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Text Book for
Diploma of Associate Engineer

Comp-162

Computer Applications

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PREFACE

This book **Comp-162** Computer Applications has been written according to the revised curriculum approved by TEVTA for Diploma of Associate Engineers first year electrical technology.

This is the age of information technology and computer is essential part of this technology. Computer has come out from its earlier specific applications i.e. research and engineering etc. Now it is becoming an integral part of general society. Today we can see the computer in our daily life, like in colleges, schools, offices, vehicles and even in pockets.

The main objective to write this book is to provide ready reference facility for students of electrical technology to explain the enduring concepts of computer hardware and software, and to show you the concrete ways that these ideas affect the correctness, performance, and utilities of operating systems Windows and application programs like MS Word, MS PowerPoint and web browser. This book also helps you understand the principles and acquire the practical skills of programming using the C++ programming language according to technology.

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ELECTRONICS DATA PROCESSING

General Objective:

Understand basic concepts of Electronic Data Processing.

Specific objectives:

After studying this chapter students should be able to:

➢ Basic Terms of Computer Science Data & its, types, Information, Hardware, Software

➢ Computer & its types

➢ Generations of Computers

➢ Block diagram of a computer system

➢ BIT, Byte, RAM & ROM

➢ Input &Output devices

➢ Secondary storage devices

➢ Types of Software

➢ Programming Languages

➢ Applications of computer in different fields

➢ Application in Engineering, Education & Business

ELECTRONIC DATA PROCESSING (E.D.P)

Electronic Data Processing is the use of computers in recording, classifying, manipulating, and summarizing of the data.

Some Examples of E.D.P

- Students Admission or Examination System
- Payroll System
- ATM System
- Stock Control System
- Electronic Fund Transfer
- Ticket Buying System

1.1 - BASIC OVERVIEW OF COMPUTER

1.1.1- COMPUTER

The term computer is derived from the word **compute**. The word compute means to calculate. A computer is an electronic data processing machine that accepts **data** from user as input, **processes** that data by performing calculations and operations on it according to the given instructions, stores data for later retrieval and generates the desired output results (**information**) as illustrated in **figure 1.1.**

Figure 1.1 – Data Processing Cycle

1.1.2 - DATA AND ITS TYPES

Data

A collection of raw facts and figures is called **data**. These facts can be the numbers, words, images, audio, measurements and observations. The word **raw** means that the facts have not yet been processed to get their actual meanings.

Examples

- Each student's test score is one piece of data.
- A product purchased by a customer is also piece of data.

Types of data

There are different types of data that may consist of numbers, text, symbols, images, videos and voice.

1. NUMERIC DATA

Numeric data consists of positive or negative numbers that may also be integer without any fractional part or real number which includes integers with fractions. Numeric type data is usually used for calculations.

Examples of Integer numbers	Examples of Real numbers
12, 256, -23, -87	3.1415, -5.40, 7.86

2. ALPHABETIC DATA

Alphabetic data contains the letters a, b, c… up to z. These letters may be small or capitals. Alphabets are basic part of any human language. In real life everything is called with its name and every name made up with alphabets.

Examples of Alphabetic Data

Islamabad, Zain, Table, Office, College, TEVTA, computer etc

3. ALPHANUMERIC DATA

Alphanumeric data is combination of alphabets, numbers, special characters (symbols) and space character.

Examples of Alphanumeric Data

Year2017, Roll No 15EA04, $46, 0330-1234567

4. GRAPHIC DATA

Graphics includes pictures, snaps, drawings, charts and moving pictures (movies) etc.

5. AUDIO DATA

Audio includes any type of voice that may be Tilawat, Naats, National Songs, human voice, etc.

1.1.3 - DATA PROCESSING

Microprocessor is the central part in computer system, also known as processor. Processing is carried out by microprocessor. Processing is the stage where the input data is manipulated in order to produce meaningful

information. Processing can include a number of stages such as sorting, searching, calculations, graphing etc.

1.1.4 - INFORMATION

Information is the data produced by computer after processing. The use of information is to have decisions.

Information is also defined as processed, organized, useful, purified and meaningful form of data.

Example

The average score of a class or of the entire school is information that can be derived from the given data.

1.1.5 - INFORMATION TECHNOLOGY (IT)

Information technology (IT) refers to anything related to computing technology, such as networking, hardware, software, the Internet, or the people that work with these technologies.

HARDWARE

Computer hardware includes the physical parts of a computer, such as the case, central processing unit, monitor, mouse, keyboard, computer data storage, graphics card, sound card, speakers and motherboard. By contrast, software is the set of instructions that can be stored and run by hardware. Or Hardware refers to the physical elements of a computer. Also referred to as the machinery or the equipment of the computer. Examples of hardware in a computer are the keyboard, the monitor, the mouse and the processing unit However, most of a computer's hardware cannot be seen; it's inside the computer case.

SOFTWARE

Computer software, or simply software, is a collection of data or computer instructions that tell the computer how to work. This is in contrast to physical hardware, from which the system is built and actually performs the work. Or Software is a set of instructions, data or programs used to operate **computers** and execute specific tasks. Examples of applications include office

suites, database programs, web browsers, word processors, software development tools, image editors and communication platforms.

1.2 - COMPUTER AND ITS TYPES

There are three types of computers;

1- ANALOG COMPUTERS

Analog computers are used to process analog data. Analog data is of continuous nature and which is not discrete or separate. Such type of data includes temperature, pressure, speed weight, voltage, depth etc. These quantities are continuous and having an infinite variety of values.

Analog computers are used to in making and in chemical industry and oil refinery etc. where flow and temperature measurements are important.

2- DIGITAL COMPUTERS

Most of the computers available today are digital computers. Digital computers process the digits to represent numerals, letters or other special symbols.

Digital computers operate on inputs which are ON-OFF type and its output is also in the form of ON-OFF signal.

Normally, an ON is represented by a 1 and an OFF is represented by a 0. It is also known as binary 1 or 0.

Examples of digital electronic computers include the IBM PC, calculators, the Apple Macintosh as well as modern smart-phones.

3- HYBRID COMPUTERS

A hybrid is a combination of digital and analog computers. It combines the best features of both types of computers, i-e. It has the speed of analog computer and the memory and accuracy of digital computer.

Hybrid computers for example are used for scientific calculations, in defense and radar systems, In Intensive Care Unit (ICU) to measure patient's blood pressure and temperature etc.

1.3 – COMPUTER GENERATIONS

Computers are such an integral part of our everyday life now most people take them and what they have added to life totally for granted. There are following five generations of computers.
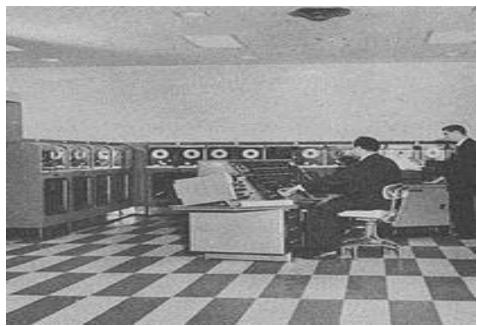
Figure 1.2 First Generation Computers

1940 – 1956: First Generation – Vacuum Tubes

These early computers used vacuum tubes as circuitry and magnetic drums for memory. As a result, they were enormous, literally taking up entire rooms and costing a fortune to run.

These were inefficient materials which generated a lot of heat, sucked huge electricity and subsequently generated a lot of heat which caused ongoing breakdowns. These first generation computers relied on 'machine language' (which is the most basic programming language that can be understood by computers). These computers were limited to solving one problem at a time. Input was based on punched cards and paper tape. Output came out on print-outs. The two notable machines of this era were the UNIVAC and ENIAC machines – the UNIVAC is the first every commercial computer which was purchased in 1951 by a business.

1956 – 1963: Second Generation – Transistors

The replacement of vacuum tubes by transistors saw the advent of the second generation of computing. Although first invented in 1947, transistors weren't used significantly in computers until the end of the 1950s. They were a big improvement over the vacuum tube, despite still subjecting computers to damaging levels of heat.

However, they were hugely superior to the vacuum tubes, making computers smaller, faster, cheaper and less heavy on electricity use. They still relied on punched card for input/printouts.

The language evolved from cryptic binary language to symbolic ('assembly') languages. These meant programmers could create instructions in words. About the same time high level programming languages were being developed (early versions of COBOL and FORTRAN).

Transistor-driven machines were the first computers to store instructions into their memories – moving from magnetic drum to magnetic core 'technology'. The early versions of these machines were developed for the atomic energy industry.

1964 – 1971: Third Generation – Integrated Circuits

By this phase, transistors were now being miniaturized and put on silicon chips (called semiconductors). This led to a massive increase in speed and efficiency of these machines.

These were the first computers where users interacted, using keyboards and monitors who interfaced with an operating system, a significant leap up from the punch cards and printouts. This enabled these machines to run several applications at once using a central program which functioned to monitor memory.

As a result of these advances which again made machines cheaper and smaller, a new mass market of users emerged during the '60s.

1972 – 2010: Fourth Generation – Microprocessors

This revolution can be summed in one word: Intel. The chip-maker developed the Intel 4004 chip in 1971, which positioned all computer components (CPU, memory, input/output controls) onto a single chip. What filled a room in the 1940s now fit in the palm of the hand. The Intel chip housed thousands of integrated circuits. The year 1981 saw the first ever computer (IBM) specifically designed for home use and 1984 saw the Macintosh introduced by Apple. Microprocessors even moved beyond the realm of computers and into an increasing number of everyday products.

The increased power of these small computers meant they could be linked, creating networks which ultimately led to the development, birth and rapid evolution of the Internet. Other major advances during this period have been the Graphical user interface (GUI), the mouse and more recently the astounding advances in lap-top capability and hand-held devices.

2010- : Fifth Generation – Artificial Intelligence

Computer devices with artificial intelligence are still in development, but some of these technologies are beginning to emerge and be used such as voice recognition.

Artificial Intelligence (AI) is a reality made possible by using parallel processing and superconductors. Leaning to the future, computers will be radically transformed again by quantum computation, molecular and nano technology.

The essence of fifth generation will be using these technologies to ultimately create machines which can process and respond to natural language, and have capability to learn and organize themselves.

1.4 - COMPONENTS OF COMPUTER SYSTEM

Computer system can be divided into following parts

- Computer Hardware
- Computer Software

1.4.1 - COMPUTER HARDWARE

Hardware represents the physical and tangible components of a computer i.e. the components that can be seen and touched. These components include keyboard, mouse, memory, processor, disks, disk drives, display screens, printers, speakers, mother boards, and chips etc.

1.4.2 - COMPUTER SOFTWARE

Software represents the logical or intangible parts of computer. Software is collection of different programs. A program is set of electronic instructions that tell the computer what to do and how to do a particular task. Software is developed in a computer programming language.

Software can be categorized according to what it is designed to accomplish. Different software's are used to solve different problems. There are two major software categories, the system software and the application software or apps.

BLOCK DIAGRAM OF COMPUTER

Computer hardware further divided into following three units as described and shown above in **diagram 1.3**.

- **Input Unit:** deals with input devices, these devices are used to feed data into computer. Six widely used input devices are keyboard, mouse, scanner, microphone, digital camera, web cam.
- **Output Unit:** consists of output devices which are used to deliver processed information. Four widely used output devices are monitor, printer, plotter and speakers.
- **System Unit:** The system unit is a case consists of electronic components of the computer that provide data processing and storage facility. Some important devices houses in this units are CPU, RAM, mother board, hard disk, CD drive etc.
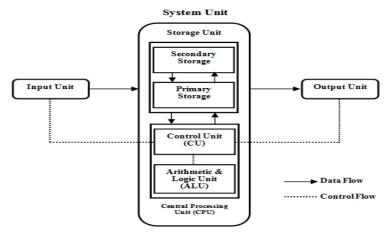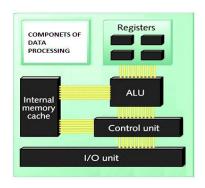
Figure 1.3 – Block Diagram of Computer

- **Memory Unit**

  Memory unit is divided into two types i.e primary unit and secondary unit. Primary unit include the RAM (Random Access Memory) it stores data temporarily as long as the computer system is ON. Secondary memory unit include the storage devices like Hard Disk, Flash Drive, SD Cards, CDs, DVDs etc. These devices can store data permanently.

- **CPU**

  A central processing unit (CPU), also called a central processor, main processor or just processor, is the electronic circuitry within a computer that executes instructions that make up a computer program. The computer's central processing unit (CPU) is the portion of a computer that retrieves and executes instructions. The CPU is essentially the brain of a CAD system. It consists of an arithmetic and logic unit (ALU), a control unit, and various registers. The CPU is often simply referred to as the processor.

Components of CPU   *CPU*

The Control Unit
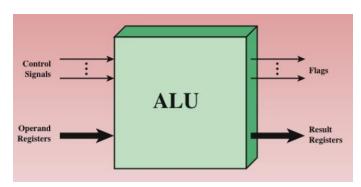
The control unit (CU) is a component of a computer's central processing unit (CPU) that directs the operation of the processor. It tells the computer's memory, arithmetic and logic unit and input and output devices how to respond to the instructions that have been sent to the processor. Control unit or CU is circuitry that directs operations within a computer's processor. It lets the computer's logic unit, memory, and both input and output devices know how to respond to instructions received from a program. Examples of devices that utilize control units include CPUs and GPUs.

The Arithmetic Logic Unit

An arithmetic-logic unit (ALU) is the part of a computer processor (CPU) that carries out arithmetic and logic operations on the operands in computer instruction words. In some processors, the ALU is divided into two units, an arithmetic unit (AU) and a logic unit (LU).

Typically, the ALU has direct input and output access to the processor controller, main memory (random access memory or RAM in a personal computer), and input/output devices. Inputs and outputs flow along an electronic path that is called a bus. In general, the ALU includes storage places for input operands, operands that are being added, the accumulated result (stored in an *accumulator*), and shifted results. The flow of bits and the operations performed on them in the subunits of the ALU is controlled by gated circuits. The gates in these circuits are controlled by a sequence logic unit that uses a particular algorithm or sequence for each operation code. In the arithmetic unit, multiplication and division are done by a series of adding or subtracting and shifting operations.

The design of the ALU is obviously a critical part of the processor and new approaches to speeding up instruction handling are continually being developed.

ALU Input & Output Flow

- **Memory Unit**

  Memory unit is divided into two types i.e primary unit and secondary unit. Primary unit include the RAM (Random Access Memory) it stores data temporarily as long as the computer system is ON. Secondary memory unit include the storage devices like Hard Disk,

Flash Drive, SD Cards, CDs, DVDs etc. These devices can store data permanently.

1.5 INPUT AND OUTPUT DEVICES

Input and output devices are used to interact with the computer system. **Input devices** let you to transfer data and user command into the computer system. Most commonly used input devices are keyboard, mouse, touch pad, scanner, microphone, joystick and digital camera etc.

On the other hand, **output devices** display the result of input data or signals after processing it. Examples of these could be your computer's monitor, printer, plotter and speakers.

