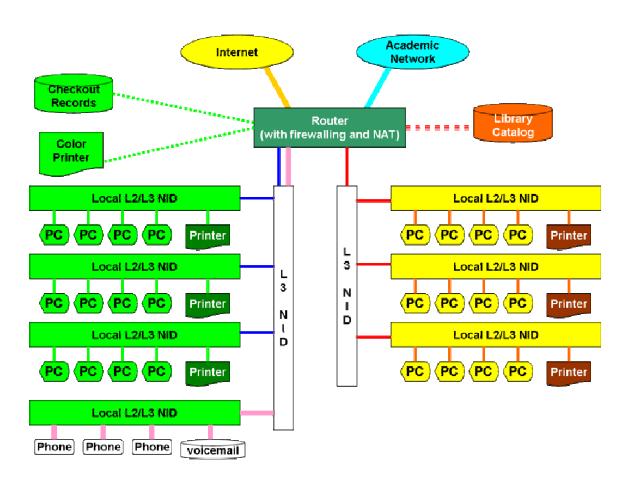
Guide to classifying computer networks

NID – Network Interface Device e.g. Switches

• Using the Network in your computer lab answer the following questions:

Questions

1.	According to Internetwork connection method, the network in the computer lab can be
	classified as a
2.	According to functional relationship method, the network in the computer lab can be
	classified as a
3.	According to geographical area method, the network in the computer lab can be classified as
	a
4.	According to connection method, the network in the computer lab can be classified as
4.	Draw a diagram of the network in your computer lab using the same symbols as shown in the
	diagram below



WEEK 5 Practical: Benefits of the Internet

Learning Outcomes

During this practical class you will learn how to use the Internet to obtain the following benefits:

- Economic benefit
- Social benefit
- Political benefit
- Educational benefit
- Cultural benefit

Practical Instruction

Guide to obtaining materials from the Internet to demonstrate the political and cultural benefits of the Internet

- Connect to the Internet
- Use your web browser and your favorite search engine to collect information on the culture of *Turks*
- Generate a report representing the results of your researches
- Copy the multimedia content found in the different web pages to a new word document
- Your report should meet the following requirements.

Present 4 to 6 pages (A4 Format)

Use basically Arial font, size 12

Include multimedia content

Include links to data sources and related Site

Append a summary at the end of the report

Include appropriate footer to your presentation

Include a cover page including

Institution name

Institution logo

Report title

Date/year

Student's name

Student's number

• Save your report in your folder as

Project-Student's name-Number

- Save a copy of your report in your folder as a HTML document Project-Student's name-Number
- Use your web browser and your favorite search engine to connect to the web site of *Peoples Democratic Party of Nigeria*

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•••••			
	•••••		
••••	• • • • • • • • • • • • • • • • • • • •	•••••	

- In order to generate a report presenting the results of your researches, copy the multimedia content found in the different web pages to a new word document
- Your report should meet the following requirements.

Present 4 to 6 pages (A4 Format)

Use basically Arial font, size 12

Include multimedia content

Include links to data sources and related Site

Append a summary at the end of the report

Include appropriate footer to your presentation

Include a cover page including

Institution name

Institution logo

Report title

Date/year

Student's name

Student's number

• Save your report in your folder as

Project-Student's name-Number

• Save a copy of your report in your folder as a HTML document

Project-Student's name-Number

WEEK 6 Practical: Internet Services

Learning Outcomes

During this practical class you will learn how to use the following Internet services:

