

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: 31-3-2020
WORKSHEET NUMBER: 1	WORKSHEET TOPIC: Network and Communications	
INSTRUCTION (IF ANY):		

Watch this video to understand this lesson.

<https://youtu.be/G7QikvrcAFk>

Read the given text and answer the question in your ICT register used/unused.

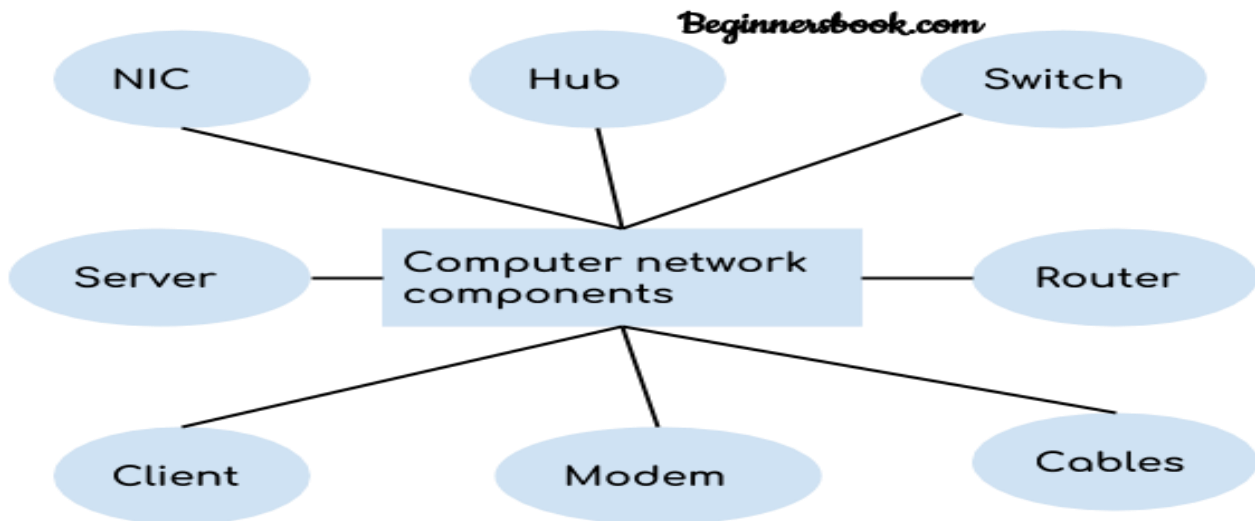
What is a computer network

A network consists of two or more computers linked together for sharing resources such as printers, exchange files, or allow electronic communications. This computer on a network may be linked through cables, telephone lines, radio waves, satellites, or infrared light beams.

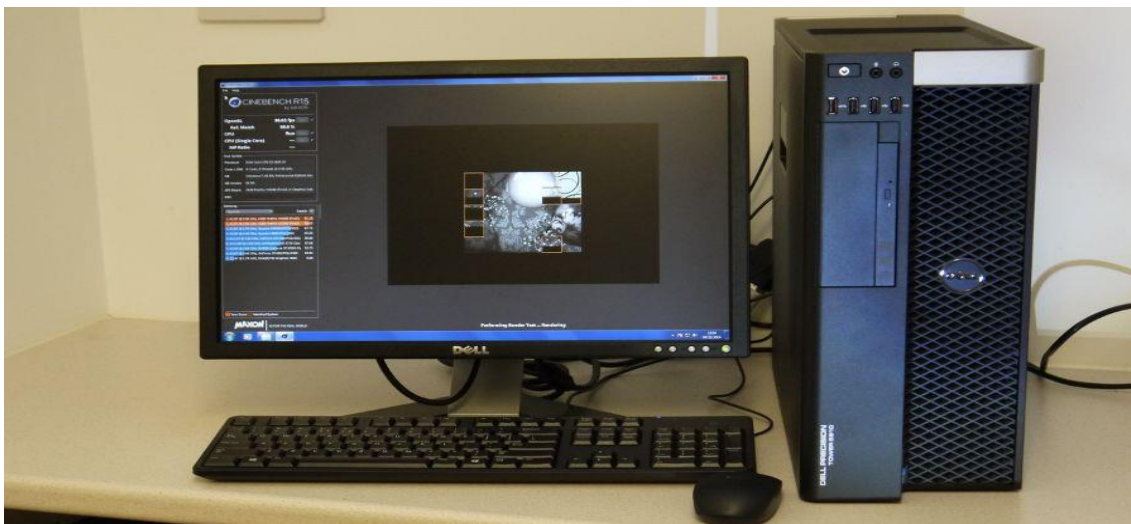


Basic Components of a Network

Basic computer network components. Computer networks share common devices, functions, and features including servers, clients, transmission media, shared data, shared printers and other hardware and software resources, **network interface card(NIC)**, local operating system(LOS), and the network operating system (NOS).



Workstation: A **workstation** is a special computer designed for scientific applications. Intended primarily to be used by one person at a time, they are commonly connected to a local area network and run multi-user operating systems.



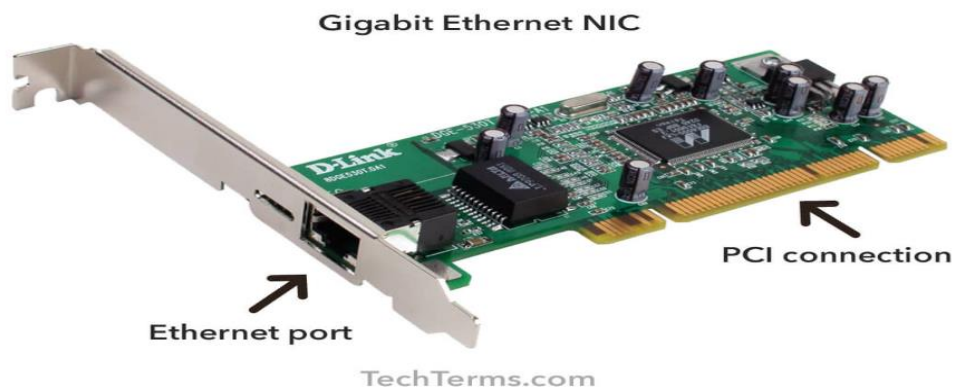
Server: A server is a computer program or device that provides a service to another computer program and its user, also known as the client. In a data center, the physical computer that a server program runs on is also frequently referred to as a server.



For **example**, a File Server is a computer that manages storage and retrieval of files. A print server is a computer that manages one or more printers required in a network.

A **Network Interface Card** (NIC) is a computer hardware component that allows a computer to connect to a network. NICs may be used for both wired and wireless connections.

A NIC is also known as a network interface controller (NIC), network interface controller card, expansion card, computer circuit board, network card, LAN card, network adapter or network adapter card (NAC).



Hub: A **Hub** is a device that connects multiple devices and make them work as single network segment. A hub has multiple ports. A specific cable connects the hub to the NIC. The NIC transfer the data in a computer to a hub which the transfer it to the other connected computers.

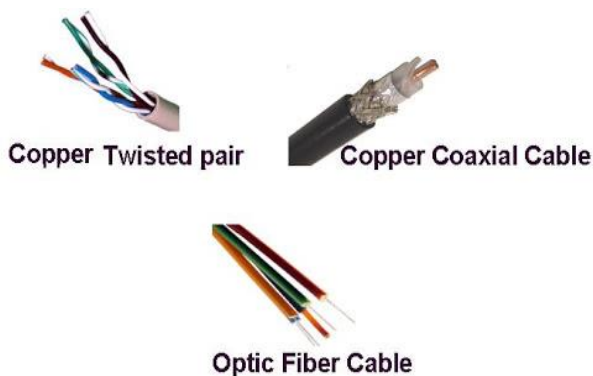


Transmission Channels: Each computer in a network is interconnected through transmission channels. These channels can be wired or wireless. Data is exchanged between two computers in a network using these channels.

The wired channels can be cables like twisted pair, co-axial, fibre optics etc.

The wireless channels can be through satellites using microwaves, radio waves, etc

WIRED CHANNELS



WIRELESS CHANNELS

Wireless intercom system FDI-P32 set mode:



Advantages of a Computer Network

- It enhances communication and availability of information.
- It allows for more convenient resource sharing.
- It makes file sharing easier.
- It is highly flexible.
- It is an inexpensive system.
- It increases cost efficiency.
- It boosts storage capacity.
- It lacks independence.

Disadvantages of a Computer Network

- It lacks independence
- It poses security difficulties.
- It lacks robustness.
- It allows for more presence of computer viruses and malware.
- Its light policing usage promotes negative acts.
- It requires an efficient handler. .
- It requires an expensive set-up.

FACT FILE:

A switch is a smarter replacement of a hub. This is because, hub transfers the data received from a NIC to all the computers whereas, and a switch transfers it to the specific computer.

Q1. Answer the following questions:




1. What is networking? Give two advantages.
2. What are the disadvantages of connecting computers in a network?
3. What are the different components of a computer network? Explain them briefly.
4. Differentiate between wired and wireless transmission channels?

Wireless: In simple terms; the communication between two devices without cables.

Wireless networks do not use any form of cable. The transmission of data (your files, music, printing to the printer etc) occurs over radio waves... just like cordless phones or the Bluetooth headset

Wired: In simple terms; the communication between two devices via cables.

Wired networks on the other hand have been around for some time now. Officially known today as the Ethernet, the cables usually connect these devices using CAT5, CAT5e or CAT6 cables.