1.5.1 - INPUT DEVICES

KEYBOARD

The **keyboard** is one of the primary ways we communicate with the computer and enter data. The most widely used layout in the English language is called QWERTY.A standard desktop computer keyboard contains 101 to 105 keys as shown in **figure 1.4**.

Figure 1.4 – Desktop Computer Keyboard

There are many different types of computer keyboards, including wired, wireless, ergonomic, and multimedia.

TYPES OF KEYS

Alphabetic Keys

All of the letters on the keyboard **A-Z** either may be small or capitals.

Numeric Keypad

Numeric keypad is located on the right side of the keyboard and consists of keys having numbers (**0 to 9**) and mathematical operators (**+ − * /**)

defined on them. This keypad is provided to support quick entry for numeric data.

Punctuation Keys

All of the keys associated with punctuation such as the comma, period, semicolon, brackets, and parenthesis etc. Also, all of the mathematical operators such as the plus sign, minus sign, and equal sign etc.

Special Keys

All of the other keys on the computer keyboard such as the control keys, arrow keys, caps lock key, delete key etc.

Cursor Movement Keys

These are arrow keys and used to move the cursor in the direction indicated by the arrow (up, down, left, right).

Function Keys

Function keys labeled F1 to F12. These keys have different meaning depending on which program is running.

MOUSE

A mouse (figure 1.5) is the most widely used pointing device with a

Figure 1.5 - Mouse

GUI (Graphical User Interface) environment on personal computers. A mechanical mouse has a rubber ball on its underside to detect movement of the mouse. An optical mouse uses devices that emit and sense light to detect the mouse's movement. A cordless mouse (either mechanical or optical) transmits data using wireless technology.

Some common mouse operations are point, click, right click, double click, drag and rotate wheel etc.

TRACK BALL

Track Ball (figure 1.6) is an input device like a mouse. It is used in Lap top computers to control motion of pointer on screen. It is a pointing device like upside down mouse. It has a ball on its upper side.

This ball is moved by fingers or

Figure 1.6 – Track Ball

thumb and the pointer moves accordingly on screen.

TOUCH PAD

Touch pad (figure 1.7) is a pointing input device. It is used in Lap top computers to control motion of pointer on screen. Touch pad is a stationary input device. It has a flat surface of 1.5 to 2 square inch.

Finger is moved on this surface to move pointer on screen.

Figure 1.7 – Touch Pad

JOY STICK

Joystick (figure 1.8) is an input device used to play games on computer. It is used to control motion of an object quickly in game with the help of a hand held stick.

This stick can be moved forward, backward or sideways. The buttons called the triggers. Joystick also used occasionally for CAD/CAM systems.

Figure 1.8 - Joystick

LIGHT PEN

Light Pen (figure 1.9) let you move the pointer and allow the user to point to displayed objects or draw on the screen in a similar way to a touch-screen but with greater positional accuracy.

Figure 1.9 – Light Pen

SCANNER

Scanner (figure 1.10) is important input device of a computer system. A scanner converts printed documents in to images. Some types of scanners scan documents and produce the results in black and white

Figure 1.10 - Scanner

images. The scanner operates in the same manner as a photocopier.

MICROPHONE

Microphone (figure 1.11) is an input device used to enter voice data into the computer. Computer microphones are used for a variety of purposes, from recording audio, voice chatting, teleconferencing to video conferencing.

TOUCH SCREEN

A touch screen (figure 1.12) is display screen that enables the user to interact with the computer by touching areas on the screen. It allows the user to interact with a device without a mouse or keyboard and is used with smart phones, tablets and computer screens

Touch screen is used in ATM and in latest smart phones to receive input from the user.

Figure 1.12 – Touch Screen

DIGITAL CAMERA

Digital Cameras (figure 1.13) are used to capture images. Those images are then transferred to a computer when the Camera is connected to the computer.

Mostly the Digital Camera images are in JPEG format.

Figure 1.13 – Digital Cameras

1.5.2 - OUTPUT DEVICES

MONITOR

Monitor or display screen is most important output device. It is used to display the video and graphics information generated by the computer through the video card. Monitors are very similar to televisions but with higher resolution. Figure 1.14 shows different types of monitors.

Figure 1.14 – Different Types of Monitor

TYPES OF MONITORS

According to technology, size, weight, price and picture quality following monitors are widely used in computer.

CRT

CRT (short for Cathode Rays Tube) monitors look much like old-fashioned televisions and are very deep in size. It works by moving an electron beam produced by **picture tube** across the back of the screen.

LCD

LCD (Liquid Crystal Display) monitors are much thinner, use less energy, and provide a greater graphics quality. LCD technology can be mostly found in portable devices like digital watches, tablets, and smart phones etc.It is also offered in full size monitor as alternatives to CRT monitors.

The technology works by passing an electric current through liquid crystal which is contained between two sheets of polarizing material.

LED

LED (Light-Emitting diode) is a semiconductor light source used as indicator lamp in many devices. It is simple a LCD that uses LEDs for back lighting, which creates images/Pictures in display devices like TV.

PLASMA

Plasma Display Panel (PDP) is flat panel display. They contains small cells containing electrically charged ionized gases, when electrical current pass through the phosphors it lights up themselves to create the image on the screen.

PRINTERS

A printer is an output device that prints characters, symbols and graphics, on paper. The printed output is called hard copy.

There are two types of printers Impact Printers & Non-Impact Printers.

(A) - IMPACT PRINTERS

Impact type printers used pins and hammer that strikes against the paper through ribbon .Printing quality of impact printer is not good, it create noise while printing. The impact printers are used where low-cost printing is required.

Three common forms of impact printers (**figure 1.15**) are as follows

- Dot matrix printers
- Daisy wheel printer
- Line printer

Figure 1.15 – Impact Printers

DOT MATRIX PRINTER

Dot matrix printer creates characters by striking pins against an ink ribbon. Each pin makes a dot, and combinations of dots form characters. The dot-matrix printer uses print heads containing from 9 to 24 pins. Dot-matrix printers are inexpensive and typically print at speeds of 100-600 characters per second.

DAISY WHEEL PRINTER

Similar to a ball-head typewriter, the printer uses a metal or plastic disk containing each of the letters, numbers, and other characters it supports. When something is printed, the printer rotates the disk to each character and then using a hammer strikes each character into an ink ribbon to create the character on paper.

LINE PRINTER

Line printer contains a chain of characters or pins that print an entire line at one time. Line printers are very fast, but produce low-quality print. They can typically print the range of 1,200 to 6,000 lines per minute. Drum, chain, and band printers are line printers.

(B) - NON-IMPACT PRINTERS

A non-impact printer prints characters and graphics on paper without striking paper. Some printers use sprays ink while others use heat and pressure.

These printers are costly but faster and having no noise during printing. Different kinds of non-impact printers **(figure 1.16)** are as follows

- LASER printer
- Inkjet printer
- Thermal printer

Figure 1.16 – Non Impact Printers

LASER PRINTER

LASER is short for **Light Amplification by Stimulated Emission of Radiation.** Laser printer uses the same technology as photo copy machines and produce very high quality text and graphics. The speed of laser printers is high and they print quietly without producing much noise. Many home-use laser printers can print eight pages per minute, but faster and print approximately 21,000 lines per minute, or 437 pages per minute if each page contains 48 lines.

INKJET PRINTER

Ink-jet printers form characters on paper by spraying ink from tiny nozzles through an electrical field that arranges the charged ink particles into characters at the rate of approximately 250 characters per second. The ink is absorbed into the paper and dries instantly. Various colors of ink can also be used.

PLOTTERS

Plotter (figure 1.17) is hardcopy output device used to print large linear drawings. The drawing or design is conveyed to the paper surface by plotting a

Figure 1.17 - Plotter

serial of points and connecting them with lines.

Plotters are most often used for drafting or map making. It can produce full color renderings as well as geometric line drawings.

SPEAKERS

A speaker is a softcopy output device that plays sound generated by the computer. They are usually in a group of two and come in various sizes and shapes. You can listen to songs which are stored on the hard disk of the computer through the speaker.

Figure 1.18 - Speaker

1.6- SYSTEM UNIT AND ITS DEVICES

The system unit is a case consists of electronic components of the computer that provide data processing and storage facility. Some important devices houses in this units are CPU, RAM, mother board, hard disk, CD drive etc.

1.6.1 - CPU (Central Processing Unit)

CPU or central processing unit is a chip considered as the brain of the computer. It is also called **processor**.

It performs all types of data processing operations. It stores data, intermediate results and instructions (program).It controls the operation of all parts of computer. **Figure 1.19** shows the CPU for personal computers.

Figure 1.19 – CPU

COMPONENTS OF CPU

CPU itself has following three components

- Arithmetic Logic Unit)
- Control Unit
- Memory or Storage Unit

1. ARITHMETIC LOGIC UNIT (ALU)

This unit consists of two subsections namely

- Arithmetic section
- Logic Section

Arithmetic Section

Function of arithmetic section is to perform arithmetic operations like addition, subtraction, multiplication and division. All complex operations are done by making repetitive use of above operations.

Logic Section

Function of logic section is to perform logic operations such as comparing, selecting, matching and merging of data.

2. MEMORY OR STORAGE UNIT (MU)

These are high speed memory locations built into CPU. The memory registers temporarily hold the program instructions for the program to be executed, the input data to be processed and the intermediate results of any calculations when the processing is being done.

3. CONTROL UNIT   (CU)

This unit controls the operations of all parts of computer. It is responsible for controlling the transfer of data and instructions among other units of a computer. It manages and coordinates all the units of the computer.

It communicates with Input/output devices for transfer of data or results from storage.

1.6.2 - PRIMARY MEMORY

Primary memory is accessible directly by the processing unit. RAM, ROM and Cache are examples of primary memory.

RAM - (Random Access Memory)

RAM (figure 1.20) is main memory of computer. It is referred to as random access memory (RAM) because it. It   is   also   called   read/write memory. The storage of data and instructions inside the primary storage is temporary. All data and

instructions disappear from RAM as soon as the power to the computer is switched off because it is the type of volatile memory.

Figure 1.20 - RAM

TYPES OF RAM

D-RAM

Dynamic Random Access Memory is the more common type. It is slower because it needs to be refreshed thousands of times per second. DRAM supports access times of about 60 nanoseconds. It is an inexpensive memory.

S-RAM

Static Random Access Memory is faster than DRAM in term of speed because it does not need to be refreshed. SRAM can give access times as low as 10 nanoseconds. Despite SRAM being faster, it's not as commonly used as DRAM because it's so much more expensive.

ROM

ROM (read-only memory) refers to special memory chip (**figure 1.21**) used to store programs that boot the computer and perform diagnostics. The ROM can only be read by the CPU but it cannot be changed. The basic input/output system (BIOS) program is stored in the ROM that examines and initializes different equipment attached with the PC. ROM is type of non-volatile memory.
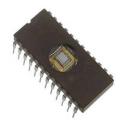
Figure 1.21 – ROM Chip

PROM

PROM is programmable read only memory. PROM allows the data to be loaded by the user but it can be written only once. Once a program has been written onto a PROM, it remains there forever.

EPROM

EPROM (Erasable programmable read only memory) is a special type of PROM that can be erased by exposing it to ultraviolet light. Once it is erased, it can be reprogrammed. An EPROM is similar to a PROM, but requires only ultraviolet light to be erased.

EEPROM

Pronounced e-e-prom, an EEPROM (Electrically erasable programmable read only memory) is a special type of PROM that can be erased by exposing it to an electrical charge. Like other types of PROM,

EEPROM retains its contents even when the power is turned off. Also like other types of ROM, EEPROM is not as fast as RAM.

1.6.3 - CACHE MEMORY

Cache memory, also called CPU memory, is static type random access memory (RAM) that a computer microprocessor can access more quickly than it can access regular RAM. This memory is typically integrated directly with the CPU chip or placed on a separate chip that has a separate bus interconnect with the CPU.

Cache memory is a small-sized type of volatile computer memory that provides high-speed data access to a processor and stores frequently used computer programs, applications and data. It stores and retains data only until a computer is powered up.

1.6.4 – BIT & BYTE

BIT

A bit (short for **Binary digit**) is the smallest unit of data/information that can be stored or manipulated in a computer. A bit can have a binary value of either **0** or **1**.

Binary means that there are only two logical choices or states i.e. **True/false or on/off.** A bit can be a tiny magnetic region on a hard disk, a tiny dent on a CD or DVD, or a tiny transistor on a memory stick.

BYTE

A byte is a set of 8 bits that represent a single character in the computer's memory. Bytes are used to measure file sizes, hard disk space, and computer memory. Larger amounts of data are measured in units such as megabytes, gigabytes, and terabytes. For example, one kilobyte is equal to 1,024 bytes. The short form of a byte is an upper-case **B**.

1.7 - SECONDARY STORAGE DEVICES

Secondary storage devices are used to store data and instructions permanently. These devices also called auxiliary storage or external storage. These are non-volatile storage that is not under the direct control of a

computer's central processing unit(CPU). Examples of secondary storage devices are Floppy Disk, Hard Disk, CD and DVD etc.

MAGNETIC TAPE

Magnetic tape is the oldest storage device. It is made of plastic coated with magnetic material. Tape drive is used to read and write data on tape. Magnetic tape is sequential access device.

It is slower device than magnetic disk or optical disk. Usually magnetic tapes are used to take data backups.

FLOPPY DISK

The floppy disk (figure 1.22) was introduced by IBM in 1971. It was officially called "diskette". **FD** is removable storage medium that consists of a thin and flexible magnetic disk inside a plastic carrier.

Figure 1.22 – Floppy Disk

The floppy disk drive or **FDD** is a piece of computer hardware that reads data from, and writes data to, a floppy disk. The 3.5inches'floppy disk can store 1.44 MB data.

HARD DISK DRIVE

The hard disk (**figure 1.23**) is also called fixed disk. It consists of one or more metal plates. Metal plates are coated with magnetic material to store data.

Each platter is broken up into tracks and sectors. **Tracks** are concentric circles on the disk; each track is broken up into a series of **sectors.** A motor rotates disks. There is also an access arm and read / write heads to read and write data on disks.

Hard disks are available in different size like 150 GB, 300 GB and more up to Tera Bytes.

Figure 1.23 – Hard Disk Drive

CD (Compact Disk)

CD (Compact Disk) is type of **optical storage media** that is used to hold prerecorded text, graphics and sound. CD-ROM is a read-only disk. Read only means the disk's content is recorded at the time of manufacture and cannot be written on or erased by the user. A CD-ROM disk can hold up to 700 MB of data, equal to 300,000 pages of text.

Figure 1.24 – CD with CD-Drive

CD drive/writer (figure 1.24) is used to play/write CDs. CD drive use a combination of lasers and sensors to read the data stored on the surface of the compact disks. Types of CDs are CD-ROM, CD-R (recordable) and CD-RW (re-writeable)

DVD

DVD "digital video disk" or "digital versatile disk" is a type of optical disk technology similar to the CD-ROM. It can hold up to 17 GB of data, about 25 times an ordinary CD-ROM. For this reason, a DVD-ROM can store a large amount of multimedia software and complete movies in different languages. It can also play music CDs and CD-ROMs.

DVDs are read-only devices. To avoid this limitation, companies also produce DVD-R/DVD-RW disks and DVD-burners.