- E-commerce
- WWW (World Wide Web)
- E-mail

Practical Instruction I

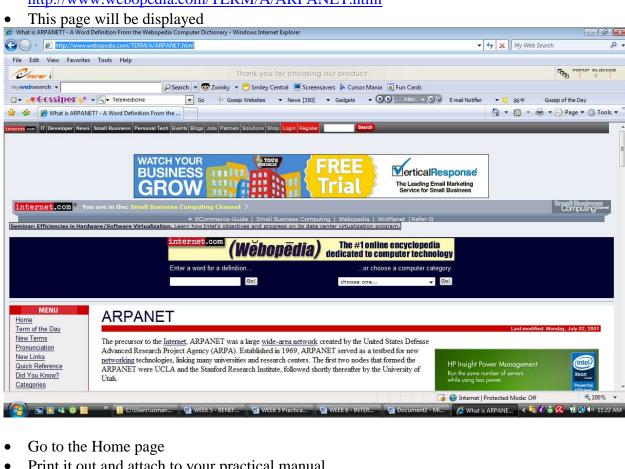
Guide to using e-commerce

 Connect to the Internet On the address window of your web browser type: www.themagictouch.co.uk Navigate this website and list all the e-commerce services offered by the company 														
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					• • • • • • •	· • • • • • • •			 • • • • • •	 		 		• • • • • •
•••					• • • • • •	· • • • • • •			 • • • • • •	 	• • • • • •	 		• • • • • •
•••					•••••				 	 		 		

Practical Instruction II

Guide to using www

- Connect to the Internet
- On the address window of your web browser type: http://www.webopedia.com/TERM/A/ARPANET.html



Print it out and attach to your practical manual

i.

- Identify the following hyperlinks and print out their content
- A hyperlink that takes you to a different part of the same page ii. A hyperlink that takes you to a different page within the Web site A hyperlink that takes you to a page in a different Web site iii.
- A hyperlink that enables you to download a file iv.

v. A hyperlink that lunches an application, video or sound

Guide to using e-mail

Practical Instruction III

- Open a new e-mail account for yourself in Yahoo
- Name it Student's name-Number@yahoo.com
- Compose a new mail to your teacher (*Please get your teacher's e-mail address*)
- In this new message, the **Subject** should be: New Account : *Student Name: Number*
- Send the same mail to five recipients in your class
- Attach the file you created in WEEK 5 to this message
- Send the message

WEEK 7 Practical: Internet Services

Learning Outcomes

During this practical class you will learn how to use the following Internet services:

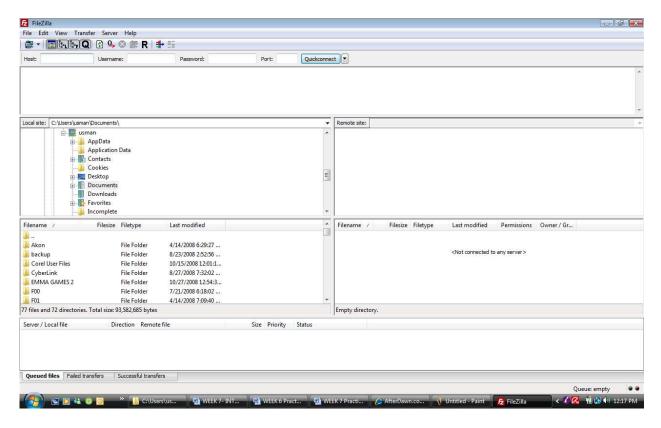
- File Transfer Protocol (FTP)
- Telnet

Practical Instruction I

File Transfer Protocol (FTP)

Resource: A File Transfer Protocol (FTP) software e.g. Filezilla

- Load the *Filezilla*
- This page will be displayed



- Enter your Host name or IP
- Enter your *Username*
- Enter your Password
- Enter your Port default 21
- Click on Quickconnect
- Wait for the connection to be established
- You can now move files from the *Local site* to the *Remote site or* Vise Versa