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: -7-04-2020
WORKSHEET NUMBER: 2	WORKSHEET TOPIC: Types of Network	
INSTRUCTION (IF ANY):		

<https://drive.google.com/file/d/1ZBgjYji1tp7vTQzxlsTYAIoBkjNCCTO4/view?usp=sharing>

In the previous worksheet 1 we learnt about the Network and its Advantage and Disadvantage now we will discuss:

- Types of Network
- Network Topology

Types of Network

The network can be categorised on the basis of the geographical area as listed here:

Personal Area Network (PAN): It is a network for communication among personal devices of an individual. The devices can include cell phones, computers, cameras, laptops, tablets, etc. These devices are connected through a wired or wireless PAN. PAN covers a short radius of only a few metres. It is used to share or transfer files, songs, etc. USB cable is a source of wired PAN. Bluetooth and Wi-Fi are sources of wireless PAN.

Local Area Network (LAN): When computers are interconnected within a limited geographical area then it forms a Local Area Network. For example, network within a building, an office, school, etc it covers a radius of a few kilometres.

In addition to operating in a limited space, LANS are also typically owned, controlled, and managed by a single person or organisation

Metropolitan Area Network (MAN)

When the computers are interconnected within the same city, that is, the branches located at different places in the same city, then it becomes a Metropolitan Area Network. For examples local libraries, branches of the same school in a city, branches of the same office in a city etc.

FACT FILE

There is another type of network connecting multiple LANs confined within a campus. It is known as Campus Area Network (CAN). This network is smaller than MAN.

For example, different colleges connected in the same university campus, branches of the same office in specific region.

Wide Area Network (WAN)

When network is spread across cities, countries or even continents, covering a large geographical area, then it becomes Wide Area Network. The Internet is the best example of WAN as it is the largest WAN covering the globe.

Computer networks may also be classified according to the functional relationships that exist among the elements of the network. For example, **client server** and **peer-to-peer (workgroup) architecture**.

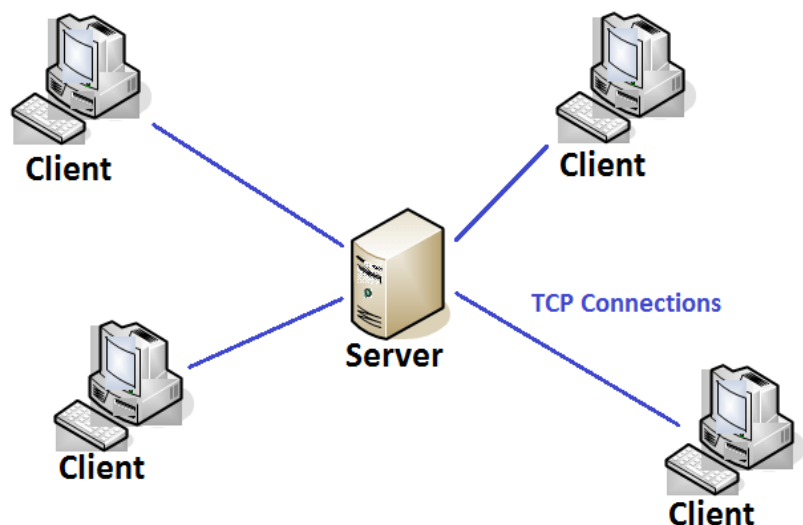
Client/ Server architecture

Client/Server architecture is defined as a specific type of a network which consists of a single powerful computer acting as a server usually connected to multiple computers called clients

A client/server network can be utilised by desktop computers and laptops, as well as other mobile devices that are properly equipped.

Advantage: The centralised handling of data provides an increase security. For example password protection, ensuring that the data is only available to qualified individuals

Disadvantage: It runs the risk of a system overload. If too many different clients attempt to reach the shared network at the same time, there may be a failure or slowing down of the connection



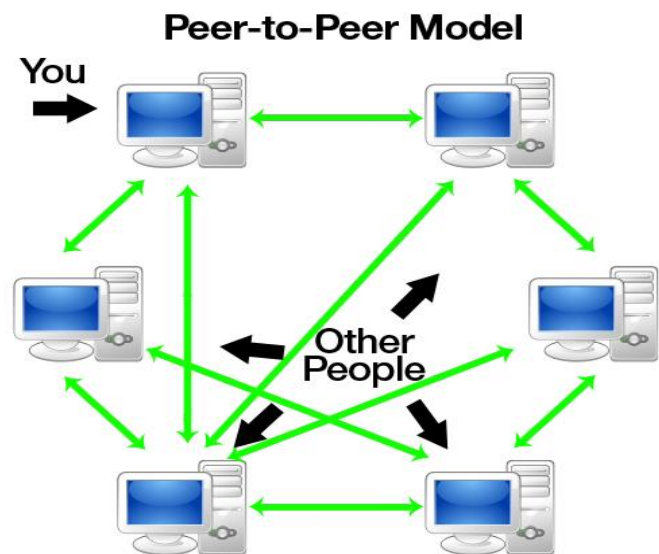
Peer-to-peer architecture

Peer-to-peer architecture is a type of network in which each workstation has equivalent capabilities and responsibilities.

The workstations are connected to each other but do not have server. Files can be shared between workstations, and printer connected to one workstation can be accessed by other workstations as well.

Advantage: It supports distributed processing, so the increase load will not affect the system overall.

Disadvantage: It does not support centrally managed security. It does not provide the backing up of files.



FACT FILE

There is a set of rules that governs data communication in a networking environment known as a protocol. A few of them are given below:

- Hyper Text Transfer protocol (HTTP)
- Simple mail Transfer Protocol (SMTP)
- File transfer Protocol (FTP)
- Transmission control Protocol/ Internet Protocol (TCP/IP)

Network Topology

The physical arrangement of the cables, computers and other peripheral devices to form a network is known as a **topology**.

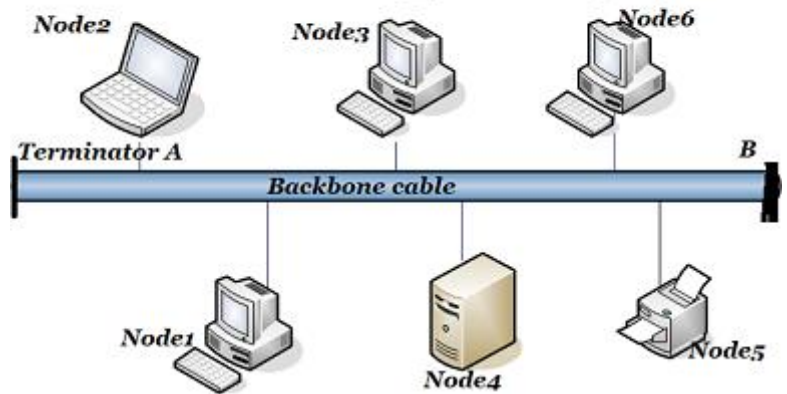
A few of the network topologies are described here

Bus Topology

Bus topology is made up of a main single cable with the terminators at both ends. It is the shared communication medium that makes the backbone of the system. Computers and the other devices including the server are connected to this linear cable for communication.

www.am7s.com

Bus Topology



Advantages:

- It is easy to install.
- It does not require much cabling.

Disadvantages:

- If the backbone cable fails, the entire network effectively
- It is difficult to identify the problem if the entire network :

Star topology

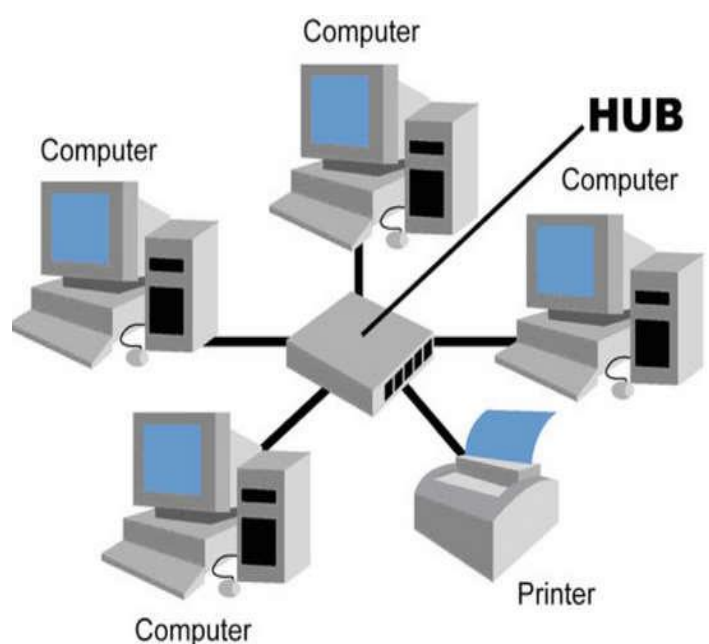
Star topology is the most common topology used. Here all the workstations are connected to a central connection point called a hub. Any data that is sent to the other computer, first goes to the central hub and from there it is redirected to the destination computer.

Advantages:

- It is easy to add and remove workstations by upgrading the hub.
- It is easy to install.