BLU RAY DISK

Developed by Blu-ray disc association (that includes Apple, Hitachi, HP, LG, Panasonic, Pioneer, Philips, Samsung, Sharp, and Sony). Blu-ray Disc figure 1.25 (BD) is an also an optical disc storage medium designed to supersede the DVD format.

Figure 1.25 – Blu Ray Disk

BD-ROM (read only) for reading recorded content, BD-R (recordable) for PC data storage, BD-RW (rewritable) is used for PC data storage. Single layer BD Can hold data up to 25/27 GB, Double layer BD can hold data up to 50 GB.

USB FLASH DRIVE

A flash drive is a small, ultra-portable storage device which, unlike an optical drive or a traditional hard drive, has no moving parts.

Flash drives connect to computers and other devices via a built-in USB port, Flash drives are often referred to as pen drives; thumb drives, or jump drives.

It can store several MB's to GB's of data.

Figure 1.26 – Flash Drive

1.8 - COMPUTER SOFTWARE

Software represents the logical or intangible parts of computer. Software is collection of different programs. A program is series of instructions that tells the computer what to do and how to do accomplish a particular task. Software is developed in a computer programming language. The Two major software categories are system software and application software.

1.8.1 – SYSTEMSOFTWARE

A program or set of programs that is especially designed to control different operations of computer system is called system software. It controls the working of different components of the computer. The system also enables the other application programs to execute properly.

Operating systems, utility programs, and device drivers are the examples of system software. Operating system is the main and most popular type of system software.

1.8.2 – APPLICATION SOFTWARE

A program or set of programs that are especially designed to solve the specific problems of users, are called application software. It is also known as software package.

There are Different kinds of application software such as commercial software, scientific software, financial packages, Games, multimedia software.

CATEGORIES OF APPLICATION SOFTWARE

The application software are divided into two main categories

1. Custom-built software
2. Packaged software

1. Custom Built Software

Software that is developed for a particular customer or organization is called custom built software. For example, software developed to maintain the records of students of a particular college is category of custom built software.

2. Packaged Software

The software that is developed for sale to the general public is called packaged software. Packaged software is used to solve some common problems of many people or users. Some examples of packaged software are

1. Word processor such as MS-Word and Word Perfect
2. Spreadsheet such as MS-Excel
3. Presentation software such as MS- Power Point and Apple Keynote
4. Database software such as MS-Access, SQL Server and Oracle
5. Graphic software such as Adobe Photoshop, CorelDraw and AutoCAD
6. Communication Software such as Internet Explorer and Google Chrome etc.
7. Entertainment software such as Windows Media Player and VLC Media Player
8. Web development software such as MS-Expression, Adobe Dreamweaver and Net-Objects Fusion etc.

1.9 - PROGRAMMING LANGUAGES

A language used to write instructions for the computer is called programming language. Programming language use vocabulary and set of grammatical rules for instructing a computer to perform specific tasks

1.9.1 - TYPES OF PROGRAMMING LANGUAGES

There are three main kinds of programming language:

- Machine language
- Assembly language
- High-level language

1. MACHINE LANGUAGE

Machine language is a low-level programming language. It is easily understood by computers but difficult to read by people. This is why people use higher level programming languages. Programs written in high-level languages are also either compiled and/or interpreted into machine language so that computers can execute them.

2. ASSEMBLY LANGUAGE

An assembly language consists of a set of symbols and letters. A translator is required to translate the assembly language to machine language. This translator program is called the 'Assembler.' It is use terms like MOVE, ADD, SUB and END.

Many of the earliest computer programs were written in assembly languages. A disadvantage of assembly language is that it is not portable, because each platform comes with a particular Assembly Language.

3. HIGH-LEVEL LANGUAGE

A high level language is a computer programming language that resembles natural language or mathematical notation and is designed to reflect the requirements of a problem. Languages such as C, C++, BASIC, and Java are all high-level languages. Advantages of high-level languages are that they are very readable and portable. These languages require a compiler or interpreter to translate into a form that a particular machine understands.

1.9.2 - CLASSIFICATION OF HIGH LEVEL LANGUAGE

Different languages have different purposes, so it makes sense to talk about different class. Computer languages are classified into following

FUNCTIONAL LANGUAGES

In Functional language, a program is divided into function definitions. Some of the famous Function languages are Scala, F#, Clojure and Lisp.

PROCEDURAL LANGUAGES

In Procedural Languages, a program is written in a sequence of steps that should be followed to produce a result. COBOL, FORTRAN and C are some Procedural languages.

OBJECT ORIENTED PROGRAMMING LANGUAGES

In OOP languages, a program is divided into Object that contains data as well as methods that operate on the data. Java, C# and C++ are examples OOP languages.

LOGIC PROGRAMMING LANGUAGES

Logic Languages are used to create programs that enable the computer to reason logically e.g. Logic language and Prolog language

1.9.3 - LANGUAGE TRANSLATOR
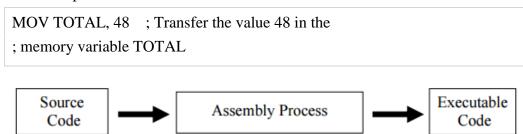
There are 3 types of system software used for translating the code that a programmer writes into a form that the computer can execute (i.e. machine code). These are

1. Assemblers
2. Compilers
3. Interpreters

Source Code is the code that is input to a translator. **Executable code** is the code that is output from the translator.

ASSEMBLER
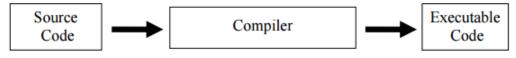
An Assembler converts an assembly program into machine code. Assembly language consists of mnemonics for machine opcodes so assemblers perform a 1:1 translation from mnemonic to a direct instruction. For example:

MOV TOTAL, 48   ; Transfer the value 48 in the
; memory variable TOTAL

Source Code → Assembly Process → Executable Code

COMPILER
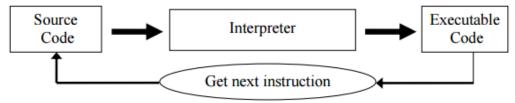
A Compiler is a program that translates a high level language into machine code. The compiler translates a program (source program) written in high level language into machine code that can be run on a PC.

When using a compiler, the entire source code needs to be compiled before the program can be executed. The resulting machine code is typically a compiled file, such as a file with an .exe extension.

Source Code → Compiler → Executable Code

INTERPRETER

An Interpreter is also a program that translates high-level source code into executable code. However, the difference between a compiler and an interpreter is that an interpreter translates one line at a time and then executes it: no object code is produced, and so the program has to be interpreted each time when executed. If the program performs a section code 1000 times, then the section is translated into machine code 1000 times since each line is interpreted and then executed.

1.10- APPLICATIONS OF COMPUTER IN VARIOUS FIELDS

Today computer is playing very important role in every field of life. Many activities in daily life can be performed very easily and quickly. Many fields where computer are widely used that includes

BUSINESS

Today, in global markets, it is impossible to run the business without the use of computer technology. Many business activities are performed very quickly and efficiently by using computers. The administrative paperwork is also reduced by using computers. Many business use websites to sell their products and contact their customers.

EDUCATION

Computers are used in teaching and research. The students can solve different kinds of problems quickly and efficiently by using computers. They can also collect different information on the Internet.

BANKS

Computers are widely used in banks. They are used in banks for record keeping and maintaining accounts of customers. By the ATM facility the customers can draw money through ATM card from any branch of that bank (or another bank) at any time of a day.

ENTERTAINMENT

Computers are also playing very important role for the entertainment. Nowadays, computer can be used to watch TV programs on the Internet. People can also watch movies, listen music, and play games on the computer.

HOME

At home, computer is used to maintain personal records and to access much other information on the Internet. People can also use computer at home for making home budgets etc.

MEDICAL

Nearly every area of the medical field uses computers. For example, computers are used for maintaining patient history & other records. They are also used for patient monitoring and diagnosis of diseases etc.

DEFENSE

Computers are the main tools which help in developing missiles and other equipment as well as designing and maintenance in the deference system. Computer builds the links between the soldiers and commanders through the satellite.

DESIGNING & PUBLISHING

Computers aid in designing buildings, magazines, prints, newspapers, books and many others. The construction layouts are designed beautifully on system using different tools and software.

GOVERNMENT DEPARTMENTS/OFFICES

Computer is used in government offices for communication, data processing and project management. Like businesses and individuals, computers are almost essential part of federal and provincial government offices for their daily office operations.

1.11 - APPLICATIONS OF COMPUTER IN ENGINEERING, EDUCATION AND BUSINESS

1.11.1 - COMPUTER IN ENGINEERING

Engineering designers require effective means of collecting, storing, retrieving, processing, communicating, distributing, displaying, plotting and printing large quantities of information.

USE OF CAD SOFTWARE

One of the major uses of computer technology in **engineering** is with CAD software. Computer aided design software is the application of computer technology for logical designing. This industrial art is now widely used in many traditional industries, such as automobile manufacturing, shipbuilding, aerospace, prosthetics, architectural projects and even special effects in movies.

USE OF CFD SOFTWARE

CFD (Computational Fluid Dynamics) software are used to virtually test airplane and automobiles etc. Using a computer, engineers can immediately calculate such effects without having to physically test them.

PROBLEM SOLVING

Computers can perform complex calculations much quicker than a human can. They can also be used to simulate situations to make the right decisions.

AUTOMATION

It is almost impossible for humans to perform the same task over and over again with no variation. So when a company needs hundreds of products that look and behave identically, they tend to use computers and robots to construct them.

1.11.2 – COMPUTER IN EDUCATION

Computer technology has a deep impact in the education sector to make learning easier and much more interesting.

Here is detail of some areas of education where computer has great impacts.

INSTRUCTIONS TO STUDENTS

Lecture delivering using PowerPoint slides, Word documents or Web pages is very useful for better concept and clarity. Computer can help in improving pronunciation of students by using microphones, headphones, speakers, specially prepared software and special dedicated websites. Video conferencing, chat and email may also be used for communication among instructors and students for e-learning.

STUDENTS LEARNING

Students can use computers to collect notes, pictures, and videos from web pages for detailed information to manage their projects or assignments. A saved soft copy of documents can be used in future.

EXAMINATION AND EVALUATION

Examination and evaluation of students can be easily done using computer because it may facilitate to keep records of students for their academic scores as well as their grade, personal history about exams etc.

Question bank for students can be created for online testing and evaluation.

LIBRARY

Electronic library is more helpful for students/faculty members where documents, magazines, journals, brochures and research articles are stored as soft copy. Furthermore, special library software can be used in existing library to keep record of books as well as issues and returns of the books.

INSTITUTE ADMINISTRATION

The administration of the institute can use computer to store student's personal, academic and financial records. Similarly accounts of the institution and records of employees also can be stored.

1.11.3 – COMPUTER IN BUSINESS

Computers are used for all aspects of running a business. Here is detail of these aspects as follows

BUSINESS COMMUNICATION

In this era companies are using email, live chat systems, online meeting tools, video conferencing system and smart phones for communication among employees, suppliers and customers.

INVENTORY MANAGEMENT SYSTEM

Inventory management system is used to track the quantity of each item a company maintains in its stock.

PAYROLL SYSTEM

Computerized payroll system is used in different organizations to maintain pay account of employees, easily and quickly.

DATA MANAGEMENT

Today, most companies store digital versions of documents on servers (large computers) and storage devices, these documents can be easily available geographically via internet.

MANAGEMENT INFORMATION SYSTEM

Management Information System (MIS) enables companies to track sales data, expenses, productivity level, profitability, losses, identify areas of improvements and strategic decisions.

HUMAN RESOURCE MANAGEMENT

Computerized HRM helps for the better human resource planning, recruitment, wages and salary planning, personnel record keeping, training and development.

EXERCISE

SHORT QUESTIONS

1. What does E.D.P stands for?

   E.D.P stands for Electronic Data Processing

2. Define the electronic data processing

   Electronic Data Processing is the use of computers in recording, classifying, manipulating, and summarizing of the data.

3. Define computer

   The term computer is derived from the word compute. The word compute means to calculate. A computer is an electronic machine that accepts data from user as input, processes that data by performing calculations and operations on it, stores data for later retrieval and generates the desired output results (information)

4. Draw a figure to illustrate the computer

5. Define data

   A collection of raw facts and figures is called data. These facts can be the numbers, words, images, audio, measurements and observations. The word raw means that the facts have not yet been processed to get their actual meanings.

6. What are the types of data?

   There are different types of data that includes numeric data, alphabetic data, alphanumeric data, graphic data and voice data.

7. Define the numeric data

   Numeric data consists of positive or negative numbers that may also be integer without any fractional part or real number which includes integers with fractions.

8. What is use of numeric data?

   Numeric type data is usually used for calculations

9. What are examples of numeric data?

Data may contain integer and real numbers. Examples are illustrated below.

Examples of Integer numbers	**Examples of Real numbers**
12, 256, -23, -87	3.1415, -5.40, 7.86

10. Define the alphabetic data

Alphabetic data contains the letters a, b, c… up to z. These letters may be small or capitals.

11. What is use of alphabetic data?

Alphabets are basic part of any human language. In real life everything is called with its name and every name made up with alphabets.

12. Give some examples of alphabetic data

Examples of alphabetic data are Islamabad, Farhan, Table, Office, College, TEVTA, computer etc

13. Define the alphanumeric data

Alphanumeric data is combination of alphabets, numbers, special characters (symbols) and space character.

14. What is use of alphanumeric data?

Alphanumeric data is used to identify any person, thing, place, event and object.

15. What are examples of alphanumeric data?

Alphanumeric data examples are Year 2015, Roll No 15EA04, $46, 0330-1234567

16. What are examples of graphic data?

Graphics includes pictures, snaps, drawings, charts and moving pictures (movies) etc

17. What are examples of audio data?

Audio includes any type of voice that may be Naats, songs, human voice, etc

18. Define the data processing.

Data processing can include a number of stages such as sorting, searching, calculations, graphing etc where the input data is manipulated in order to produce meaningful information.

19. Define the information

Information is the data produced by computer after processing. The use of information is to have decisions.

20. Define the information technology

Information technology (IT) refers to anything related to computing technology, such as networking, hardware, software, the Internet, or the people that work with these technologies.

21. Define the analog computers

Analog computers recognize and process the data as a continuous measurement of a physical property (voltage, pressure, speed and temperature). Automobile speedometer, analog clock, voltage meter, ampere meter and electric current meter are examples of analog computer.

22. Define the digital computers

Digital computers process the digits to represent numerals, letters or other special symbols. Digital computers operate on inputs which are ON-OFF type and its output is also in the form of ON-OFF signal. Normally, an ON is represented by a 1 and an OFF is represented by a 0. It is also known as binary 1 or 0.

23. Define the hybrid computers

A hybrid is a combination of digital and analog computers. It combines the best features of both types of computers, i-e. It has the speed of analog computer and the memory and accuracy of digital computer.

24. What are the categories of digital computer regarding classification?

Digital computers can be classified into four categories

- Super Computers
- Mainframe Computers
- Mini Computers
- Micro Computers

25. Define the super computer

A supercomputer is a computer that is among the largest, fastest or most powerful of the computers available.