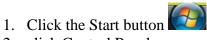
To disconnect

- Click on Server on the Menu Bar
- Select *Disconnect*

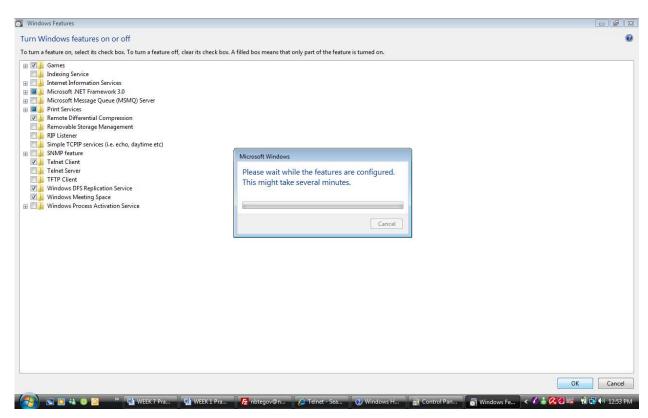
Practical Instruction II

Guide to using Telnet

To install Telnet Client



- 2. click Control Panel
- 3. click Programs,
- 4. and then click Turn Windows features on or off.
- 5. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.
- 6. In the Windows Features dialog box, select the Telnet Client check box.



7. Click OK. The installation might take several minutes.

Before you can use Telnet, you must install Telnet Client on your computer by following the steps in the section above. After Telnet Client is installed, open it by following the step below.

To open Telnet Client

Click the Start button



Click Programs,

- Click Accessories
- Select Command Prompt

This DOS window will be displayed



- Type this command: *cd\windows\system32*
- Press *ENTER*
- Type *telnet.exe*
- Press ENTER

Note: Telnet does not look like windows

The Microsoft Telnet client is a text-based program that runs at the <u>command prompt window</u>. You can only type text commands and you cannot use a mouse, but that's probably okay because you don't need those things to accomplish most things you'll want to use Telnet for.

- Type the commands you want to run.
- To see which commands are available, type a question mark (?) and then press ENTER.
- Some commands are used by themselves; you just type the command, press ENTER, and you're done.
- Other commands have additional parameters.
- To see the additional parameters, type the command followed by a question mark and then press ENTER.
- Type *display* and press *ENTER*



• Practice with some of these Telnet commands

Telnet commands

The following table describes the commands you can use in Telnet Client.

Type this

To do this

Establish a Telnet connection with a host computer or remote server. You can use the open or o full command, open, or abbreviate it to just o. For example, o redmond 44 will connect your computer to a computer named redmond using port 44.

Close an existing Telnet connection. It can be combined with a host name and port Close or c number. For example, c redmond 44 closes the connection with the remote server redmond on port 44.

View the current settings for Telnet Client.

Type display for a list of the current operating parameters. If you are in a Telnet session (connected to a Telnet server), to modify the parameters, press CTRL+] to leave the Telnet session. To return to the Telnet session, press ENTER. The following operating parameters are available:

display

- WILL AUTH (<u>NTLM</u> Authentication)
- WONT AUTH
- WILL TERM TYPE
- WONT TERM TYPE
- LOCALECHO off
- LOCALECHO on

quit or q Exit from Telnet.

Set the terminal type for the connection, turn on local echo, set authentication to NTLM, set the escape character, and set up logging.

• SET NTLM turns on NTLM.

set

While you are using NTLM authentication, if you're connecting from a remote computer, you will not be prompted to type a logon name and password.

- SET LOCALECHO turns on local echoing.
- SET TERM {ANSI|VT100|VT52|VTNT} sets the terminal type to the appropriate terminal type.

You should use the VT100 terminal type if you are running normal

command-line applications. Use the VTNT terminal type if you are running advanced command-line applications, such as edit.

- ESCAPE + Charactersets the key sequence to use for switching from session to command mode. For example, to set CTRL+P as your escape character, type set escape, press CTRL+P, and then press ENTER.
- LOGFILE FileName sets the file to be used for logging Telnet activity. The log file must be on your local computer.

Logging begins automatically when you set this option.

• LOGGING turns on logging.

If no log file is set, an error message is displayed.