Disadvantages:

- It requires more cable length.
- Failures in the central hub will break down the entire network



Ring Topology

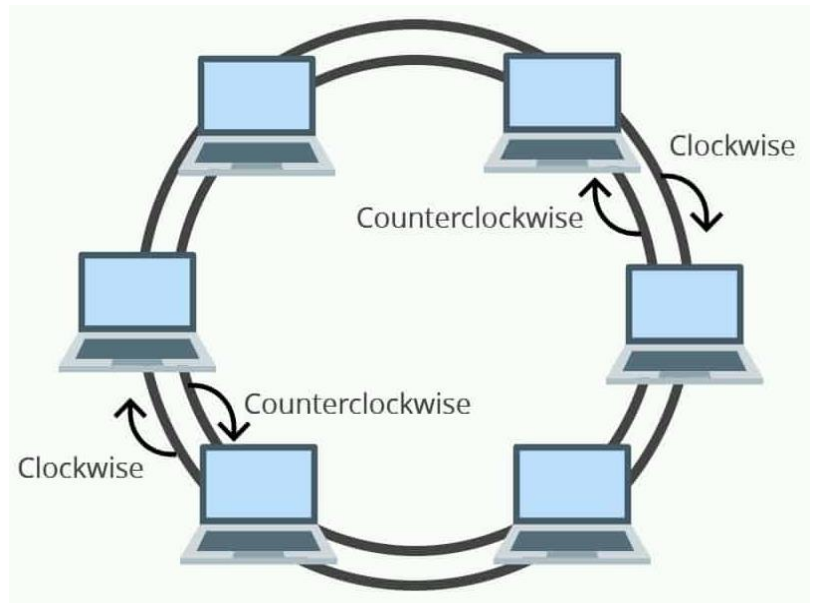
In a ring topology, every workstation has exactly two neighbours for communication purposes. All messages travel through a ring in the same direction either clockwise or anticlockwise

Advantages:

- It is easier to detect faults in the network.
- Less number of cable wires are required.

Disadvantages:

- A failure in any cable or device breaks the loop leading to breakdown of the entire network.
- Adding or removing a device/workstation means rewiring and re-routing all the cables.



GLOSSARY

Client: It is a computers connected to the server in a network.

File server: It is a computer that manages the storage and retrieval of files.

Hub: It is the central connection point in a network.

Print server: It is a computer that manages the printers required in a network.

Server: It is a computer that manages the network resources.

Topology: It is the physical arrangement of computers in a network.

Workstation: It is a computer intended for individual use in a network.

Worksheet 2

QI. Answer the following question:

Q1. What is topology? Give example.

Q2. Explain the different types of topologies used in computer networks.

Q3. What is Protocol?

Q4. Differentiate between LAN and MAN.

QII. Give the full forms of the following.

- 1. WAN**
- 2. CAN**
- 3. SMTP**
- 4. LAN**
- 5. MAN**
- 6. HTTP**
- 7. FTP**
- 8. Wi-Fi**

 Cambridge Assessment International Education	 SANSKAR SCHOOL <i>The Revival of Tradition</i>	
GRADE: VII	SUBJECT: ICT	DATE: -14-04-2020
WORKSHEET NUMBER: 3	WORKSHEET TOPIC: World wide web	
INSTRUCTION (IF ANY):		

<https://drive.google.com/file/d/1b08aspoGAvlzYm5xcA9Ee2TXGtvNdOBd/view?usp=sharing>

Introduction

World Wide Web (WWW) is a system of interconnected internet servers that contain interlined hypertext documents. These hypertext documents are specially designed using HTML that is Hypertext Markup Language. These HTML documents contain links to graphics, audio, video and other documents. This means you can jump on to other documents by clicking on these hyperlinks. The World Wide Web is often abbreviated as the Web or www.

There are several applications called web browsers that make it easy to access the World Wide Web. For example, Mozilla Firefox, Microsoft Internet Explorer, etc.

Note:

The term is often mistakenly used as a synonym for the Internet itself, but the Web is a service that operates over the Internet just like an email.

In order for the Web to be accessible to anyone, certain standards must be followed in the creation and delivery of its content. An organisation leading the efforts to standardise the Web the World Wide Web Consortium (W3C).

PROTOCOLS ON THE WEB

Protocols are the set of rules to be followed for data communication on the network. Internet protocols are a set of rules that allow data communication on the Internet. Given below are a few protocols that you experience on the Web:

HTTP (HYPER TEXT TRANSFER PROTOCOL)

It is a set of rules for transferring files (text, graphic images, sound, video, and other multimedia files) on the World Wide Web. As soon as an Internet user opens a web browser, the user is indirectly making use of HTTP.

FTP (FILE TRANSFER PROTOCOL)

It is a standard internet protocol used for exchanging files between computers on the Internet. It is also commonly used for downloading programs and other files to your computer from other servers.

SMTP (SIMPLE MAIL TRANSFER PROTOCOL)

It is used in sending and receiving emails. It also lets the user save messages in a server mailbox, and downloads them periodically from the server.

TCP/IP (TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL)

It is made up of two protocols, that is, TCP and IP. It is the main protocol used in the Internet

- **IP:** It is responsible for dividing the data into small packets at the source machine, and then converting it back to normal data at the destination machine. It is also responsible for moving packets of data from node to node.
- **TCP:** It is responsible for verifying the correct delivery of data from source to destination computer. Data can be lost in the intermediate network. TCP adds support to detect errors or lost data and to trigger retransmission until the complete data is received correctly.

DO THIS ACTIVITY

ACTIVITY

Name the correct protocol used for the following:

1. To exchange files between computers on the Internet. _____
2. To transfer files on the Internet. _____
3. To send emails. _____
4. To verify correct delivery of data. _____
5. To divide the data into small packets at the source machine. _____

COMPONENTS OF THE WEB

The components of the Web are given below:

Web client: This can be a laptop or a personal computer at home or at the office.

Web server: This is the host computer connected in a web that contains data in the form of a web page. There are many web servers interconnected to form a vast internet. Its main job is to deliver web pages and its associated content to the client machine.

Web browser: This is a software application in a laptop or a PC which is used to access information on the Web.

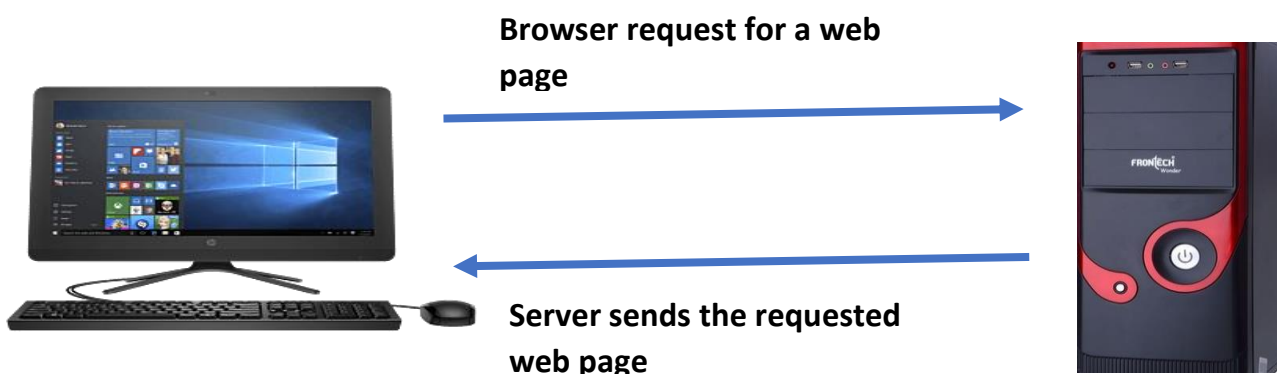
Internet Service Provider (ISP): It is a company that offers its customers access to the Internet. The ISP connects to its customers using a data transmission technology appropriate for delivering data such as dial-up, DSL, cable modem, wireless or dedicated high-speed interconnects.



HOW THE WEB WORKS

Have you ever wondered how a webpage comes on your computer screen? How the pictures of your friends are easily received on your computer? Given below is the actual process of displaying the information from the Web.

1. Web pages are stored on the web servers interconnected around the globe.
2. Entering the **URL (Uniform Resource Locator)** of the web page in the Address Bar of the web browser on the PC will send a request from the client machine to the server machine
3. The server transmits the web page data to the computer and the web browser displays it on the screen.



Web Hosting

A web hosting is a facility that allows individuals and organisations to make their own websites. The website is then accessible to the whole world through the World Wide Web. Web hosts are companies that provide space on a server they own or lease for use by their clients.

You can upload a small web page or few files using File Transfer Protocol (FTP) or a web interface. The files are usually delivered to the Web as it is or with little processing. Many ISPs offer this service free to their subscribers. People can also obtain web page hosting from other alternative service providers.

Worksheet- 3

QI. Answer the following questions.

Q1. What is World Wide Web?


Q2. What are protocols? Give examples

Q3. What are the different component of the web?

Q4. What is web hosting?

QII. Expand the following abbreviations:

- 1. IP**
- 2. ISP**
- 3. HTTP**
- 4. SMTP**
- 5. TCP**
- 6. W3C**

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GRADE: VII	SUBJECT: ICT	DATE: -21-04-2020
WORKSHEET NUMBER: 4	WORKSHEET TOPIC: World wide web (Part-II)	
INSTRUCTION (IF ANY):		

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USES OF WORLD WIDE WEB

The Internet has become a part and parcel of our lives. There are millions of applications of the Internet, and the World Wide Web helps us explore them and do many activities online. Let us now study some of the basics uses of the Web.

E-COMMERCE

E- Commerce or Electronic commerce is online trading or exchanging of goods, services and information. There are several website on the web where you can buy and sell products. These products can be anything from a pen to a laptop, professional solutions and even services. You can pay your utility bills like mobile, landline, electricity, etc. online

Anybody can advertise their business by posting the business services, hours, location phone numbers and email. You can sell and buy the products by using your money in terms of credit cards, debit cards, etc. These days payment for the products can be made on delivery also.