26. What is use of super computer?

Traditionally, supercomputers have been used for scientific and engineering applications that must handle very large databases or do a great amount of computation (or both).

27. Define the mainframe computer

A large, expensive, and often highly redundant computer designed to support a large organization, support a large number of users, and make use of large volumes of secondary storage.

28. Define the mini computer

A small computer that is intermediate between a microcomputer and a mainframe in size, speed, and capacity

29. Define the micro computers

Microcomputer is complete machine for personal use in home or at office that includes a microprocessor, memory, and input/output (I/O) facilities.

30. Write the various field names where computer can be applied

Following are the various fields where computer can be applied

- Business
- Education
- Banks
- Entertainment
- Home
- Medical
- Defense
- Designing & Publishing
- Government Departments/Offices
- Research Laboratories

31. Define the role of computer in engineering

Using computers and specialty computer software, engineers can design, test and make changes to products in minimal time. Computers help them complete the task at hand much more quickly.

32. Define the CAD software

Computer aided design software is the application of computer technology for logical designing.

33. What is use of CFD software?

CFD (Computational Fluid Dynamics) software are used to virtually test the airplane and automobiles etc.

34. Define the Automation

Automation is the use of scientific and technological principles in the manufacture of machines that take over work normally done by humans.

35. What are the areas of education where computer has great impacts?

- Instruction to students
- Students learning
- Examination and evaluation
- Library
- Institute administration

36. What is use of computer in business?

Computers are used in business for following aspects.

- Business communication
- Inventory Management System
- Payroll System
- Data Management
- Management Information System
- Human Resource Management

37. Define the computer hardware

Hardware represents the physical and tangible components of a computer i.e. the components that can be seen and touched. These components include keyboard, mouse, memory, processor, disks, disk drives, display screens, printers, speakers, mother boards, and chips etc.

38. Define the computer software

Software represents the logical or intangible parts of computer. Software is collection of different programs. A program is set of electronic instructions that tell the computer what to do and how to do a particular task.

39. What units of hardware are showed by the computer block diagram?

1. The Input Unit
2. The Output Unit
3. The System Unit

40. Define the input unit

The input unit deals with input devices, these devices are used to feed data into computer. Six widely used input devices are keyboard, mouse, scanner, microphone, digital camera, web cam.

41. Define the output unit

The output unit is used to deliver information from the computer to the user. Four widely used output devices are monitor, printer, plotter and speakers.

42. Define the system unit

The system unit is a case consists of electronic components of the computer that provide data processing and storage facility. Some important devices houses in this units are CPU, RAM, mother board, hard disk, CD drive etc.

43. Define the keyboard

The keyboard is one of the primary ways we communicate with the computer and enter data. It is used to enter three most widely used types of data i.e. numeric data, alphabetic data, and alphanumeric data.

44. What is the most widely used layout for keyboard?

QWERTY is the most widely used keyboard layout in English language for computer keyboard.

45. Define the pointing input devices

The input devices used to move the pointer (arrow) on screen are called pointing input devices. The major pointing devices are the mouse for the desktop computer and the touchpad for the laptop. Track ball and pointing stick are also pointing input devices used by small number of users.

46. What are types of mouse?

There are two types of mouse; a mechanical mouse has a rubber ball on its underside to detect movement of the mouse. An optical mouse uses devices that emit and sense light to detect the mouse's movement.

47. What are some common operations of mouse?

Some common mouse operations are point, click, right click, double click, drag and rotate wheel etc.

48. Define the trackball

Track Ball is pointing input device like a mouse. It has a ball on its upper side. This ball is moved by fingers or thumb and the pointer moves accordingly on screen.

49. Define the touch pad

Touch pad is stationary pointing input device used in laptop computers. It has a flat surface. Finger is moved on this surface to move the pointer on screen.

50. Define the joystick

Joystick is an input device used to play games on computer. It is used to control motion of an object quickly in game. This stick can be moved forward, backward or sideways. The buttons called the triggers.

51. Define the light pen

A light pen is a light-sensitive computer input device that is used to select text, draw pictures and interact with user interface elements on a computer screen or monitor.

52. Define the scanner

A scanner is input device that captures images from photographic prints, posters, magazine pages etc for computer editing and display. The scanner operates in the same manner as a photocopier.

53. Define the microphone

Microphone is a device that converts sound waves into analog electrical waves. Computer microphones are used for a variety of purposes, from recording audio, voice chatting, teleconferencing to video conferencing.

54. Define the touch screen

A touch screen is a computer display screen that is also an input device. The screens are sensitive to pressure; a user interacts with the computer by touching pictures or words on the screen.

55. Define the digital camera

Digital Cameras are used to capture images. Those images are then transferred to a computer when the Camera is connected to the computer.

56. Define the output devices

An output device is any device used to send data from a computer to another device or user. Most computer data output that is meant for humans is in the form of audio or video.

57. Define the monitor

Monitor or display screen is most important output device. It is used to display the video and graphics information generated by the computer through the video card. Monitors are very similar to televisions but with higher resolution.

58. What types of monitors are widely used today?

According to technology following monitors are widely used in computer

- CRT
- LCD
- LED
- Plasma

59. What is CRT stands for?

CRT stands for Cathode Rays Tube

60. What is LCD stands for?

LCD stands for Liquid Crystal Display

61. What is LED stands for?

LED stands for Light Emitting Diode

62. Define the CRT monitor

This monitor used CRT (Cathode Ray Tube) a vacuum tube as a display screen in a computer. The viewing end of the tube is coated with phosphors, which emit light when struck by electrons.

63. Define the printer

A printer is an output device that prints characters, symbols and graphics, on paper.

64. Define the term hard copy

A hard copy is a printed copy of information from a computer. Sometimes referred to as a printout, a hard copy is so-called because it exists as a physical object.

65. What are two major types of printers according to their technology?

The two major types of printer according to their technology are

- Impact printers
- Non-Impact printers

66. What are main parts used by Impact printers for printing?

Impact printers use head with pins, hammer, and carbon ribbon for printing

67. What are main parts used by non-Impact printers for printing?

Non-Impact printers use spray ink, heat, pressure and LASER for printing

68. Write some names of impact printers

The Dot Matrix printer, the Line printer, and Daisy Wheel printer

69. Write some names of non-impact printers

The LASER printer, Inkjet printer, and Thermal Wax printer

70. How many pins are there in Dot Matrix heads?

There are 9 to 24 pins in Dot Matrix heads.

71. Which unit is used to measure the speed of Dot Matrix printer?

The working speed of Dot Matrix printer is measured in CPS

72. Why the Line printer is called Line printer?

The Line printer prints an entire line at one time.

73. What is LASER stands for?

LASER is short for Light Amplification by Stimulated Emission of Radiation.

74. What is the speed of LASER printer?

Home-use laser printers can print eight pages per minute, but faster and print approximately 21,000 lines per minute or 450 pages per minute.

75. Define the plotter

A plotter is hard copy output device used to print large linear drawings.

76. Define the speakers

A speaker is a softcopy output device that plays sound generated by the computer.

77. Define the System Unit

The system unit is a case consists of electronic components of the computer that provide data processing and storage facility.

78. What is CPU stands for?

CPU stands for Central Processing Unit

79. What is the job of CPU in computer system?

It performs all types of data processing operations. It stores data, intermediate results and instructions (program).It controls the operation of all the parts of computer. All arithmetic and logical operations are also performed within CPU using its ALU.

80. What are components of CPU?

CPU itself has following three components

- Arithmetic Logic Unit)
- Control Unit
- Memory or Storage Unit

81. What is ALU stands for?

ALU stands for Arithmetic Logic Unit

82. What is the job of ALU?

The purpose of the ALU is to perform mathematical operations such as addition, subtraction, multiplication and division. Additionally, the ALU processes basic logical operations like AND/OR calculations. Also known as the arithmetic logic unit, it serves as the computational hub of the Central Processing Unit (CPU) for a computer system.

83. What is MU stands for?

MU stands for memory unit

84. What is the function of Memory Unit?

Functions of the memory unit are −

- It stores all the data and the instructions required for processing.

- It stores intermediate results of processing.

- It stores the final results of processing before these results are released to an output device.

- All inputs and outputs are transmitted through the main memory.

85. What is the function of Control Unit (CU)?

This unit controls the operations of all parts of computer. It is responsible for controlling the transfer of data and instructions among other units of a computer. It manages and coordinates all the units of the computer.

It communicates with Input/output devices for transfer of data or results from storage.

86. What is difference between primary and secondary memory?

The memory which is directly accessible by processing unit (CPU) is called primary memory and the memory which is not directly accessible by processing unit (CPU) is called secondary memory.

87. What is RAM stands for?

RAM stands for Random Access Memory

88. Why the RAM is referred to as random access memory?

It is referred to as random access memory (RAM) because it is randomly select and use any location of the memory to store and retrieve data.

89. What is difference between volatile and nonvolatile memory?

Volatile memory is also called as temporary memory as it will hold memory temporarily. Non Volatile Memory: A device which can hold data in it even if it is not connected to any power source is called Non Volatile Memory.

90. Define the DRAM

Dynamic Random Access Memory is the more common type. It is slower because it needs to be refreshed thousands of times per second. DRAM supports access times of about 60 nanoseconds. It is an inexpensive memory.91. Define the SRAM

Static Random Access Memory is faster than DRAM in term of speed because it does not need to be refreshed. SRAM can give access times as low as 10 nanoseconds. Despite SRAM being faster, it's not as commonly used as DRAM because it's so much more expensive.

92. What is ROM stands for?

ROM stands for Read Only Memory

93. What is BIOS stands for?

BIOS stands for Basic Input Output System.

94. What is PROM stands for?

PROM stands for Programmable Read Only Memory

95. What is EPROM stands for?

EPROM stands for Erasable Programmable Read Only Memory

96. What is EEPROM stands for?

EEPROM stands for Electrically Erasable Programmable Read Only Memory

97. Define the BIT

A bit (short for BInary digiT) is the smallest unit of data/information that can be stored or manipulated in a computer. A bit can have a binary value of either 0 or 1.

98. Define the Byte

A byte is a set of 8 bits that represent a single character in the computer's memory. Bytes are used to measure file sizes, hard disk space, and computer memory. Larger amounts of data are measured in units such as megabytes, gigabytes, and terabytes.

99. Define the secondary storage devices

Secondary storage devices are used to store data and instructions permanently. These devices also called auxiliary storage or external storage.

100. Define the magnetic tape

Magnetic tape is the oldest storage device. It is made of plastic coated with magnetic material. Tape drive is used to read and write data on tape. Magnetic disk is sequential access device.

101. Define the Floppy Disk

The Floppy Disk officially called "diskette" is removable storage medium that consists of a thin and flexible magnetic disk inside a plastic carrier. The 3.5 inches floppy disk can store 1.44 MB data.

102. Define the hard disk drive

A hard drive is a secondary storage device that consists of one or more platters to which data is written using a magnetic head, all inside of an air-sealed casing. The hard disk drive is the main, and usually largest, data storage hardware device in a computer. The operating system, software titles, and most other files are stored in the hard disk drive.

103. What is CD stands for?

CD stands for Compact Disk

104. What are types of CDs?

Types of CDs are CD-ROM, CD-R (recordable) and CD-RW (re-writeable)

105. What is DVD stands for?

DVD stands for Digital Versatile Disk or Digital Video Disk

106. What is BD stands for?

BD stands for Blu-Ray Disk.

107. Define the USB Flash Drive

Flash drive is the solid state storage module that plugs into the computer's USB port. Using flash memory chips that hold up to one terabyte of data. USB drives are extremely popular for backup as well as data transfer from one machine to another.

108. Define the software

Software represents the logical or intangible parts of computer. Software is collection of different programs. A program is series of instructions that tells the computer what to do and how to do accomplish a particular task. Software is developed in a computer programming language.

109. What are major types of software?

There are two major software categories the system software and application software.

110. Define the system software

A program or set of programs that is especially designed to control different operations of computer system is called system software. It controls the working of different components of the computer. The system also enables the other application programs to execute properly.

111. Write some popular operating systems names

Windows and DOS by Microsoft, Macintosh by Apple, UNIX and Linux, Solaris by Sun Microsystems are some popular operating systems.

112. Define the application software

A program or set of programs that are especially designed to solve the specific problems of users, are called application software.

113. What are categories of application software?

The application software are divided into two main categories

3. Custom-built software
4. Packaged software

114. Define the custom built software

Software that is developed for a particular customer or organization is called custom built software. For example, software developed to maintain the records of students of a particular college is category of custom built software.

115. Define the packaged software

The software that is developed for sale to the general public is called packaged software. Packaged software is used to solve some common problems of many people or users.

116. Define the programming languages

A language used to write instructions for the computer is called programming language. Programming language use vocabulary and set of grammatical rules for instructing a computer to perform specific tasks

117. What are main types of programming languages?

There are three main kinds of programming language:

- Machine language
- Assembly language
- High-level language

118. Define the machine language

Machine language is a low-level programming language. It is easily understood by computers but difficult to read by people. It is written in a binary code of 0s and 1s that represent electric impulses or off and on electrical states respectively.

119. Define the assembly language

An assembly language consists of a set of symbols and letters. A translator is required to translate the assembly language to machine language. This translator program is called the 'Assembler.' It is use terms like MOVE, ADD, SUB and END.

120. Define the high level language

A HLL is computer programming language that resembles natural language or mathematical notation and is designed to reflect the requirements of a problem; examples include Ada, BASIC, C, C++, COBOL, FORTRAN, and Pascal etc.

121. What are advantages of high level languages?

Advantages of high-level languages are that they are very readable and portable.

122. What are disadvantages of high level languages?

A disadvantage of high-level languages is that they are less powerful than Assembly Languages. Because a single statement in a high-level language is translated into many machine languages. A program prepared in high level language in slow as compare to a program prepared in low level language.

123. What are the names of translators used in high level languages?

Compiler and interpreter are used as translator in high level languages

124. Write the names of classes in high level languages

Computer languages are classified into following

1. Functional languages

2. Procedural languages

3. Object oriented programming languages

4. Logic programming languages

125. Define the functional language

In Functional language, a program is divided into function definitions. Some of the famous Function languages are Scala, F#, Clojure and Lisp.126. Define the procedural languages

In Procedural Languages, a program is written in a sequence of steps that should be followed to produce a result. COBOL, FORTRAN and C are some Procedural languages.

127. Define object oriented programming languages

In OOP languages, a program is divided into Object that contains data as well as methods that operate on the data. Java, C# and C++ are examples OOP languages.

128. Define the logic programming languages

Logic Languages are used to create programs which are based on the use of logical formulas. Logic language and Prolog language are examples of logic languages.

129. Define the language translator

A Compiler is a computer program that translates code written in a high level language to a lower level language, object/machine code. The most common reason for translating source code is to create an executable program

130. What is difference between source code and executable code?

Programmers write programs in a form called source code. The source code consists of instructions in a particular language, like C or FORTRAN. Computers, however, can only execute instructions written in a low-level language called machine language. Executable code is the code that is translated by a translator and directly readable by the machine.

LONG QUESTIONS

Q # 1: Define the computer, draw its block diagram.

Q # 2: Explain the data and its types

Q # 3: What is data processing? Differentiate between data and information.