Turn off local echo or sets authentication for the logon or password prompt.

unset

- UNSET NLM turns off NLM.
- UNSET LOCALECHO turns off local echoing.

status Determine whether Telnet Client is connected.

CTRL+] Move to the Telnet command prompt from a connected session.

enter Go to the connected session (if it exists).

?/help View Help information.

WEEK 8 Practical: The Concept of Cybercafé

Learning Outcomes

During this practical the class will take a visit to a cybercafé to observe the following:

- Operations
- Personnel involved in the running of the cybercafé
- Security devices in the cybercafé

Resources: Writing materials

Practical Instruction

	you take a tour of the cybercafe, fill in the answers to the questions below:
1.	Name of the cybercafé
2.	Address of the cybercafé
3.	Do you think the location of this cybercafé will attract customers? Why?
	List the services offered by this cybercafé
•••	
• • •	
5.	What type of Internet connectivity is operational in this cybercafé
•••	
6.	Classify the Networking being used according to geographical location
7	List the personnel involved in the running of the cybercafé
•••	
• • •	

	What is the name of the Cybercafé billing and management software used?
	What are the features of this software?
•••	
•••	
•••	
•••	
10	. List the security devices in this cybercafé and their uses
•••	
•••	
•••	
•••	
11	. Make suggestions on areas you feel need improvement in this cybercafé
•••	
•••	
•••	

WEEK 9 Practical: Internet connectivity

Learning Outcomes

During this practical class the students will be able identify different types of modems and their various data transfer rates and characteristics

Resources: Different types of Modems such as Internal, External

Practical Instruction

Complete the table below

Modem	Type	Bps	Modem Characteristics (Please Tick √)								
			Voice/data	Auto- answer	Data compression	Fax capability	Flash memory				
Α											
В											
С											
D											

WEEK 10 Practical: Connecting to the Internet

Learning Outcomes

During this practical class the students will set up an Internet connection

Resources: *Networked PCs connected to the Internet*

Setting-up a dial-up connection

Use the following information:

User name: yournameSchool e.g.topeKadpoly

Password: yourname e.g. topedaniel

Dial-up number: #777

Create a New Connection

From the Start menu. Click on Control Panel

- Click on Network and Internet Connections
- Select Set up or change your Internet connection
- Click on **Setup**

New Connection Wizard



- When the New Connection Wizard starts up, click the **Next** button.
- Select "Connect to the Internet" and click the Next button.
- Choose the option to "manually setup the connection" and click the Next button.
- Choose the option to connect using a "**Dial-Up Modem**" and click the **Next** button.
- You should now be prompted to name your internet connection. Enter the Starcomms and click the **Next** button.
- For the phone number, type #777
- On the **Internet Account Information** dialog box, enter your *username* and *password*.

- Check the 1st box
 Check the 2nd box and click the **Next** button.
- When the Completing the New Connection Wizard window shows up, you can check the box to add a shortcut to this connection on your desktop, click the Finish button.

WEEK 11 Practical: Wireless Transmission Media

For this practical, the class will take a visit to an Internet service provider to find out the following:

- The type of Internet connections offered
- The different services offered to their users
- The different bandwidth options available
- The challenges faced in their operations

Resources: Writing materials

As you take a tour of the ISP, fill in the answers to the questions below:
12. Name of the ISP
13. Address of the ISP
14. List the different services offered to their users
15. What are the different bandwidth options offered to the users?
16. What are types of Internet connections offered by the ISP?
6. Describe vividly how the ISP connects its users to the Internet. Illustrate with diagrams

Diagram

7.	What are the challenges faced by the ISP in its operations?
•••	
8.	Proffer solutions to these problems
•••	
•••	

WEEK 12 Practical: Network Protocols

Learning Outcomes

During this practical class you will learn how to:

- Obtain materials from the Internet about the structure of the POP3 (Post Office Protocol 3) and SMTP (Simple Mail Transfer Protocol)
- Generate a search report

Guide to obtaining materials from the Internet about the structure of the POP3 (Post Office Protocol 3) and SMTP (Simple Mail Transfer Protocol)

- Connect to the Internet
- Use your web browser and your favorite search engine to collect information on the structure of POP3 (Post Office Protocol 3) and SMTP (Simple Mail Transfer Protocol)
- In order to generate a report presenting the results of your researches, copy the multimedia content found in the different web pages to a new word document
- Your report should meet the following requirements.