For example, so buy a movie ticket online you may log into the account and select the available options. After doing so, you submit a form online that would require your payment mode and details



FACT FILE

M-commerce or Mobile commerce refers to the buying and selling of goods and services or their promotions and advertisements through wireless handheld devices such as cell phones, Personal Digital Assistants (PDAS) to access the Internet. It is regarded as next-generation e-commerce.

M-commerce enables users to access the Internet without needing to find a place to plug in.

EDUCATION

World Wide Web plays a major role in education. Few basic elements on the web are:

- Online tutorials
- Web Publishing
- Online Forums
- Easy navigation from source to source.

There are many sites which can help you to receive education free of cost and without joining any institute. You may also register yourself on various online courses which can help in refining your skills. These days, many institutions conduct online entrance exams, educational boards and institutions even post the result online. There are several education forums available where you can participate in various discussion. There are online books available which can be downloaded or bought online.



World Wide Web is a great method to spread education in the society. It is a boon for non-traditional students such as full-time workers, military personnel or individuals in remote regions who are unable to attend classroom lectures.

ENTERTAINMENT

World Wide Web hosts millions of websites offering all types of content for entertainment. You can download songs, games, movies, etc. from the Web. Email, blogs, chat rooms are also a source of entertainment for some people. People often use personal blogs and social networking sites to exchange updates with friends and near ones on their lives and also to communicate with them.

E-GOVERNANCE

These days, information and communication technologies available on the World Wide Web are used by governments also. LAN, internet telephony, a centralised access to important data and information are some of the services used by the government. This use is not restricted to local administrative bodies but also includes the state governments, and the central government as well. This increases the speed, efficiency and accuracy of the work done. Resources are shared between the different departments of the government and other sectors thus allowing better coordination at work. It also improves the interaction and transparency between citizens of a state or a country and its government.



SOME OTHER USES OF THE WEB

Apart from this broad classification, the Web has some other uses as well. Blogs, web feeds, news groups, social networking, internet telephony, online games and greetings, and online sharing are some examples on which we will shed some light.

BLOG

A blog is a discussion or an informational site where articles called posts are published. The posts can include text, pictures, audio, video, etc. the articles are posted in the reverse chronological order, that is, starting from the most recent.

A blog can be written by a particular person based on personal experiences, areas of interest, etc. Nowadays, celebrities, social figures, etc. also maintain

their blogs which can be followed by others for updates on the former's work, life, experiences, views, etc. The practice of posting articles on the blog is called as **blogging**. These blogs can be followed by other individuals and they can often even express their opinions on the blogs posted.

WEB FEEDS

Web feeds are updates from websites when they have new content. It is a document that includes web links to the source from where the content is. Some websites allow users to subscribe to them and in return send the user updates on any new content posted. Such a facility is available on job portals, blogs, news sites, etc. This facility allows the user to get updates from the subscribed websites in one place and saves them the time and energy to visit them independently every time.

NEWSGROUPS

Newsgroup is similar to a forum on the Internet. Here the members can express their opinions and discuss issues of interest. The messages are posted on a platform accessible to each member. However, unlike chat rooms it does not involve instant messaging but allows the user to respond at their convenience.

SOCIAL NETWORKING

Social networking is a practice to build relations with people based on their background, interests, activities, opinions and real-life relations. Each user is represented by their social profile on a social networking site and can interact with other people. They can share content pictures, audio, video, etc. A few social networking websites have groups or communities, activities, games, etc. where their users can participate. Some of the most popular social networking sites include Facebook and Twitter.

FACT FILE

Six Degrees was the first social networking site developed in 1997

INTERNET TELEPHONY

Online telephony or internet telephony is a technology that allows the Internet to be used as a medium for telephonic calls. A user can pay for an Internet connection and then use this service to make domestic and international phone calls using a software on their computer. Speakers and microphone are the additional hardware requirements apart from the computer. The Internet call rates are much cheaper as compared to phone calls. Skype is one such website where computer-to-computer calls are free and Skype-to-telephone number calls are also quite cheap.

ONLINE GAMES

Online gaming is a practice of playing video games using a computer on a computer network like the Internet. There are games which can be installed on a computer and then played on the Internet with players from other parts of the world. It has both software and hardware requirements. A high speed internet connection, latest version of flash player, joystick, other control devices are some such requirements.

ONLINE GREETINGS

These days, it is possible to send greeting cards over the Internet just like an email. Such cards are called as E-greetings. Websites like egreetings.com, 123greetings.com, etc. provide such facility. They allow users to send animated and other greetings for different occasions from the list of cards available with them.

ONLINE SHARING

Online sharing is a practice of storing data on a cloud or a remote server. The data can include text, pictures, audio and video files. This data can also be made available to other people on the Internet on some websites.

Picasa is a photo-management software from Google. It can be used to edit or modify pictures, organise them in albums and share them with other users on their online Web Album.

YouTube is a website where one can watch and upload videos. It has one of the largest collections of audios and videos on the Internet. Many companies use this website as a medium to advertise their services and products also.

FACT FILE

Every minute, 24 hours of video is uploaded on YouTube.

Worksheet -4

QI. Fill in the blanks

1. _____ is a system of interconnected network across the globe.
2. _____ is the main protocol used on the Web.
3. _____ is the computer for the user to access the Internet.
4. One can access the net only through _____ providers.
5. The _____ is a collection of interlinked web pages.
6. _____ was the first social networking site developed in 1997.
7. _____ is the online trading or exchanging of goods.
8. _____ enables users to access the Internet without needing to find a place to plug in.

QII. Match the following.

1. E-commerce	a. Web Hosting
2. Web Server	b. A protocol
3. FTP	c. Company that offers internet services
4. Creating a website a website	d. Host Computer
5. ISP	e. Online trading

QIII. Answer the following questions.

Q1. Explain in short any three applications of the Web.

Q2. What do you understand by blogging?

Q3. Write a short on:

1. Social Networking
2. Internet Telephony
3. Online sharing

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: -28-04-2020
WORKSHEET NUMBER: 5	WORKSHEET TOPIC: `Introduction to Programming concepts	
INSTRUCTION (IF ANY):	https://www.youtube.com/watch?v=tZ21tCTSuCI	

Introduction to Programming concepts

Introduction:

A computer requires instructions to perform any task. These instructions are written and executed in a specific sequence and are called Computer Program. A computer program is written in a specific language that a computer can understand and interpret. This language is called a Computer Language or Programming Language. The person writing the computer program is called a Programmer or a Coder.

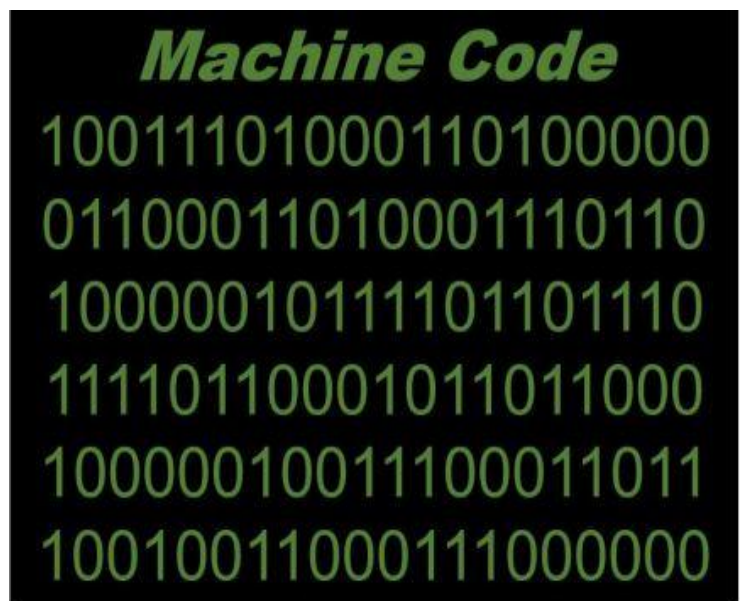
Programmers use programming language such as Basic, C, C++, Cobol, PASCAL, Visual Basic, etc. to develop set of instructions for a computer to execute. Each programming language has its own vocabulary, which is basically a list of keywords exclusive to a language, and **grammar**, which is the syntax of the language. The programmers must follow the syntax and the semantics of the programming language to write a computer program.

Generations of Computer Languages

A computer language is one of the mediums to interact with the computer. The evolution of computer languages is often known as generation. The concept of language generation is also called **Level**. The various generations of computer languages are discussed here.

First generation (1GL): Machine language

First generation language was used in 1940s. It is the lowest level of computer language. This is also known as machine language. Back then, information was entered into the computer in the form of long series of 1s or 0s or the binary codes.



Binary instructions are the equivalent to the on/off signals used by computers to carry out operations. These codes can be easily be interpreted by a computer.

The main benefit of programming in a first generation programming language is that the code a user writes can run very fast and efficiently, since it is directly executed by the CPU. However, language, and it is also far more difficult to edit if errors occur.

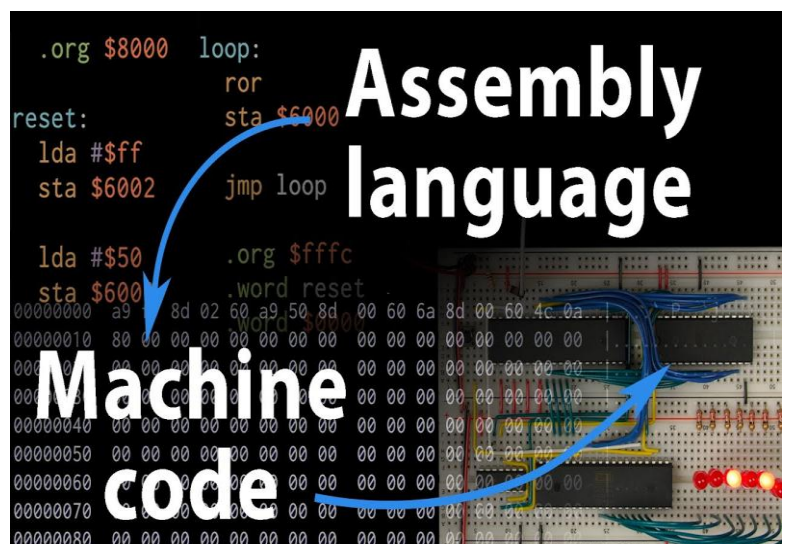
First generation languages were mainly used for the first generation computers which were mammoth room sized computer system.