Q # 4: What is difference between information and information technology?

Q # 5: What are output devices? Name some of the commonly used output devices.

Q # 6: Explain the types of computer.

Q # 7: Classify the high level languages with their names.

Q # 8: What is software? Illustrate its types.

Q # 9: Illustrate the application of computer in various fields of life?

Q #10: What are the applications of computer in engineering, education and business?

Q #11: What are the components of computer? Explain the input, output and system unit of computer.

Q #12: Explain the difference between RAM and ROM

Q #13: Differentiate between input and output devices also describe any two input and two output devices.

Q # 14: Explain all the pointing input devices with their use.

Q # 15: Write a note on following input devices

      1. Keyboard   2. Scanner   3. Microphone   4. Touch Screen

Q # 16: What is monitor? Explain different types of monitors.

Q # 17: Differentiate between impact and non-impact printers.

Q # 18: Write a note on following:

      1. LASER Printer   2. Dot Matrix Printer   3. Line Printer

Q # 19: Write a note on following:

      1. Inkjet Printer   2. Plotter   3. Speaker

Q # 20: What is CPU? Explain its parts.

Q # 21: Explain the RAM and its types.

Q # 22: What is function of ROM? Explain all types of ROM.

Q # 23: Explain the difference between Bit and Byte.

Q # 24: Write a short note on following

      1. Cache Memory   2. Primary Memory   3. Secondary Memory

Q # 25: Write a short note on following

      1. Volatile Memory   2. Non-volatile Memory   3. ROM

Multiple Choice Questions

1. The term computer is derived from the word _____

   a. commute   b. compute   c. calculates   d. copter

2. Computer accepts input in form of _____

   a. data   b. information   c. input   d. all of these

3. Collection of raw _____ is called data.

   a. metals   b. trees   c. facts & figures   d. grain

4. Numeric data contains _____ numbers

   a. positive   b. negative   c. integer   d. all of these

5. Alphabetic data contains _____

   a. alphanumeric   b. alphabets   c. numbers   d. none of these

6. Alphanumeric data contains _____

   a. numbers   b. alphabets   c. symbols   d. all of these

7. Graphic data contains _____

a. pictures   b. drawings   c. charts   d. all of these

8. The purpose of data processing is to produce _____

a. data   b. information   c. input   d. none of these

9. Information is the _____

a. processed data   b. meaningful data   c. useful data   d. all of these

10. The use of information is to have _____

a. output   b. decisions   c. input   d. processing

11. The speed of computer is measured in _____

a. kilos   b. meters   c. bytes   d. hertz

12. The storage capacity of computer is measured in _____

a. bytes   b. cycles   c. data   d. hertz

13. Computers can perform several tasks at a time; this feature is known as

a. multi-national   b. multi-tasking   c. multi-color

d. multi-media

14. Analog computers are used to process _____ data.

a. electronic   b. digital   c. analog   d. graphic

15. Analog computes can process _____

a. temperature   b. pressure   c. speed   d. all of these

16. Digital computers process the digits, which are called _____digits

a. binary   b. ternary   c. unary   d. none of these

17. The binary digit 1 represents ON and 0 represents _____

a. zero   b. OFF   c. digit   d. none of these

18. The most commonly used type of computers is _____

a. hybrid   b. analog   c. digital   d. none of these

19. Most powerful digital computer is _____

a. super   b. analog   c. personal   d. digital

20. The computer used in large corporations, banks, government agencies, research laboratories to manage huge amount of data, is _____ computer.

a. mainframe   b. super   c. laptop   d. notebook

21. The complete computer for personal use in home or at office is known as

a. micro   b. super   c. mini   d. mainframe

22. Examples of personal computers are _____

a. desktop   b. laptop   c. palmtop   d. all of these

23. A student can use computer for _____

a. research work   b. collecting information   c. solving problems

    d. all of above

24. Computers are playing very important role for entertainment like _____.

a. playing games   b. watching movies   c. listening music

d. all of these

25. Engineers and technologists used the computer for _____ of information

a. collecting   b. processing   c. storing & receiving

d. all of these

26. The major uses of computer technology in engineering is with _____ software.

a. communication   b. CAD   c. system   d. anti-virus

27. Computer aided design software is the application of computer technology

for _____.

a. business   b. entertainment   c. logical designing

d. home

28. Computer is used in engineering for _____.

a. CAD   b. problem solving   c. automation   d. all of these

29. Major component of computer are _____.

a. hardware   b. software   c. hardware & software

d. none of these

30. All physical and tangible components of computer are called _____.

a. hardware   b. software   c. data   d. none of these

31. All logical and intangible parts of computer are called _____

a. hardware   b. software   c. hard disk   d. none of these

32. Software is collection of different computer _____

a. devices   b. programs   c. information   d. none of these

33. A computer program is set of electronic _____ that tell the

computer what to do and how to do a particular task.

a. devices   b. machines   c. instructions   d. none of these

34. Major software categories are the _____.

a. application & utility software   b. system & business software

c. system & application software   d. utility software

35. _____ let you to input data and user command into the computer system.

a. output devices   b. memory devices   c. storage devices

d. input devices

36. _____displays the result of input data or signals after processing it.

a. input devices   b. output devices   c. processing devices

d. memory devices

37. The primary and most important type of input device is _____.

a. printer   b. monitor   c. keyboard   d. scanner

38. Mouse is type of _____ devices.

a. pointing input   b. processing   c. output   d. storage

39. Click, right click, double click, drag and rotate wheel are some common operations done by the _____.

a. mouse   b. keyboard   c. joy stick   d. light pen

40. _____ is an input device used to enter voice data into the computer.

a. keyboard   b. light pen   c. microphone   d. joystick

41. Touch pad is usually used in _____ computers.

a. desktop   b. palmtop   c. laptop   d. none of these

42. A _____ is a device that scans images from photographic prints,posters magazine, pages, and similar sources for computer editing and display.

a. mouse   b. printer   c. camera   d. scanner

43. A user can interact with computer, smart phones and tablets without a mouse or keyboard, using _____.

a. touch pad   b. touch screen   c. touch stone   d. none of these

44. The device used to display the video and graphics information generated by the computer through the video card is _____.

a. printer   b. speaker   c. monitor   d. none of these

45. The device used to display soft copy of data and information is _____.

a. monitor   b. keyboard   c. printers   d. plotter

46. Types of monitors are _____.

a. CRT   b. LCD   c. LED   d. all of these

47. LCD stands for _____.

a. liquid crystal display   b. labour control department

c. least common denominator d. none of these

48. LED stands for _____.

a. low energy demand   b. light emitting diode

c. light emitting display   d. none of these

49. CRT stands for _____.

a. child right trust   b. cathode ray tube

c. computer remote terminal   d. all of these

50. Number of pixels on computer screen is known as _____.

a. bit   b. picture size   c. screen resolution   d. mega pixels

51. A printer is an output device that prints _____ on paper.

a. characters   b. symbols   c. graphics   d. all of these

52. The printed output on papers provided by the computer is called_____.

a. hardcopy   b. hardware   c. softcopy   d. head copy

53. The printers used pins and hammer that strikes against the paper through ribbon are known as_____.

a. non-impact printers   b. impact printers   c. ink printers

d. none of these

54. The printers used heat, pressure; laser and ink for printing are known as

_____.

a. impact printers   b. non-impact printers   c. wax printer

d. none of these

55. _____ printer is example of impact printers.

a. Dot Matrix   b. Line   c. daisy wheel   d. all of these

56. _____ printer is example of non-impact printers.

a. LASER   b. Inkjet   c. Thermal Wax   d. all of these

57. Printing speed of large laser printer is _____ pages per minute.

a. 300   b. 200   c. 100   d. 50

58. In laser printer the refillable ink container is called _____.

a. cartridge   b. toner   c. carbon ribbon   d. none of these

59. In Inkjet printer the refillable ink container is called _____.

a. cartridge   b. toner   c. carbon ribbon   d. none of these

60. DPI stands for _____.

a. data processing installation   b. dots per inch

c. digital printing and imaging   d. none of these

61. The speed of Dot Matrix printer is measured in _____

a. PPM   b. CPM   c. CPS   d. none of these

62. In printers CPS stands for _____.

a. cycles per second   b. counts per second

c. cost per second   d. characters per second

63. In printers PPM stands for _____.

a. pages per minute   b. pay per minute

c. pulses per minute   d. points per minute

64. The printers, prints characters and graphics on paper without striking on paper are known as_____.

a. impact printers   b. digital printers

 c. non-impact printers   d. analog printers

65. The printer works like a photo copier machine is known as _____ printer.

a. Laser   b. Inkjet   c. Dot Matrix   d. Line

66. A big size printer used to print maps, documents, posters, large size drawings and geometric lines, is known as _____.

a. Inkjet printer   b. drawing printer   c. plotter   d. laser printer

67. CPU stands for _____.

a. cost per unit   b. cash processing unit   c. central processing unit

d. none of these

68. The brain of computer is called _____.

a. hard disk   b. CPU   c. RAM   d. mother board

69. Components of CPU are _____.

a. ALU   b. CU   c. MU   d. all of these

70. ALU stands for _____.

a. application layer user   b. automatic loading unit

c. arithmetic logic unit   d. all logic unit

71. MU stands for _____.

a. mobile unit b. multi-user   c. memory unit   d. none of these

72. CU stands for _____.

a. control unit   b. computer unit   c. central unit   d. none of these

73. The _____ section of ALU is used to perform arithmetic operations like addition, subtraction, multiplication and division.

a. calculative   b. logic   c. arithmetic   d. none of these

74. The _____ section of ALU is used to perform logic operations such as comparing, selecting, matching and merging of data.

a. calculative   b. logic   c. arithmetic   d. none of these

75. The actual execution of instructions happens in _____.

a. CU   b. ALU   c. MU   d. none of these

76. The memory unit of CPU contains _____ to hold (temporarily) the data and instructions to be executed.

a. registers   b. units   c. houses   d. blocks

77. The unit of CPU which controls the operations of all parts of computer is known as_____.

a. memory unit   b. control unit   c. arithmetic unit

d. logic unit

78. The memory which is directly accessible by the CPU is called _____.

a. secondary memory   b. temporary memory

c. permanent memory   d. primary memory

79. The memory which is not directly accessible by the CPU is called _____.

a. secondary memory   b. temporary memory

c. primary memory   d. none of these

80. As compare to secondary memory, the primary memory of computer is _____.

a. slow   b. cheap   c. fast   d. large

81. Example of primary memory is _____.

a. RAM   b. Cache Memory   c. ROM   d. all of these

82. Example of secondary memory is _____.

a. Hard disk   b. Floppy disk   c. CD   d. all of these

83. RAM stands for _____.

a. read access memory   b. remote access memory

c. random access memory   d. real access memory

84. RAM is _____ memory of computer.

a. main   b. permanent   c. secondary   d. none of these

85. The feature of RAM is _____.

a. temporary   b. volatile   c. read/write   d. all of these

86. The _____ RAM is faster.

a. dynamic   b. static   c. automatic   d. none of these

87. ROM stand for _____.

a. record only memory   b. run of memory

c. read only memory   d. none of these

88. The memory which requires a power source to hold information is called
_____memory.

a. nonvolatile   b. tactile   c. volatile   d. none of these

89. The memory that does not require a connection to a power source to
retain information is called _____ memory.

a. nonvolatile   b. tactile   c. volatile   d. none of these

90. Which is example of volatile?

a. ROM   b. BIOS   c. PROM   d. RAM

91. The basic input/output system (BIOS) program is stored in the _____ chip.

a. RAM   b. cache   c. ROM   d. none of these

92. BIOS is abbreviation of _____.

a. Basic Input Output System   b. Best Input Output System

c. Basic Input Output Symbol   d. Base Input Output System

93. EEPROM stands for _____.

a. Electrically Erasable Programmable Read Only Memory

b. Electronic Erasable Programmable Read Only Memory

c. Easily Erasable Programmable Read Only Memory

d. Early Erasable Programmable Read Only Memory

94. A _____ is smallest unit of data/information that can be stored in
a computer.

a. boot   b. bite   c. bit   d. none of these

95. A bit can have a binary value of either _____.

a. 0 or 2   b. 0 or 1   c. 0 or -1   d. none of these

96. The base of binary number system is _____.

a. 0   b. 1   c. 2   d. 3

97. A byte is set of _____ bits.

a. 1   b. 2   c. 4   d. 8

98. Bytes are used to measure _____.

a. file size   b. hard disk space   c. computer memory

d. all of these

99. 1 kilobytes is equal to _____.

a. 1000 bytes   b. 1024 bytes   c. 1024 bits

d. none of these

100. Which statement is valid?

a. 1 KB = 8 bytes   b. 1 MB = 8KB   c. 1 KB = 1024 bytes

d. 1 MB = 1024 bytes

101. Magnetic tape is _____ device.

a. direct access   b. random access   c. sequential access

d. fast access

102. Floppy disk is _____ storage medium.

a. removable   b. fixed   c. optical   d. none of these

103. The 3.5 inches floppy disk can store _____ data.

a. 1.24 MB   b. 1.34 MB   c. 1.44 MB   d. 1.54 MB

104. Which of the following device can store large amounts of data?

a. Floppy Disk   b. Hard Disk   c. CDROM   d. Zip Disk

105. In hard disks a _____ is used to read/write data.

a. lens   b. head   c. disk reader   d. none of these

106. When a hard disk undergoes formatting, it is divided into _____.

a. tracks   b. sectors   c. both a & b   d. none of these

107. CD stands for _____.

a. control data   b. change directory   c. compact disk

d. car driver

108. A CD can hold up to _____ MB of data.

a. 900   b. 700   c. 1024   d. 1000

109. A CD _____ disc is a compact disc that can be written, erased, and written again.

a. RW b. ROM c. R d. none of these

110. DVD stands for _____.

a. direct video disk b. digital versatile disk

c. digital video disk d. both b & c

111. A double layer DVD can hold up to _____ GB of data.

a. 10 b. 13 c. 1024 d. 17

112. CD, DVD and BD are the _____ type of storage media.

a. magnetic b. optical c. electrical d. none of these

113. BD stands for _____.

a. bio disk b. blue ray disk c. binary digit d. bank draft

114. USB Flash drive is often referred to as _____.

a. jump drive b. pen drive c. thumb drive d. all of these

115. USB stands for _____.

a. united states bank b. universal serial Bus

 c. uniform serial bus d. none of these

116. The software especially designed to control different operations of computer system are called _____ software.

a. computer b. application c. system d. none of these

117. Example of system software is _____.

a. operating systems b. utility programs c. device drivers

d. all of these

118. Example of operating systems is _____.

 a. Windows 10 b. MS Word c. web browser d. anti-virus

119. The software especially designed to solve the specific problems of users are called_____ software.

a. operating systems b. application c. system d. none of these

120. _____ is the example(s) of application software.

a. commercial software b. games c. multimedia d. all of these

121. The software that is developed for sale to the general public is called

_____.

a. custom built software   b. packaged software

 c. public software   d. none of these

122. Software that is specially developed for some specific organization or

     other user are called_____ software.