Present 4 to 6 pages (A4 Format)

Use basically Arial font, size 12

Include multimedia content

Include links to data sources and related Site

Append a summary at the end of the report

Include appropriate footer to your presentation

Include a cover page including

Institution name

Institution logo

Report title

Date/year

Student's name

Student's number

Save your report in your folder as

Project-Student's name-Number

• Save a copy of your report in your folder as a HTML document

Project-Student's name-Number

• Send a copy of your report to your lecturer

WEEK 13 Practical: Obstacles to Internet Growth

Learning Outcomes

During this practical class you will browse for information on the solution to the obstacles to Internet growth in Nigeria and generate a search report

Resources: Networked PCs connected to the Internet

- Connect to the Internet
 Use your web browser and your favorite search engine to collect information on the solution
 to any 2 obstacles to Internet growth in Nigeria
- Generate a report
- Your report should meet the following requirements.

Present 4 to 6 pages (A4 Format)

Use basically Arial font, size 12

Include multimedia content

Include links to data sources and related Site

Append a summary at the end of the report

Include appropriate footer to your presentation

Include a cover page including

Institution name

Institution logo

Report title

Date/year

Student's name

Student's number

• Save your report in your folder as

Project-Student's name-Number

• Save a copy of your report in your folder as a HTML document

Project-Student's name-Number

• Send a copy of your report to your lecturer via e-mail

WEEK 14 Practical: Concept of ISP

Learning Outcomes

For this practical class the students will visit three (3) ISPs and gather information that will assist them in choosing the best ISP of the three

Practical Instruction

Complete the form below

ISP - A

ISP Name	•••
Location	. .
Bandwidth options	
Connection Types	
Cost	•••
	•••
Reliability and Customer Service	• • •
	• • •
Technical Strength	, • • ·
	•••
	• • •
Are there Busy Signals	?
Professionalism	

Does the ISP offer Total Internet Solutions (TIS) if yes, list them
Track Record
What are the plans for the future for this ISP?
ISP - A
ISP Name
Location
Bandwidth options.
Dundwidth Options.
Connection Types
Cost
Reliability and Customer Service.

Γechnical Strength
Are there Busy Signals?
Professionalism
Frack Record.
What are the plans for the future for this ISP?
ISP - A
SP Name
Bandwidth options
Connection Types

Reliability and Customer Service.
Technical Strength
Are there Busy Signals?
Professionalism
Does the ISP offer Total Internet Solutions (TIS) if yes, list them
Track Record
What are the plans for the future for this ISP?

WEEK 15 Practical: Domain Name System

Learning Outcomes

During this practical class you will learn how to find your IP address IP location ISP Proxy Organization Host of IP

Local time of IP country Download and upload speed

Follow the following steps:						
Connect to the Internet						
On your browser address bar type http://www.ip	o-adress.com/					
Press Enter	Press Enter					
What is your IP address? What is your IP location?						
					Click on the hyperlink For IP to Location, IP Tracing, Broadband Speedtest and more tools click here	
Fill the table below:						
My IP address:						
My IP address country:						
My IP address state:						
My IP address city:						
My IP address latitude:						
My IP address longitude:						
My ISP:						
My Proxy:						
My Proxy:						
Organization:						
Host of my IP::						
Local Time of this IP country:						
Click on the hyperlink [Speedtest]						
My Speed:	Dialup [Speedtest]					
My Browser:	1					
My Operating System:						
Referer:						
Referen.						
Download Speed:						
Upload Speed:						
Date						