Second generation (2GL): Assembly language

Assembly language was developed in the mid-1950s. It was considered a great leap forward. It used mnemonic codes, or easy-to-remember abbreviations, rather than numbers.

Examples of these codes include A for add, CMP for compare, MP for multiply, and STO for storing information into memory. Like programs written in other programming languages, assembly language programs consist of a series of individual statements or instructions that instructs a computer.

Programs written in assembly language require a translator to convert them into machine language. The translator here is an assembler you will learn about it later in the chapter.



The principal advantage of assembly language is that programs can be very efficient in terms of execution time and main memory usage.

Assembly languages are an improvement over machine languages. However, the level of details required to write assembly programs is very high and the chances of making mistakes while writing a program in an assembly language is more. Moreover, assembly language is written for a specific processor.

Third generation language (3GL): High-level language

A programming language in which the programming statements are not closely related to the internal characteristics of the computer is called a high-level language. These are advanced computer languages that do not depend on the type of computer used.

The Third generation languages evolved as the most useful programming language in the 1960s and 1970s. This generation of language contains instructions in form of English-like commands to perform a task. A translator is needed to translate the symbolic statements of a high-level language into computer-executable machine language. Third-level computer languages have become the major means of communication between the digital computer and its user. First introduced in the late 1950s, FORTRAN and COBOL are early examples of this sort of language. Most modern languages such as BASIC, C, C++ C# and Java are also third generation language

Fourth generation language (4GL): Very high level Language

It is a programming language or programming environment designed with a specific purpose of development of commercial business software including very high programming language.

Some of the basic features of fourth generation language are given below:

- Instructions are written in english-like sentences.
- These are non-procedural.

- Increases productivity because programmers type fewer lines of code to get something done.

All 4GLS are designed to reduce programming effort and the time it takes to develop software and the cost of software development.

Examples of this generation of languages are IBM's ADRS2, APL, CSP and AS, Power Builder, Access, Structured Query Language (SQL).

Fifth generation language (5GL): Artificial Intelligence

The 1990s saw the development of fifth generation languages. While fourth generation programming languages are designed to build specific programs, fifth generation languages are designed to make the computer solve a given problem without the programmer. This way, the programmer only needs to worry about what problems need to be solved and what conditions need to be met, without worrying about how to implement a routine or algorithm to solve them.

Fifth generation languages are used mainly in artificial intelligence research. This means computers can in the future have the ability to think for themselves and draw their own inferences using programmed information in large databases.

Prolog, OPS5, and Mercury are examples of fifth generation languages.

Worksheet -5

QI. Fill in the blanks

1. Second generation language used _____ language.
2. A _____ is a set of instruction given to a computer to accomplish a certain task.
3. The evolution of computer language is known as _____.
4. _____ converts a program written in an assembly language into a machine language.
5. Third generation language used _____ language.
6. The person writing the computer program is called _____
7. A computer programs written in specific language. This language is called _____
8. _____ are examples of fifth generation languages.




QII. Answer the following question.

Q1. What is a program?

Q2. Name the five generations of computer languages

Q3. Give two important points of first generation computer language.

Q4. What are the important features of fourth generation computer language?

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: -5-05-2020
WORKSHEET NUMBER: 6	WORKSHEET TOPIC: Introduction to Programming concepts (Part II)	
INSTRUCTION (IF ANY):		

<https://drive.google.com/file/d/1ZltuQr4jLzcloVeeAxZcaabBeE8Qdem9/view>

Introduction to Programming concepts (Part II)

Computer Language Translators`

Computer language translator is defined as a computer program that converts instructions written in a given computer language to another.

The text that is translated is called the source code. The language that the source code is translated into is called the target language. The product is sometimes called the target code or object code.

There are various types of translators available. These are discussed here.

Assembler

An assembler is a program which is used to convert a program written in assembly language into machine language and vice-versa.

The programmer can write a program using a source code. This code is then specified to the assembler program when you run that program. The assembler program takes each program statement in the source program and generates a corresponding bit stream or pattern (a series of 0s and 1s of a given length).

The output of the assembler program is then called the **object code** or the **machine code**. The object program can then be run (or executed) whenever desired.

Assembler is used only by an assembly language.

Compiler

A compiler is a program that transforms the source code written in high-level language into machine language (object code) that a computer can understand.

This transformation of the code is required to generate an executable program that the programmer can run to get the required result. The executable program then remains stored in the memory and can be used whenever needed.

The basic disadvantage of using a compiler is that lot of disk space is wasted. Each source code will generate an object code and an executable file (.exe file), thereby, occupying a lot of disk space.

For every programming language, there is a different compiler available. Languages like C and PASCAL use a compiler.

FACT FILE

Many compilers are available for the same language. For example, there is a different FORTRAN compiler for PCs and Macintosh. Similarly, the C language has compilers like Turbo C, Borland C, C builder, etc.

Interpreter

An interpreter is a program that translates the source code into intermediate code and immediately executes it line-by-line. The object code is not stored in a separate file. In fact, the interpreter analyses and executes each line of source code in succession, without looking at the entire program.

The disadvantage of an interpreter is that it has no memory to store the translated lines. Every time a program is executed, the source code has to be converted afresh.

Some of the high-level languages that use an interpreter are **BASIC**, **COBOL**, **PERL**, **ASP**, etc.

FACT FILE

JAVA language has both the compiler and an interpreter. The source code is first converted to a bytecode by a compiler. This bytecode is portable and can run on any platform. Then this byte code is interpreted to generate a machine independent executable code by an interpreter.

Important Terms and Definitions

1. Modular programming

Modular programming refers to a technique in which the logical parts of a problem are divided into a series of individual, interchangeable routines so that each may be programmed independently. It is also called top-down align or stepwise refinement.

2. Procedural programming

Procedural programming refers to functions and the execution of the functions in a step-by-step linear order. It emphasises more on procedure (which is first series of computational steps) than data.

3. Event-driven programming

Programming the code that executes in response to an event is called event-driven programming.

Events are the actions or notifications that are used to initiate code execution. For example, in Visual Basic the programmer has the ability to create Graphical User Interface (GUI) by pointing and clicking with the mouse. The programmer creates the GUI and writes code to describe what happens when the user interacts (Clicks, Load, Double-click, etc.) with the GUI.

4. Object Oriented Programming (OOP)

In Object Oriented Programming a program is no longer a series of instructions, but a collection of objects. These objects contain both data and instructions that are assigned to classes, and can perform specific tasks.

With this approach programmers can build programs from pre-existing objects and can use features from one program in another. These results in faster development time, reduced maintenance costs, and improved flexibility for future revisions.

Some examples of object oriented language are: C++, Java and Ada

5. Rapid Application Development (RAD)

The process of rapidly creating an application is without extensive pre-planning typically referred to as Rapid Application Development. Visual Basic is the world's most widely used RAD language

GLOSSARY

Assembler: It converts a program written in an assembly language into a machine Language and vice- versa

Compiler: It transforms the source code written in high-level language into machine language.

Interpreter: It translates source code into intermediate code and immediately executes it.

Object code: It is the product obtained when a translator works.

Source code: It is the text that is translated by a translator.

Target language: It is the language that a source code is translated to.

Translator: It converts instructions written in a given computer language to another.

1. A program is a set of instructions given to a computer to accomplish a certain task.
2. A programming language is a computer tool for a programmer to write commands.
3. First generation language is the lowest level computer language. Information is conveyed to the computer in the form of 1s or 0s, that is, binary language.
4. Second generation language used assembly language.
5. Third generation language used high-level languages like FORTRAN, COBOL, PASCAL, C, etc. It fine tuned languages to make it more programmer-friendly
6. Fourth generation language used a programming language or programming environment designed with a specific purpose of development of commercial business software.
7. Fifth generation languages are used mainly in artificial intelligence research.
8. Types of translators: Assembler, Compiler and Interpreter

Worksheet 6

Q1. Fill in the blanks:

1. _____ are the actions or notifications that are used to initiate code execution.
2. RAD stands for _____
3. BASIC supports an _____ language.
4. The _____ translator converts an assembly language into a machine language.
5. OOP stands for _____
6. Three types of translator _____ and _____
7. _____ is the language that a source code is translated to.
8. _____ converts instructions written in a given computer language to another.
9. _____ JAVA language has both the compiler and an interpreter.
10. _____ refers to functions and the execution of the functions in a step-by-step linear order.

QII. Match the following.