a. custom built   b. packaged   c. user   d. organization

123. A language used to write instructions for the computer is called

_____.

a. human language   b. instruction language

c. programming language   d. none of these

124. Signals can be analog or digital and a computer that processes the both

     type of signals is known as _____ computer.

a. analog   b. digital   c. hybrid   d. mainframe

125. Type(s) of programming languages is/are _____.

a. machine language   b. assembly language

c. high level language   d. all of these

126. The programming language which is easily understood by the computer

but difficult to read by people is known as _____.

a. machine language   b. assembly language   c. high level language

     d. none of above

127. The machine language is also known as _____.

a. high level language   b. binary language   c. assembly language

d. none of these

128. The machine code contains _____.

a. symbols   b. decimal digits   c. binary digits   d. alphabets

129. Example of machine code is _____.

a. cout<< "hello"   b. 01234567   c. 10011011

d. mov   x, counter

130. Assembly language consists of _____.

a. symbols   b. symbols & letters   c. letters   d. binary code

131. The translation software for assembly language is called _____.

a. assembler   b. translator   c. compiler

d. interpreter

132. The computer language that resembles natural human language is known

as _____.

a. low level language   b. high level language   c. mid-level language

d. none of these

133. Which of the following is a high level programming language?

a. MS Word   b. C++   c. Chrome   d. MS Excel

134. A high level programming language in which a program is divided into

function definition is _____ language.

a. functional   b. procedural   c. object oriented

 d. logic programming

135. A high level programming language in which a program is written in a

sequence of steps is_____ language.

a. functional   b. procedural   c. object oriented

d. logic programming

136. A high level programming language in which a program is divided into

objects is_____ language.

a. functional   b. procedural   c. object oriented

d. logic programming

137. A high level programming language in which is used to create programs

that enable the computer to reason logically is _____ language.

a. functional   b. procedural   c. object oriented

d. logic programming

138. The translator software for high level language is/are _____.

a. assembler   b. compiler   c. interpreter   d. both b & c

139. What is compiler?

a. A compiler does a conversion line by line as the program is run

b. A compiler converts the whole of a higher level program code into

machine code in one step

c. A compiler is a general purpose language providing efficient execution

d. None of the above

140. What is an interpreter?

a. An interpreter does the conversion line by line as the program is run

b. An interpreter is the representation of the system being designed

c. An interpreter is general purpose language providing efficient execution

d. None of the above

Answers Key

1	b	29	c	57	a	85	d	113	b
2	a	30	a	58	b	86	b	114	d
3	c	31	b	59	a	87	c	115	b
4	d	32	b	60	b	88	c	116	c
5	b	33	c	61	b	89	a	117	d
6	d	34	c	62	d	90	d	118	a
7	d	35	d	63	a	91	c	119	b
8	b	36	b	64	c	92	a	120	d
9	d	37	c	65	a	93	a	121	b
10	b	38	a	66	c	94	c	122	a
11	d	39	a	67	c	95	b	123	c
12	a	40	c	68	b	96	c	124	c
13	b	41	c	69	d	97	d	125	d
14	c	42	d	70	c	98	d	126	a
15	d	43	b	71	c	99	b	127	b
16	a	44	c	72	a	100	c	128	c
17	b	45	a	73	c	101	c	129	c
18	c	46	d	74	b	102	a	130	b
19	a	47	a	75	b	103	c	131	a
20	a	48	b	76	a	104	b	132	b
21	a	49	b	77	b	105	b	133	b
22	d	50	c	78	d	106	c	134	a
23	d	51	d	79	a	107	c	135	b
24	d	52	a	80	c	108	b	136	c
25	d	53	b	81	d	109	a	137	d
26	b	54	b	82	d	110	d	138	D
27	c	55	d	83	c	111	d	139	B
28	d	56	d	84	a	112	b	140	A

CHAPTER 2
Microsoft Windows 10

General Objective:

Understand basic concepts of Microsoft Windows 10.

Specific objectives:

After studying this chapter students should be able to:

➢ Explain Introduction to Windows

➢ Install windows and drivers?

➢ Describe Loading & Shut down process

➢ Explain Desktop items (Creation of Icons, Shortcut, Folder & modify Taskbar)

➢ Explain Desktop properties

➢ Describe Use' of Control Panel (add/remove program, time & date, mouse and create user account)

➢ Explain the method of searching a document

2.1 - INTRODUCTION TO WINDOWS

Windows 10 is a Microsoft operating system for personal computers, tablets, embedded devices and internet of things devices. Microsoft released Windows 10 in July 2015 as a follow-up to Windows 8. The company has said it will update Windows 10 continuously, rather than release a new, full-fledged operating system as a successor.

Users can access a Windows 10 upgrade through the Windows Update Assistant to manually begin an upgrade or wait for Windows Update to offer an upgrade when it is set to run.

Windows 10 features built-in capabilities that allow corporate IT departments to use mobile device management (MDM) software to secure and control devices running the operating system. In addition, organizations can use traditional desktop management software such as Microsoft System Center Configuration Manager.

Windows 10 Mobile is a version of the operating system Microsoft designed specifically for smart phones.

Windows 10 features

The familiar Start Menu, which Microsoft replaced with Live Tiles in Windows 8, returned in Windows 10. Users can still access Live Tiles and the touch-centric Metro interface from a panel on the right side of the Start Menu, however.

Figure 2.1: Microsoft Windows 10 Desktop Interface

Microsoft Windows 10 Continuum allows users to toggle between touch screen and keyboard interfaces on devices that offer both. Continuum automatically detects the presence of a keyboard and orients the interface to match.

Windows 10's integrated search feature allows users to search all local locations, as well as the web simultaneously.

Windows 10 security

Microsoft Windows 10 integrated support for multifactor authentication technologies, such as smartcards and tokens. In addition, Windows Hello brought biometric authentication to Windows 10, allowing users to log in with a fingerprint scan, iris scan or facial recognition technology.

Windows 10 system requirements

Processor: 1 gigahertz (GHz) or faster processor or system-on-a-chip (SoC)

RAM: 1 gigabyte (GB) for 32-bit or 2 GB for 64-bit

Hard disk space: 16 GB for 32-bit OS 20 GB for 64-bit OS

Graphics card: DirectX 9 or later with Windows Display Driver Model 1.0

Display: 800x600
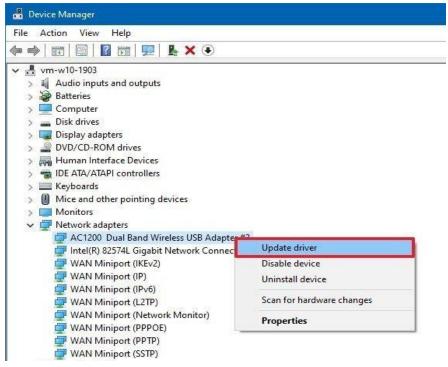
The minimum Windows 10 Mobile hardware requirements for a smart phone are 1 GB RAM, 8 GB flash storage, a Trusted Platform Module, Unified Extensible Firmware Interface, 32 bits of color per pixel, and 720p screen resolution. Smart phones also require a Snapdragon SoC from Qualcomm Technologies.

2.2 - HOW TO INSTALL WINDOWS AND DRIVERS

You can also update drivers for a printer, wireless adapter, monitor, and other components using Device Manager.
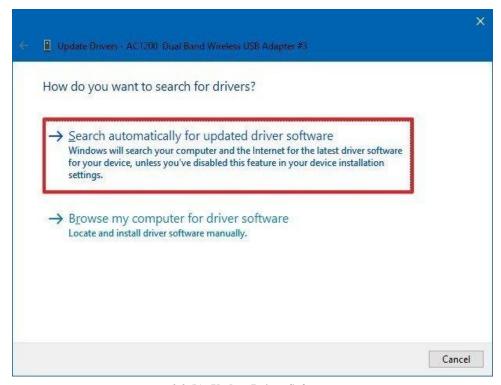
Drivers may be updated by following these steps:

1. Open **Start**.
2. Search for **Device Manager** and click the top result to open the tool.
3. Double-click the branch with the hardware you want to update.
4. Right-click the hardware and select the **Update driver** option.

2.2 (a): Device Manager Interface

5.   Click the **Search automatically for updated driver software** option.
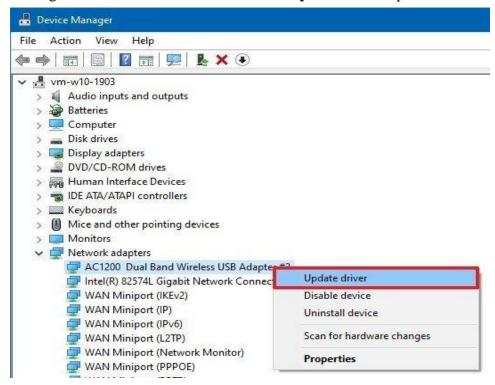
2.2 (b): Update Driver Software

After you complete the steps, if a newer update is available, Device Manager will download and install the package automatically similar to Windows Update using the Microsoft servers.

In the case that the driver isn't available through Windows Update, because it's too recent or available only in beta, you'll need to download and install the package from the manufacturer's support website manually.

When getting an update from a manufacturer support website, you should always attempt to follow their instructions first. However, if there are no instructions, double-click the ".exe" self-extracting package, or use this guide to extract the content of the ".zip" compressed file, and then continue with these steps:

1. Open **Start**.
2. Search for **Device Manager** and click the top result to open the tool.
3. Double-click the branch with the hardware you want to update.
4. Right-click the hardware and select the **Update driver** option.

2.2 (c): Update Device Derivers

5. Click the **Browse my computer for driver software** option.
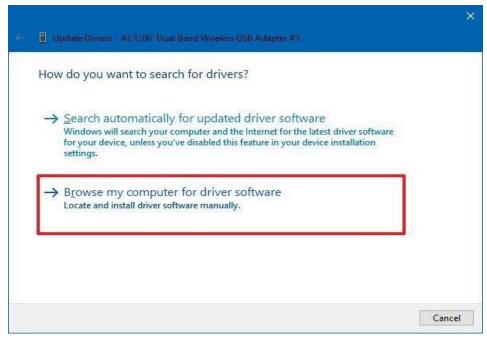
Figure 2.2 (d) - Browse computer for Driver Software

6. Click the **Browse** button.
7. Select the main folder with the driver files you have extracted earlier.
8. Click the **OK** button.
9. Check the **Include subfolders** option to allow the wizard to find the correct ".inf" file with the instructions to update the driver.
10. Click the **Next** button.

Once you complete the steps, the wizard will detect and install the new driver on your computer to improve the overall experience with fixes, new functionalities, or new support depending on the update and device.

2.3 - DESCRIBE LOADING & SHUT DOWN PROCESS

Loading Process

The loading process in windows is also known as the Boot Process. This process consists of 5 Phases;

1. **Phase 1 – Preboot**

   In this phase, the PC's firmware is in charge and initiates a POST and loads the firmware settings. Once all this works (hopefully), the system identifies a valid system disk and reads the MBR. The system then starts the Windows Boot Manager. This is located here: %SystemDrive%\bootmgr

2. **Phase 2 – Windows Boot Manager**

   It is the job of the Windows Boot Manager to find and start the Windows loader (Winload.exe). This is located on the Windows boot partition – %System Root%\system32\winload.exe

3. **Phase 3 – Windows Operating System Loader**

   In this phase, essential drivers required to start the Windows kernel are loaded and the kernel starts to run. The key file here is %System Root%\system32\ntoskrnl.exe

4. **Phase 4 – Windows NT OS Kernel**

   The kernel loads the system registry hive into memory and loads the drivers that are marked as BOOT_START. The kernel then passes control to the session manager process (Smss.exe).

   You can identify the phase you are in visually by what your computer is displaying and the LEDs that are on the system. I will follow up with additional posts on this subject so that you can easily tell what phase you are stuck at – and what you can do to fix things.

5. **Phase 5 – Logon Process**

In this phase the logon screen appears in front of the user where user types the username and password to log on to the system.

Figure 2.3 (a) - Log On Screen of Microsoft Windows 10

Shutdown Process

1. Click Windows Button
2. Click Power Button
3. Click Shut Down
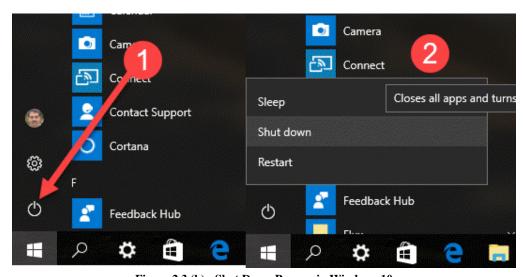
Figure 2.3 (b) - Shut Down Process in Windows 10

2.4 - INTRODUCTION TO DESKTOP ITEMS (CREATION OF ICONS, SHORTCUT, FOLDER & MODIFY TASKBAR)

Figure 2.4 (a) - Log on to Windows 10

Whether you're using a new computer with Windows 10 or an older machine that was recently upgraded, this lesson will show you the basics of using this Version of Windows.

Signing in to Windows 10

You'll probably be asked to **create a Microsoft account** the very time you use Windows 10 (if you don't have one already). From this point on, whenever you turn on the computer you'll need to **sign in** to that account. To do this, **type your password** into the box and press **Enter**.

Desktop Interface

A **The Start button**
In the lower-left corner, it puts what you need at your fingertips.

B **Power options**
On, off and restart.

C **Settings**
Personalize the defaults. Monitors, networks, printers, and more.

D **Find pictures**
Quickly access all your saved pictures.

E **Find files**
Quickly access your Documents folder.

F **Browse every app**
Scroll up and down to view all your apps.

G **Group apps**
Drag apps into groups, press and hold (or right-click) to resize, and select the title space to give the group a new name or more personalized name.

H **Most used apps**
Use an app all the time? Pin it by pressing and holding (or right-clicking on it) and select "Pin to Start."

Figure 2.4 (b) - Desktop Interface

Navigating the Desktop

Once you've signed in, the first thing you'll see is the **desktop**. You can think of the desktop as the main workspace for your computer. From here, you can view and manage your files, open applications, access the Internet, and much more.

Click the buttons in the interactive below to become more familiar with the Windows 10 desktop:
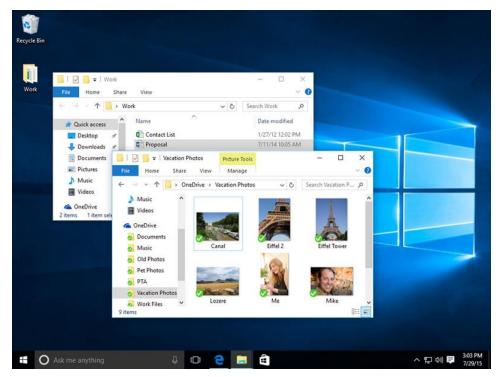
Figure 2.4 (c) - Navigating the Desktop

Opening Applications

You'll use the **Start menu** to open programs on your computer, just like with previous

Versions of Windows. To do this, click the **Start** button in the bottom-left corner, then choose the desired application. If you don't see the one you want, select **All apps** to see a full list of applications. In the example below, we're opening **OneNote**.

Figure 2.4 (d) - Opening Applications

Working with Files

You'll use the **File Explorer** to manage your files and folders. To open File Explorer, click the File Explorer icon on the taskbar or double-click any folder on your desktop.
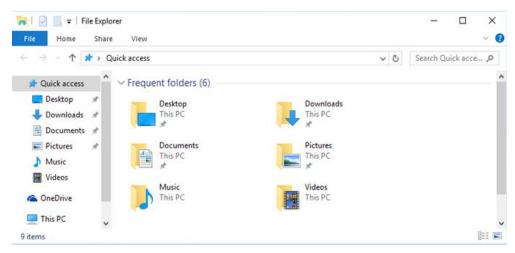
Figure 2.4 (e) - Working with Files

Adjusting your settings

You'll use the Settings app to change the most important settings on your computer, like your network and display options. To open the app, click the Start menu, then select **Settings**.
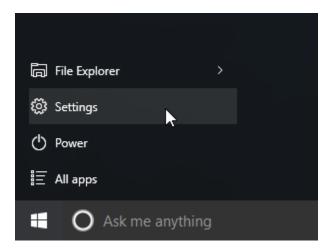
Figure 2.4 (f) - Windows 10 Settings

You can also use the **Control Panel** to adjust your settings, just like in earlier versions of Windows. However, there are some options that can only be

accessed from the Settings app, like adding a new user. Because of this, you'll probably use the Settings app more often.

Shutting Down Your Computer

When you're done using your computer, it's important to **shut it down properly**. To do this, click the **Start** button, then choose **Power > Shut Down**.
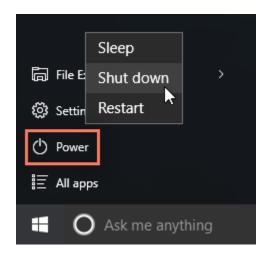
Figure 2.4 (g) - Shutting Down your Computer

Add New Icons to the Desktop

Your desktop icons may be hidden. To view them, right-click the desktop, select **View,** and then select **Show desktop icons**. To add icons to your desktop such as This PC, Recycle Bin and more:

1. Select the **Start** button, and then
   select **Settings** > **Personalization** > **Themes**.

2. Under Themes > Related Settings, select **Desktop icon settings**.

3. Choose the icons you would like to have on your desktop, then select **Apply** and **OK**.
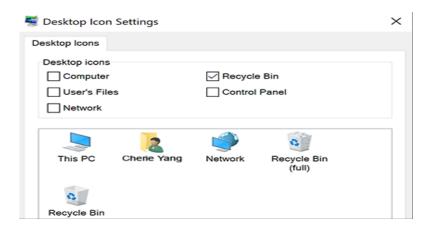
Figure 2.4 (h) - Desktop Icons Settings

Create a Shortcut to an Application

To do this the easy way, open Windows 10's Start menu. Look for the application you want to use by scrolling through the Apps list at the left side of the menu.

If it's in the tiles list at the right side of the menu, you can also drag it from there. Once you've found it, drag and drop the application's shortcut from your Start menu to your desktop.

You'll see the word "Link" appear when you're hovering over the desktop. Release the mouse button to create a link to the program, also known as a desktop shortcut.
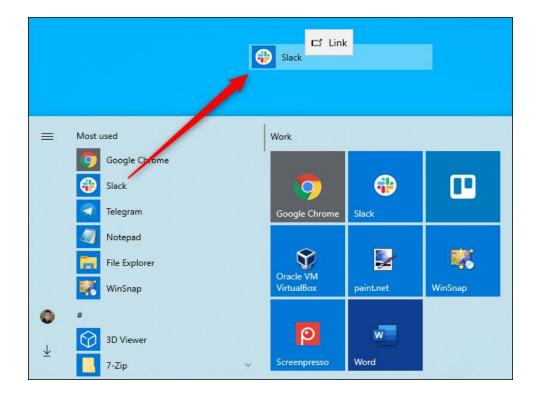
Figure 2.4 (i) - Creating Shortcut to an Application

Note that you can't search for the application by name in the Start menu. Windows 10 won't let you drag and drop anything from the search results. It should, but it doesn't.

Create a Shortcut to a File or Folder

To create a desktop shortcut to a file, first, locate the file somewhere in File Explorer. Hold down the Alt key on your keyboard and then drag and drop the file or folder to your desktop. The words "Create Link in Desktop" will appear. Release the mouse button to create the link.
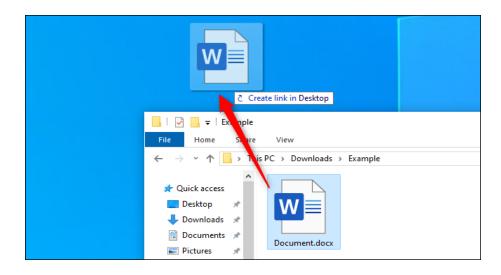
Figure 2.4 (j) - Creating Shortcut to a File

Holding down Alt is necessary. If you don't hold down Alt, Windows will show the words "Move to Desktop," and it will move the folder or file to your desktop rather than simply creating a link.

Create New Folder

Follow the steps show in the figure.
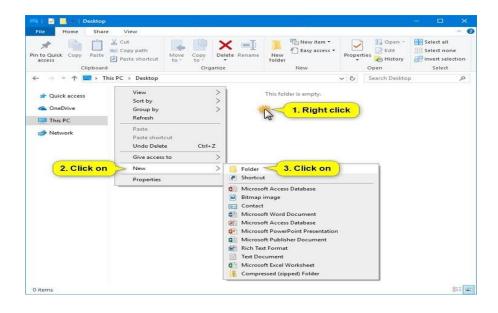
Figure 2.4 (k) - Creating a New Folder
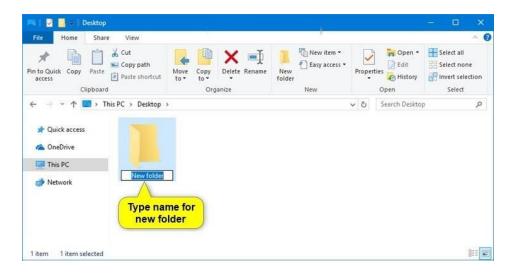
Figure 2.4 (l) - Type the name for new Folder

How to Auto-hide Windows 10 Taskbar

If you want to auto-hide Windows 10 taskbar when it's not in use, you can easily realize it by following the steps below.

Step 1. You can right-click on the taskbar and choose **Taskbar settings**.

Step 2. Then you can choose to turn on **automatically hide the taskbar in desktop mode**, or **automatically hide the taskbar in tablet mode**.

The hidden taskbar can be shown when you move the mouse cursor to the bottom edge of the screen or where the Windows 10 taskbar is located. You can also press Windows logo key to reveal the taskbar.

How to Add or Remove Icons on Windows 10 Taskbar

To pin programs to the taskbar, you can click **Start** and right-click the program, click **More -> Pin to taskbar** to pin the application to the taskbar. To remove a program from taskbar, you can right-click the program and click **Unpin this program from taskbar**.

If you want to remove default icons from system tray area in the taskbar, you can follow the steps below.

Step 1. You can right-click the taskbar and choose **Taskbar settings** to open Windows 10 taskbar settings window.

Step 2. Next you can click **Select which icons appear in the taskbar** under **Notification area**.

Step 3. Then you can choose to **Always show all icons in the notification area**, or you can turn off this option and choose to turn on/off some of the program icons.

You can click **Turn system icons on or off** under **Notification area** to turn on or off some system icons.
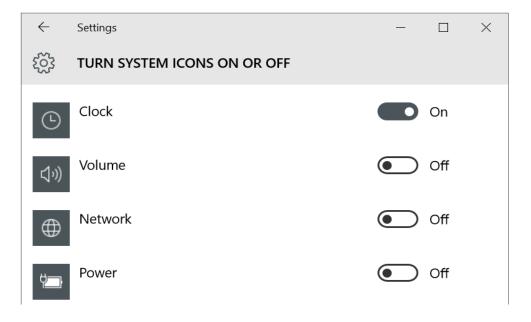

Figure 2.4 (m) - Taskbar Settings

If you turn off an app here, you don't really remove it, and it still shows up in the hidden area. If you turn an app on, it will appear in the main Notification Area.

2.5 - DESKTOP PROPERTIES

Personalizing Your Desktop

Windows 10 makes it easy to customize the look and feel of your desktop. To access the **Personalization settings**, right-click anywhere on the desktop, then select **Personalize** from the drop-down menu. The Personalization settings will appear.
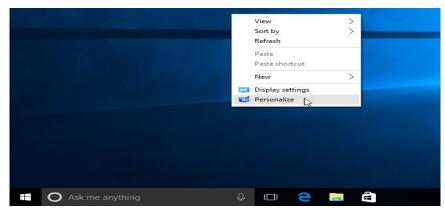
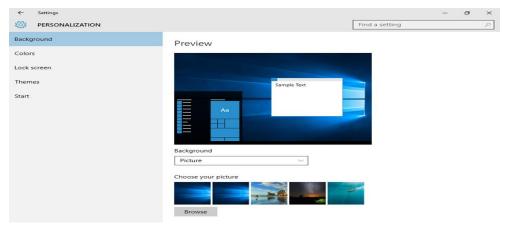**Figure 2.5 (a) - Personalizing the Desktop**

Figure 2.5 (b) - Desktop Background

To change the font size:

If you have difficulty seeing the text on your computer, you can increase the **font size**. Increasing the font size will also increase the size of icons and other items on your desktop.

1. Open the **Settings** app, then select **System**.

Figure 2.5 (c) - Change Font Size

2. The **Display** options will appear. Use the slider to select the desired **item size**. Note that a larger size may interfere with the way some items appear on the screen.
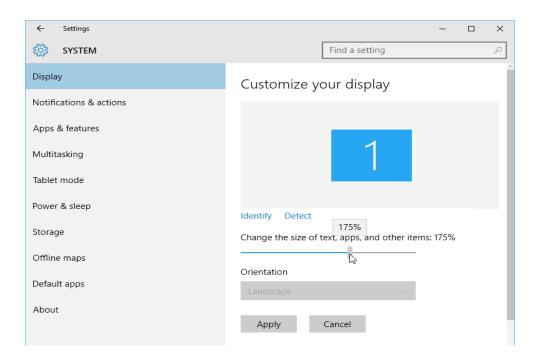

Figure 2.5 (d) - Display Options

3. Click **Apply** to save your changes. You may then need to restart your computer for these changes to take effect.

2.6 - USE OF CONTROL PANEL (ADD/REMOVE PROGRAM, TIME & DATE, MOUSE AND CREATE USER ACCOUNT)

Use of Control Panel:

The **Control Panel** is a component of Microsoft Windows that provides the ability to view and change system settings. It consists of a set of applets that include adding or removing hardware and software, controlling user accounts, changing accessibility options, and accessing networking settings. Additional applets are provided by third parties, such as audio and video drivers, VPN tools, input devices, and networking tools.

Add and Remove Program:

To open Add or Remove Programs in Windows 10

1. Press the Windows key, type **Apps & features** or **Add or Remove Programs**, and press **Enter**.

2. A window similar to the picture below should appear.
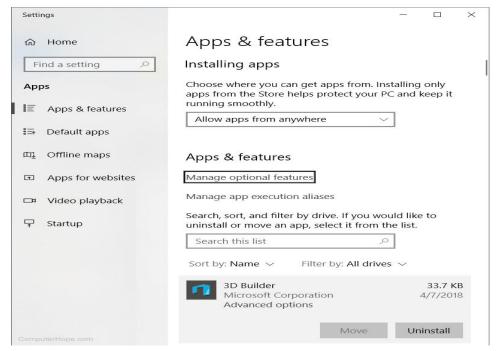

Figure 2.6 (a) - Add and Remove Programs

3. From this window, you'll be able to manage how Windows installs programs and also uninstall any programs that were installed.

Or

1. Open the Control Panel

2. Click **Programs and Features** or under the *Programs section* click **Uninstall a program**.

3. From this window, you'll be able to manage how Windows installs programs and also uninstall any programs that were installed.

Change Time & Date:

Computers connected to the internet should automatically adjust for daylight savings time.

1. Right-click on the time in the bottom-right of the screen and select **Adjust Date/Time.**
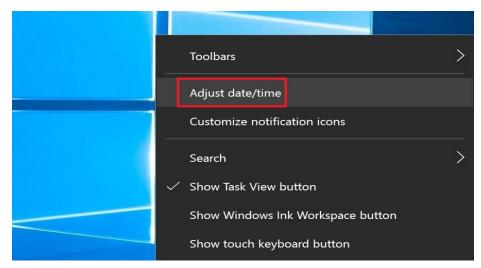

Figure 2.6 (b) - Adjust Date & Time

2. A window will open. On the left side of the window select the **Date & time** tab. Then, under "Change date and time" click **Change**
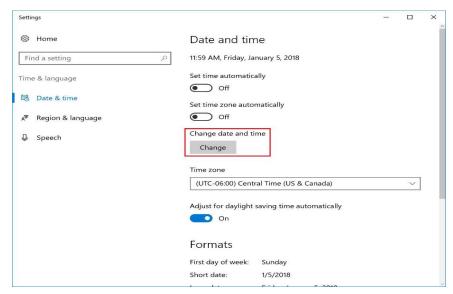

Figure 2.6 (c) - Change Date & Time

Note: Both **Set time automatically** and **Set time zone automatically** must be **Off** to make this change.

3. Enter the time and press **Change**

4. The system time has been updated.

Change Mouse Settings:

Windows 10 gives you a range of customization options for your mouse, so you have flexibility in how your cursor behaves. In this guide, we'll walk you through the available settings and the impact they have on your pointer.

Before we get going, it's worth mentioning that Windows 10's mouse settings are still split across Control Panel and the Settings app. The Settings app's Mouse page is currently extremely basic and contains only one option you won't find in the Control Panel.

Primary mouse button and scroll wheel

We'll head to Settings first, so open the app (Win+I keyboard shortcut), click the "Devices" category and then navigate to the "Mouse" page from the menu.
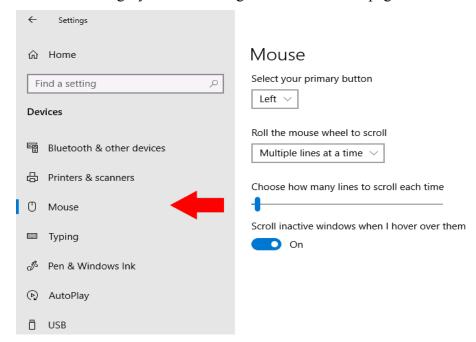

Figure 2.6 (d) - Change Mouse Settings

The page lets you customize the scroll wheel's operation and change which mouse button acts as the primary one. The mouse wheel can be made to scroll through lines or entire screens (as if you pressed the Page Up/Page Down buttons), and you can customize how many lines or screens should be scrolled at once.

The last toggle button on the page, "Scroll inactive windows when I hover over them," is the only mouse setting not available in the Control Panel. This feature was new for Windows 10.

Per the description, it lets you scroll the contents of any window on your desktop by hovering over it and using the mouse wheel. You don't need to switch focus to the window first, addressing a long-standing complaint with previous versions of Windows. You'll probably want to keep it enabled most of the time.