1. Compiler	a. Artificial language
2. Interpreter	b. Visual Basic
3. Fifth generation	c. C++
4. Fourth Generation	d. BASIC
5. Event driven programming language	e. Access

QIII. Define the following terms:

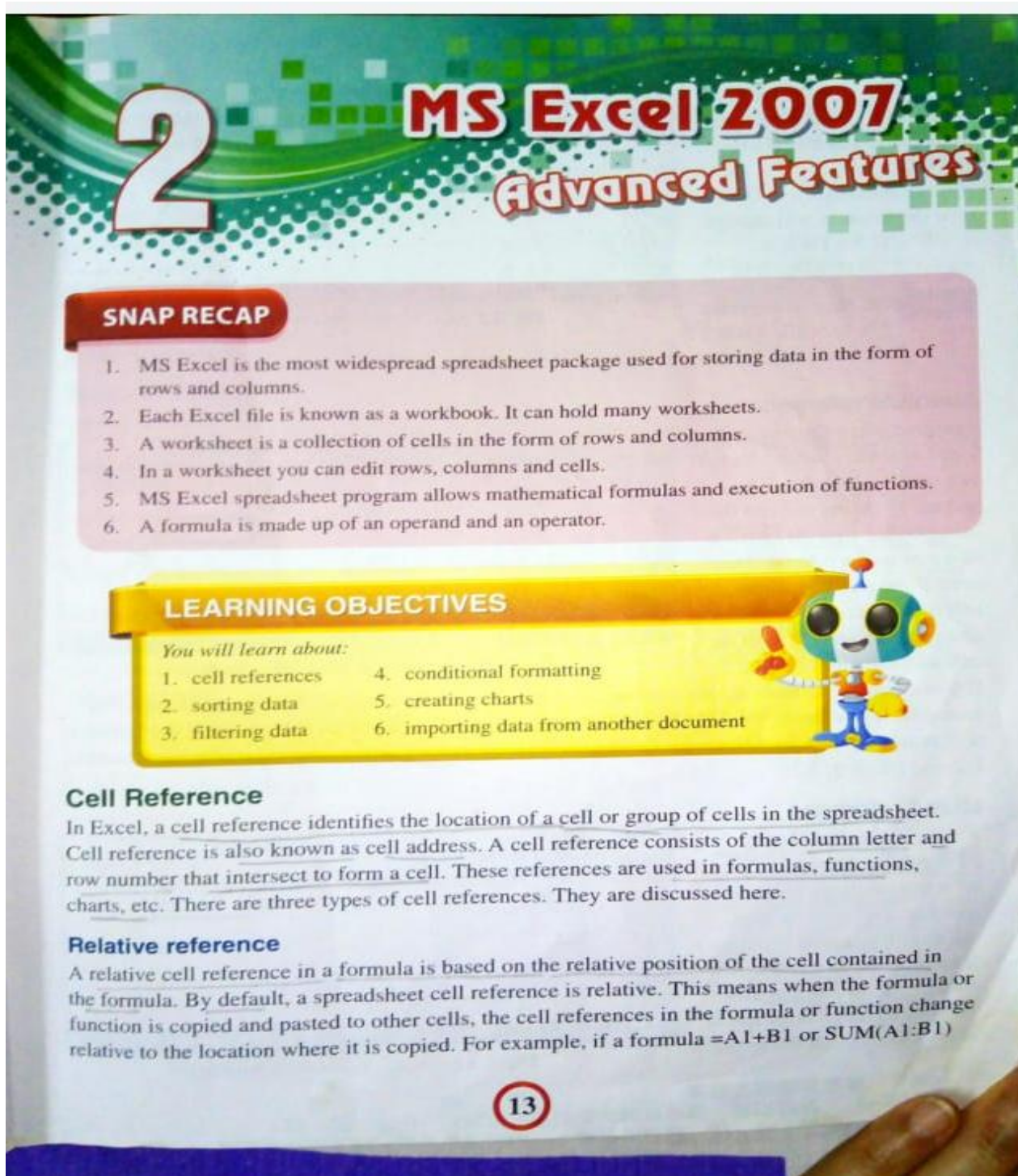
1. Assembler
2. Programming language
3. Object-Oriented programming
4. Modular Programming
5. Event-driven programming



GRADE: VII	SUBJECT: ICT	DATE: -21-05-2020
WORKSHEET NUMBER: 7	WORKSHEET TOPIC: MS Excel	
INSTRUCTION (IF ANY):	https://www.youtube.com/watch?v=HyGYM5Cd5dY	

MS EXCEL 2007

Advanced Features



2 MS Excel 2007 Advanced Features

SNAP RECAP

1. MS Excel is the most widespread spreadsheet package used for storing data in the form of rows and columns.
2. Each Excel file is known as a workbook. It can hold many worksheets.
3. A worksheet is a collection of cells in the form of rows and columns.
4. In a worksheet you can edit rows, columns and cells.
5. MS Excel spreadsheet program allows mathematical formulas and execution of functions.
6. A formula is made up of an operand and an operator.

LEARNING OBJECTIVES

You will learn about:

1. cell references
2. sorting data
3. filtering data
4. conditional formatting
5. creating charts
6. importing data from another document

Cell Reference

In Excel, a cell reference identifies the location of a cell or group of cells in the spreadsheet. Cell reference is also known as cell address. A cell reference consists of the column letter and row number that intersect to form a cell. These references are used in formulas, functions, charts, etc. There are three types of cell references. They are discussed here.

Relative reference

A relative cell reference in a formula is based on the relative position of the cell contained in the formula. By default, a spreadsheet cell reference is relative. This means when the formula or function is copied and pasted to other cells, the cell references in the formula or function change relative to the location where it is copied. For example, if a formula =A1+B1 or SUM(A1:B1)

13

is written in cell D1 and is copied to E1 then the formula will change to =B1+C1 for cell E1.

If it is copied down to D2 then the formula will change to =A2+B2 for D2 and =B2+C2 for E2 (Fig. 2.1).

Note: If there is no value in the cell, it takes a null value by default.

	A	B	C	D	E	F
1	4	6		10	6	
2	3	9		12	9	
3	2	5		7	6	
4						
5						

Fig. 2.1 Example of a relative reference

Absolute reference

Absolute cell reference in a formula always refers to a cell in a specific location. This is done by fixing the cell by using dollar sign (\$) in front of a row and a column. Here, even if the position of the cell that contains the formula changes, the reference of the cell will remain the same.

If you copy the formula across rows or down columns, the formula value does not change. For example, if a formula '=A\$1+\$B\$1' is written in cell D1 and is then copied to E1, the formula will remain as it is for D1, that is, '=A\$1+\$B\$1'. It will not change even if it is copied to cells D2 and E2 (Fig. 2.2).

	A	B	C	D	E	F
1	5	13		18	18	
2	5	19		18	18	
3						
4						
5						

Fig. 2.2 Example of an absolute reference

Mixed reference

A mixed reference has an absolute column and a relative row, or an absolute row and a relative column. An absolute column reference takes the form \$A1, \$B1, and so on. An absolute row reference takes the form A\$1, B\$1, and so on. If the position

	A	B	C	D	E	F
1	36	10		46	10	
2						
3						
4						
5						

Fig. 2.3 Example of a mixed reference

Fl or Fix

of the cell that contains the formula changes, the relative reference is changed, but the absolute reference does not change. For example, if you copy a mixed reference formula =A\$1+B\$1 from cell D1 to cell E1, the formula changes to '= B\$1+C\$1'. In this case, the row is fixed. It will not change even if the location changes in the worksheet (Fig. 2.3).

Sorting Data in MS Excel 2007

In a spreadsheet, it is easy to maintain data as the sheet is divided into rows and columns. Data when entered in sheet may not be arranged in an order. However, you can arrange it either in a descending or an ascending order. This physical rearrangement of data in ascending or descending order is called sorting.

In Excel, sorting data is one of the most useful features.

Types of sorting

Sorting is of two types:

1. Ascending order: Arranging the data in an increasing order. For example, letters from A to Z, numbers from lowest to highest, etc.
2. Descending order: Arranging the data in a decreasing order. Such as, letters from Z to A, numbers from highest to lowest, etc.

Sorting can be done in two ways. These are explained below.

Sorting on one column

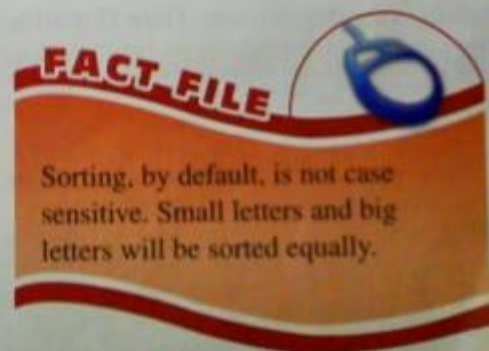
Here data is arranged in an ascending or a descending order for only one column. For example, a list of students in a class is maintained with the 'Name' of all the students arranged in an ascending order.

Follow these steps to arrange the given list in the ascending order of 'Name'.




1. Create a list in a worksheet.
2. Select the data to be sorted (Fig. 2.4).

	A	B	C	D
1	Name	Class	Section	Marks
2	John		6 A	67
3	Monika		6 B	56
4	Abhi		5 A	77
5	Uzma		7 B	78
6	Sarah		8 A	87
7	Ruchi		7 B	68

Fig. 2.4 List of students in a worksheet



3. Select **Data** tab \rightarrow **Sort & Filter** group (Fig. 2.5).

Select **Sort A to Z** option  or **Sort Z to A** option . In this case, select **Sort A to Z** option .

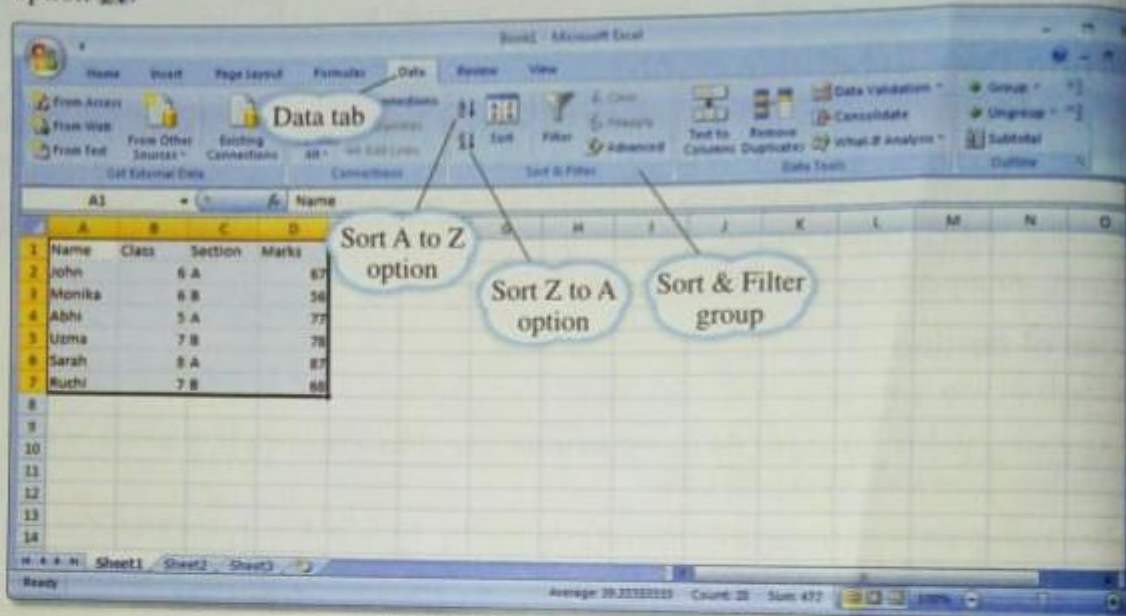


Fig. 2.5 Selecting the Sort option

6. The data will be sorted in the ascending order of 'Name' (Fig. 2.6).

	A	B	C	D
1	Name	Class	Section	Marks
2	Abhi		5 A	77
3	John		6 A	87
4	Monika		6 B	58
5	Ruchi		7 B	78
6	Sarah		8 A	87
7	Uzma		7 B	88

Fig. 2.6 The sorted data

Sorting on more than one column

When the data is arranged in an ascending or a descending order in one column it can again be sorted within another column. For example, Employee list sorted on the 'Name' column within one department. Here Department name

	A	B	C	D
1	Emp Name	Salary	Department	Job
2	Mayank	6000	Accounts	Clerk
3	James	5000	Accounts	Clerk
4	Gaurav	9000	Marketing	Director
5	Ashley	4000	Accounts	Clerk
6	Simon	11000	Marketing	Director
7	Jane	8000	Finance	Clerk
8	Uma	7500	Marketing	Manager
9	Shreya	6000	Finance	Clerk
10	Sandeep	12000	Marketing	Director
11	Sandhya	8500	Sales	Manager

Fig. 2.7 Employee list to be sorted

is called the primary column and Employee name sorted within it the secondary column.

Follow these steps to sort the list on more than one column:

1. Create a list in a worksheet. Select the data to be sorted. In the given example, select cells in the range A1:D11 (Fig. 2.7).

2. Select **Data** tab \rightarrow **Sort & Filter** group \rightarrow **Sort** option (Fig. 2.8).

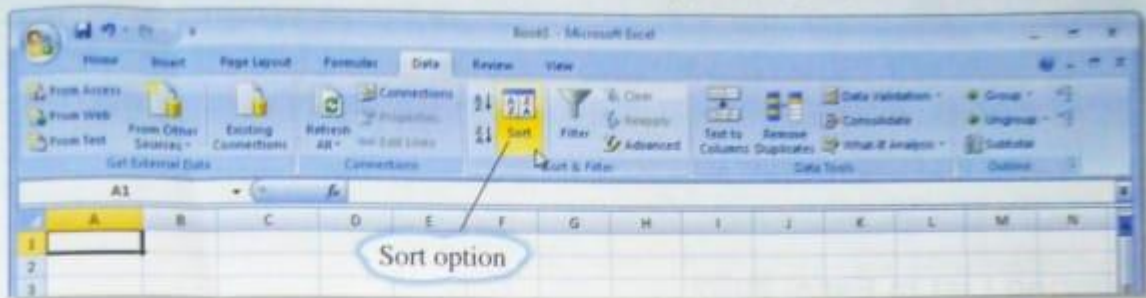


Fig. 2.8 Sort option

3. The **Sort** dialog box appears (Fig. 2.9). Click on **Sort by** drop-down list in the **Column** section. Select 'Department' in this case. **A to Z** is already selected in the **Order** section based on which data will be sorted in the ascending order in the 'Department' column of the spreadsheet.

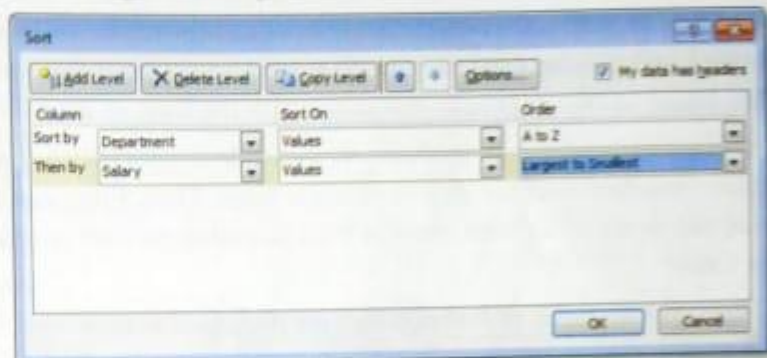


Fig. 2.9 Sort dialog box

	A	B	C	D
1	Emp Name	Salary	Department	Job
2	Mayank	6000	Accounts	Clerk
3	James	5000	Accounts	Clerk
4	Ashley	4000	Accounts	Clerk
5	Jane	8000	Finance	Clerk
6	Shreya	6000	Finance	Clerk
7	Sandeep	12000	Marketing	Director
8	Simon	11000	Marketing	Director
9	Gaurav	9000	Marketing	Director
10	Lima	7500	Marketing	Manager
11	Sandhya	6500	Sales	Manager

Fig. 2.10 Sorted data for more than one column

4. Click on **Add Level** button in the **Sort** dialog box, the **Then by** row appears. Select 'Salary' from the **Then by** drop-down list. Select the order as **Largest to Smallest** in the **Order** drop-down list.
5. Click **OK**. The data is arranged as shown in Fig. 2.10.

Further, more levels can be added to the Sort dialog box sorting data for the given data in the spreadsheet.

FACT FILE

Excel considers the first row of the spreadsheet as the Header row, that is, the first row of the table has headings. Thus, **My data has headers** checkbox is already selected in the **Sort** dialog box.

Worksheet 7

Q1. Answer the following Questions

Q1. What is sorting? How many types are sorting are possible?

Q2. Explain all three types of cell reference with example.




Q3. What is cell reference?

Q4. What are the difference between Relative, Absolute and Mixed reference?

Project 1

S. No	Name	Maths	Science	Hindi	Total	Percent%	%Math	%Sci	%Hindi
1	Ram	67	48	69					
2	Peehu	49	58	50					
3	Aditi	80	78	90					
4	Peehu	56	78	68					
5.	Radha	78	69	74					

Total marks of 300

 Cambridge Assessment International Education	 <i>The Revival of Tradition</i>	
GRADE: VII	SUBJECT: ICT	DATE: -25-06-2020
WORKSHEET NUMBER: 9	WORKSHEET TOPIC: MS Excel Part II	
INSTRUCTION (IF ANY):		

MS EXCEL 2007

Advanced Features

PART II

Worksheet 8

Fill in the blanks:

Column chart, Line chart, Pie chart, Data, Layout , Chart

1. A _____ is a graphical representation of information.
2. There are different types of chart in MS Excel such as _____
_____ and _____
3. The _____ tab provides many option for changing the layout
and the appearance of chart.
4. _____ can be imported to a worksheet from an external database
or excel sheet.

Q2. Match the following

1. Sorting	a. Present in Filter
2. Relative reference	b. arranging Data
3. Absolute Reference	c. Can be created with chart
4. Bar Chart	d. The cell address changes
5. Filter switches	e. The cell address does not change

QII. Answer the following Questions




Q1. What are charts in Excel?

Ans1. Chart is a graphical representation of data in a worksheet. It is an effective way to display data in a pictorial form.

Q2. What are use uses of charts?

Q3. What are the different components of charts? Explain it






Q4. What are the types of chart? Explain it




 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: -26-06-2020
WORKSHEET NUMBER: Project 2	WORKSHEET TOPIC: MS Excel Part II Project 2	
INSTRUCTION (IF ANY):		

MS EXCEL 2007

Advanced Features

Q1. Make a sheet in your MS Excel and show the maximum and minimum values of each students through Sparkline's

	Sem1	Sem2	Sem3	Sem 4	Sem5	Growth
Geeta	90	50	64	99	82	
Ram	100	70	90	50	90	
Ridhi	80	90	100	100	100	
Sidhi	84	77	87	50	60	
Sita	50	68	50	78	40	

 Cambridge Assessment International Education	 SANSKAR SCHOOL <i>The Revival of Tradition</i>	 INTERNATIONAL SCHOOL AWARD 2018-2019
GRADE: VII	SUBJECT: ICT	DATE: -3-07-2020
WORKSHEET NUMBER: 10	WORKSHEET TOPIC: MS Excel Part II	
INSTRUCTION (IF ANY):		

MS EXCEL 2007

Advanced Features

GLOSSARY

Absolute reference- It refers to the actual address of a cell in a specific location.

Cell Reference- It identifies the location of a cell or group of cells in the spreadsheet.

Chart- It is graphical representation of information.

Filtering- It is the process of selecting records from a large amount of data based on certain conditions.

Mixed reference- It is a cell address which has absolute column and a relative row or absolute row and a relative column.




Relative reference – It is the address of a cell which is based on the relative position of the cell contained in the formula.

Sorting – It is the physical arrangement of data in ascending or descending order

Short keys of MS Excel

Keys	Functions
Ctrl+N	Create new document
Ctrl+o	Open an existing file
Ctrl+W	Close a workbook

Ctrl+Z	Undo an action
Ctrl+F4	Close excel
Ctrl+Y	Redo an action
F1	Open the Help pane
F7	Check spelling
Ctrl+F9	Minimize the work window
Alt+F	Open the file tab
Ctrl+s	Save a workbook
Alt+H	Go to the Home tab
Alt+N	Open the insert tab
Shift+F3	Insert a function
Ctrl+F1	Show or hide ribbon
Ctrl+tab	Switch between open workbook

 Cambridge Assessment International Education	 The Revival of Tradition	
GRADE: X	SUBJECT: ICT	DATE: 3 rd July 2020
WORKSHEET NUMBER: 11	Ch-7 Questions from previous year exams conducted by IGCSE.	
INSTRUCTION (IF ANY):	Students will note down the questions and responses in their notebook and will upload it on classroom after scanning them.	

1. A new computer system is used to score examination results using a scale of **0 - 50**. The system will be tested using a range of test data. **Tick** whether each of the marks is an example of **normal** data, **extreme** data or **abnormal** data.

	normal	extreme	abnormal
3			
0			
50			
51			
41			
thirty			




2. Paul employs Jane, a systems analyst, to create a new database system for his supermarket business. He stocks a selection of foods.

Paul needs to know quickly when his stock is low so he can send for more products. He needs to record each product so it is unique. He also needs to know the date that each product was last ordered.

- (a) Complete the data dictionary table, giving the field names which would be used in the database and describing the most suitable validation check which could be carried out on each field. Do not use spaces in the field name.

Field name	Validation check
	None
Last_ordered_date	

3. When a new system is implemented, documentation is provided with it. Explain why two different types of documentation are produced.
4. When a new system is implemented, different types of documentation are provided.
 - a) Identify two items which would be found in both technical documentation and in user documentation.
 - b) Identify two items which would be found in user documentation but would not be there in technical documentation.
5. After a system has been implemented it needs to be tested. Describe two testing strategies and state a reason why each one is needed.
Strategy 1.....
Reason 1.....
Strategy 2.....
Reason 2.....

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: 07-08-2020
WORKSHEET NUMBER: 15	WORKSHEET TOPIC: Ch- 6 QB 64- Programming statements II	
INSTRUCTION (IF ANY):	https://www.youtube.com/watch?v=0diL6iZ3eCs	

Ch – 6 QB 64- Programming statements II

Q1. Fill in the blanks:

1. **Loop** is the repetition of a statements in a program.
2. A **DO WHILE... LOOP** is performed as long as the condition being tested is true.
3. **Ctrl+Pause** to stop the working of a loop and go back to QB 64 window.
4. When the step value is missing in the DO WHILE ... LOOP statement then it results in an **infinite loop**
5. The **FOR... NEXT** structure is used when you want to perform a loop for a specific number of times.

Q2. State true or false

1. Iteration is a repetition of statements in a program. **T**
2. Step is used to repeat certain steps a fixed number of times. **F**

3. StartValue is the initial value of the counter _variable in FOR ... NEXT loop. **T**

4. WEND is used to end DO ... UNTIL loop. **F**

5. The purpose of DO... LOOP and EXIT command is same. **F**

QC. Spot and fix errors in the following programs.

1. CLS

For A=10 to 40 step 5

Print Y

Next Y

Solution:

CLS

A =10 to 40 step 5

Print A

Next A

2. Count =1

Do until count >=10

Print count

Count= count+1

End Loop

Solution

CLS




Count =1

Do until count <= 10

Print count

Count= count+1

Loop

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: 14-08-2020
WORKSHEET NUMBER: 16	WORKSHEET TOPIC: Ch- 6 QB 64- Programming statements II	
INSTRUCTION (IF ANY):	https://www.youtube.com/watch?v=0diL6iZ3eCs	

Ch – 6 QB 64- Programming statements II

Q1. Answer the following:

Q1. What is loops? Discuss different types of loops?

Ans1. Loop is the repetition of a statement(s) in a program.

There are four types of Loops:

- 1. For ..Next Loop**
- 2. Do While.. Loop**
- 3. Do until.. Loop**
- 4. While.. Wend**

Q2. Explain the use of FOR... NEXT structure with sample code.

Ans2. The For... Next structure is used when you want to perform a loop for a specific number of times. It uses a counter variable which is incremented or decremented with each repetition of the loop.

Syntax

For counter variable= Start value to End value STEP Value

Statement 1;

Statement2;

Next counter_ variable

Q3. Differentiate between a Do WHILE...LOOP and a DO UNTIL... LOOP.

Ans3. A Do While ..Loop is performed as long as the condition being tested is true.

Do Until... Loop is different from Do.. While as it executes the statements until the condition is true

Q4. Give Syntax of WHILE.... WEND in QB 64.

Ans4. Syntax of While... Wend.

WHILE Test condition

Statement

WEND

Q5. Why do you use EXIT command? Give example.

Ans5. The EXIT Command is used to come out of loop before the expected number of executions. This command is used within a looping statement. It causes immediate exit from the loop is generally followed by the condition statement IF.

Do while ... wend (Program 1)

1.To Print number 1 to 9




```
CLS  
a =1  
while a < 10  
Print a  
a = a+1  
Wend
```

2. To print odd number (Program-2)

```
CLS  
a =1  
while a < 20  
Print a  
a = a+2  
wend
```

3.Print multiples of 5 from 50 to 100 using while ...wend (Program3)

```
CLS  
a = 5  
while a<= 100  
Print a  
a=a+5  
wend
```

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: 20-08-2020
WORKSHEET NUMBER: 17	WORKSHEET TOPIC: Network Communication and Mobile OS	
INSTRUCTION (IF ANY):		




Ch-1

Network Communication and Mobile OS

REVISION SHEET-I

Extra Fill ups.

1. **Client** is a computer connected to the server on a network.
2. **Hub** is the central connection point on a network.
3. **Android OS** is an open source and freely available Linux based mobile OS.
4. **Server** is a computer that manages the network resources.
5. Full form of PDA – **Personal Digital Assistant**
6. Full form of STP- **Shielded Twisted Pair**
7. Full form of UTP- **Unshielded Twisted Pair**
8. **Extranet** is another private to an organisation with little external interference and is used for official purpose only.
9. Full form of NIC- **Network Interface Card**
10. A **switch** is a smarter replacement of a hub
11. **Mobile os** is a GUI developed for smartphones.
12. **Workstation** is a computer intended for individual use on a network.
13. **Print server** is a computer that manages the printers require on a network.
14. **WebOS** operating system was developed by Palm Incorporation.
15. **Mobile application development** is a set of instructions written to develop applications and mobile devices.

 Cambridge Assessment International Education		
GRADE: VII	SUBJECT: ICT	DATE: 20-08-2020
WORKSHEET NUMBER: 17	WORKSHEET TOPIC: Network Communication and Mobile OS	
INSTRUCTION (IF ANY):		

Ch-1 Network and Communications and Mobile OS

Revision Chapter 1

A. State true or false.

1. Bluetooth technology is a form of wireless communication. **T**
2. In a bus topology, all workstations are connected to the central hub. **F**
3. A mobile phone is capable of handling unlimited memory. **F**
4. Androids are more prone to malwares and data stealing. **T**
5. Web OS is a Linux based open source operating system. **T**

B. Fill in the blanks.

1. Types of transmission channels are **wired** and **wireless**.
2. **File Server** is a computer that manages storage and retrieval of files.
3. In **LAN** computers are interconnected within a limited geographical area.
4. **Mobile application development** is a set of instructions written to develop applications for smartphones and mobile devices.
5. **Android** is one of the most popular operating systems designed by Android, Inc.

D. Match the following.

1. Android	a. Apple products 4
2. webOS	b. Small software units with limited function 5
3. Smartphones	c. Linux based OS 2
4. iOS	d. Compact computers 3
5. Mobile apps	e. Prone to malware threat 1

QE. Answer the following:

Q1. What is networking? Give two advantages.

Ans1. A network consists two or more computers linked together for the purpose of sharing resources.

Two Advantages are:

Speed- Files can be sent and received rapidly using a computer network. This method saves time, and is more convenient than manual delivery of data.

Security- Sensitive files and programs on a network are protected by passwords.

Q2. Write two disadvantages of network?

Ans2. Two disadvantages of network are:

1. As traffic increases on a network the performance degrades unless it is designed properly.
2. It becomes difficult to manage when a large number of computers is connected to a network.

Q3. What is Mobile OS? Give a few examples.

Ans3. Mobile OS is a graphical user interface developed for smartphones.

Examples are Android by Google, iOS by Apple, Windows phone by Microsoft, Black berry OS.

Q4. Write the factors determine the requirement OS for smartphones?

Ans4. 1. Mobile phones are equipped with in built keyboard, so a different GUI is required.

2. A mobile phone is a compact machine with small battery size so that OS should be designed in a simple way to work with limited power for a longer period of time.

3. Limited memory is available in mobile phones, therefore the OS should be less complex to occupy less storage capacity.