The rest of Windows' mouse settings are tucked away in the Control Panel. You can access them with the "Additional mouse options" link to the right of the Mouse settings page. This will bring up the "Mouse Properties" popup which hasn't changed much through generations of the Windows operating system.
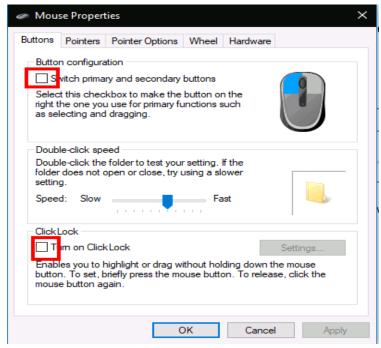

Figure 2.6 (e) - Mouse Properties

The first tab of this screen provides three options. The first is duplicated from the Settings app and lets you customize your primary mouse button. The second lets you change when double-clicks are registered – if you find Windows isn't detecting when you double-click, or is making false positive matches, you can use the slider and test area to fine-tune how long a double click has to last.

Click Lock

The final option on the page controls a little-used accessibility feature called Click Lock. When it's enabled, you don't need to hold down your mouse button when clicking and dragging.

Instead, you hold the button briefly, which starts the selection. You can then release the button, move the mouse to complete your selection and press the button again to confirm the operation. It's intended primarily for people who may find it hard to depress the mouse button for an extended period of time.
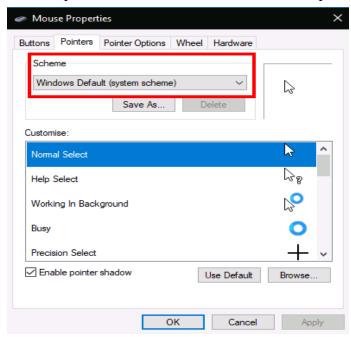

Figure 2.6 (f) - Mouse Properties

The second tab of the Mouse Properties dialog enables you to change the presentation of your cursor. You can pick and choose from the themes installed on your device, or specify your own images to use for different cursor states.

Pointer speed and sensitivity

The Pointer Options tab is more directly applicable to your mouse's operation. The first set of options are related to the movement of your cursor. You can control how fast the cursor moves, enabling you to reduce or increase the effective sensitivity of your mouse.

There's also an "Enhance pointer precision" checkbox, which dynamically adjusts the effective sensitivity relative to how fast you move the mouse. When you're moving slowly to select a small button, Windows will adjust the sensitivity on-the-fly to keep the cursor motion precise. If you have a gaming or professional mouse, you should note that both the pointer speed and precision options may conflict with the DPI and sensitivity settings offered by your mouse.
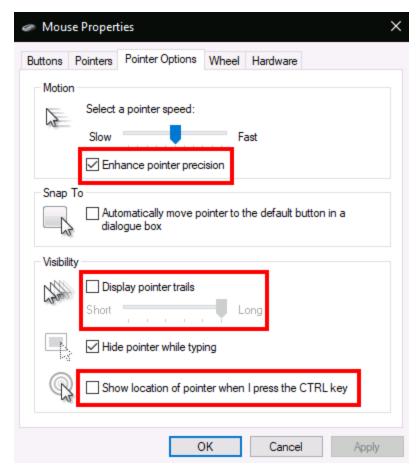
Figure 2.6 (g) - Mouse Pointer Options

The second section of the Pointer Options tab controls "Snap To," an accessibility feature which automatically moves your cursor as new popups open on your screen. Your cursor will automatically "snap to" the default button in each popup, so you don't need to move your mouse to press "OK." Finding the cursor

Finally, the "Visibility" section lets you control when the cursor should be hidden. You can disable automatic cursor hiding while typing with the "Hide pointer while typing" checkbox.

Using the "Display pointer trails" option, it's possible to display pointer trails that track your mouse across the screen if you have difficulty following your cursor. A final usability tweak is "Show location of pointer when I press the CTRL key" – a self-explanatory checkbox which can come in handy for those "lost my mouse" situations.

Create User Account:

How to create a new user on Windows 10 (Easy Way)

Compared to older Windows builds (XP, Windows 7 or Vista), it's quite easy to create a new user on Win 10. Now, why would someone do that? Well, creating one or several users on the same machine isn't some whim, but a very 'hygienic' cyber security practice. Even if you're the one and only owner of the PC, it's still a good idea to use a non-administrative account in case you wind up on the wrong side of the Internet.

Doesn't matter what kind of malware your computer picks up – running your PC on a typical, non-admin account, ensures that the 'nastinesses' can't gain a foothold in the system and start messing around with **functions and processes** (i.e. **boot. ini, msdos.sys**, **autoexec.bat**, **io.sys**, **svchost.exe**).

ADDING A NEW USER THROUGH ACCOUNTS' GUI

Now, the fastest way to create a new user account on Windows 10 is through **Settings**. Here's what you'll need to do:

Step 1. Hit or tap the **Start** button.

Step 2. Click or tap on the **Settings** button (that would be the "gear" icon). You can also access **Settings** by hitting the **Windows** key on your keyboard and writing "**Settings**" in the search bar.

Step 3. In **Settings**, click or tap on **Accounts** (the icon should be right under **Network & Internet**).

Step 4. Under **Accounts**, click or tap on **Family & other users**.

Step 5. Look under **Other users** and click on the "+" (plus sign) next to **Add someone else to this PC** to create a new account on your machine.

Step 6. Choose how the new user will log in his account: **Xbox**, **Office Online**, **OneDrive**, **Office**, or **Skype**. Type the address in the bar and hit the **Next** button.

Step 7. Review the details and press the **Finish** button to complete the registration process.

That's it – the new user can log in by typing in his Microsoft username and password. Now, you should keep in mind that this method can only be used in conjunction with one of the above-mentioned accounts. If you want to

create a local account (no online account verification required), follow the steps below.

How to create a local account with Windows 10

Step 1. Click or tap on the **Start** button.

Step 2. Head to **Settings**.

Step 3. Click or tap on **Accounts**.

Step 4. Go to **Family & other users**.

Step 5. Under **Other users**, click or tap on **Add someone else to this PC**.

Step 6. In the bottom part of the page, click or tap the **hyperlink** reading *I don't have this person's sign-in information.*

Step 7. Click or tap on the **hyperlink** reading *Add a user without a Microsoft account.*

Step 8. In the **account registration** window, enter the name of the person who's going to use the computer and **choose a password** (hint: don't use "1234" or "qwerty", wink-wink).

Reconfirm your password and **set a hint**. When you're done, press the **Next** button to complete the registration process.

Okay, I have to admit that all of these steps seem basic enough, but the good news is that Windows 10's account-managing platform allows the user (that's you) to 'mess' around with privileges.

Let's assume that the account you're about to create is for a family member.

2.7 - EXPLAIN THE METHOD OF SEARCHING A DOCUMENT

How to Search for Files in Windows 10?
1. Search for files using the taskbar
2. Search for files using File Explorer
3. Search for files using Everything

There are three methods that can be used to search for files in Windows 10. You can select one according to your actual situation.

Additionally, you can use these three methods to search for files from computer hard drives, One Drive, SD cards, memory cards, and more.

Method 1: Search for Files Using Taskbar (by Name)

This method is very simple. You can follow these steps to search for files by the name or a keyword.

1. Press **Win + X** and select **Search** from the WinX Menu to open the Windows 10 search box. Or, you can directly click **Cortana** to open it.

2. Type the name or a keyword of the file you want to find into the search box and you will see the search results across your computer and OneDrive under Best match.

You can select the file to open it and check whether it is the file you want to find. If you think this method can't help you find the needed files or you need to search for file contents in Windows 10, you can use File Explorer instead.

Method 2: Search for Files Using File Explorer (by Name/File Contents/Type)

A Windows 10 file search with File Explorer is a commonly-used method to find your needed files.

Here is a step-by-step guide:

Note: If your File Explorer is set to start from Quick Access, when you open File Explorer, you will enter Quick Access directly. You should not perform a Windows 10 file search in Quick Access. You need to switch to This PC before searching. Or, you can refer to this post to make File Explorer start from This PC.

How to Use Windows 10 Quick Access: A Full Introduction.

1. Go to File Explorer and access the drive that should contain the files you want to find. If you are not sure the file location, you can just select **This PC** from the left list to make File Explorer show all drives in This PC.

2. The search box is on the upper right corner of File Explorer. You need to input the file name or a keyword. Then the Windows 10 file search process will automatically start.
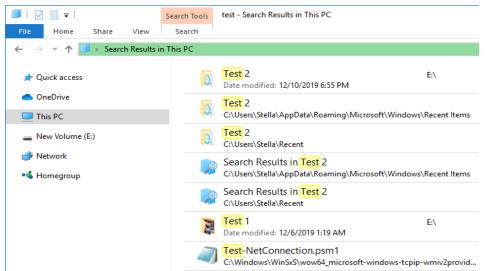
Figure 2.7 (a) - Search Files and Folders

When the search process ends, you can see the search results. It is quite possible that you see more than one choice. Then, you need to find the target one from the results.

Perform an Advanced Search in File Explorer:

If there are so many files, you can then perform an advanced search in File Explorer. You can click the arrow next to the question mark on the upper right corner and then make a further selection like file size, kind, date modified, etc. You can use these features according to your actual situations.
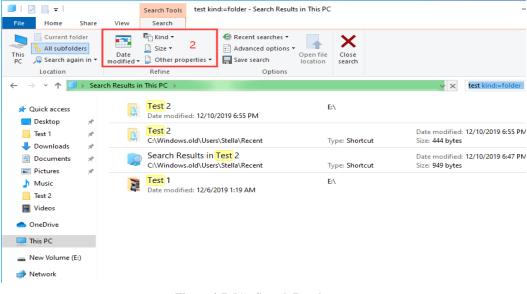

Figure 2.7 (b) - Search Results

Perhaps, you want to find a Word, Excel, or a text file. But, you forget the name of the file. Take it easy. You can try to remember some text contents that are especially exist in that file and then search files content via File Explorer.

To do this work, you need to do some preparation beforehand: enabling the File contents feature of Windows 10 file search in File Explorer. You can follow these steps to enable the File contents feature:

1. Open File Explorer.
2. Click the **Search mark** (the magnifying glass mark) on the upper right corner.
3. Click **Search** on the top toolbar.
4. Click the **Arrow Down** button of the Advanced options.
5. Select **File contents** from the drop-down menu.
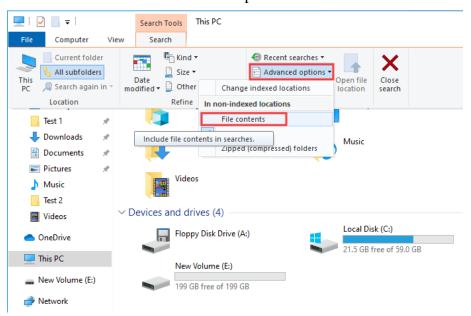

Figure 2.7 (c) - Advance Searching

Now, the File contents feature is enabled. You can type the content text into the search box to search for your needed files.

Method 3: Search for Files Using Everything (by Name/Type)

Besides using the Windows snap-in tool to search for files in Windows 10, you can also use a third-party utility to do the work. Everything is just such a tool.

Everything is a desktop search utility for Windows. You can use it to search for your needed files and folders by name. In addition, this utility can also show you all the computer files by type (limited to some certain types). If you only remember the type of file you want to find, you can set this tool to only show the target file type.

Search for Files in Windows 10 by Name:

1. Open Everything.

2. Input the file name to make the tool show the related items.

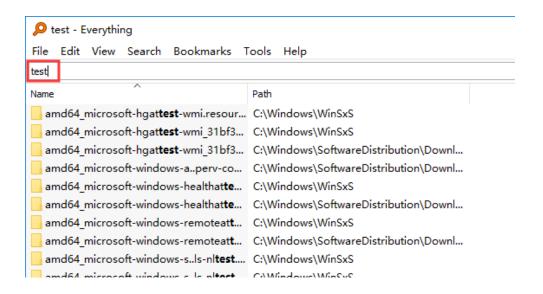3. Go to find your needed files from the list of the search results.

Figure 2.7 (d) - Search Files by everything

If there are so many search results, you can click **Search** from the toolbar and select the target file type to narrow down the search range.

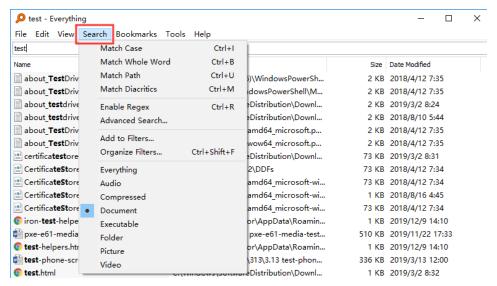**Figure 2.7 (e) - Search Files by everything**

After finding the needed file, you can click on it to open it immediately. Or you can go to **File > Open path** to access the storage location.

Search for Files in Windows 10 by Type:

If you really forget the name of the file, you can use the Search feature of everything to select the data type of your needed file. This can shorten the search time relatively.

EXERCISE

Multiple Choice Questions

1. Microsoft launched windows 10 on;

    (a) July 2013   (b) July 2015   (c) July 2016   (d) March 2017

2. Windows 10 operating system has been designed for;

    (a) Desktop computers   (b) Laptops

    (c) Mobile phones   (d) All these

3. Windows 10 operating system can run on ;

    (a) IBM systems   (b) IBM compatible system

    (c) App Mac systems   (d) Both a & b

4. Windows 10 operating is a ;

    (a) GUI   (b) Multitasking

    (c) Multi user   (d) Both a & b

5. In windows 10, start button can be used for ;

    (a) Search the used files   (b) Open the required Apps

    (c) Shut down or restart the system   (d) All these

6. Cortona feature of windows 10 works as;

    (a) Personal digital assistant   (b) Operating system

    (c) Application software   (d) None of these

7. Which one of the windows users are given free upgrade to windows 10.

    (a) Windows XP   (b) Windows 8 only

    (c) Both Windows 7 and 8   (d) All Window users

8. The windows 10, biometric login feature has been named.

    (a) Windows Bio   (b) Windows Hello

    (c) Windows Pad Lock   (d) Windows Instant

9. This feature re-included in windows 10, it was removed in windows 8;

    (a) Recycle bin   (b) Start menu

    (c) Gagets   (d) None of these

10. Which feature of windows 10 allows to adopt to different device types.

    (a) Hub   (b) Flex   (c) Continuum   (d) Unity

11. New built in browser of windows 10 is ;

      (a) Cortona   (b) Edge   (c) Internet Explorer   (d) Opera

12. The cortana is named after a character of this video game.

      (a) Destiny   (b) Halo   (c) Final Fantasy   (d) Fable

13. Windows 10 belongs to this window family.

   (a) Windows 7X   (b) Windows Ap

   (c) Windows NET   (d) Windows NT

14. These buttons are used to take screen short of display screen;

      (a) Alt + PrtScn   (b) Shift + PrnScn

      (c) Ctrl + PrtScn   (d) Windows key + PrtScn

15. Which shortcut keys can be used in windows 10 to open programs pinned in taskbar.

      (a) Shift + [1],[2],[3]...   (b) Windows + [1],[2],[3]...

      (c) Alt + [1],[2],[3]...   (d) None of these

16. These keys can be used to lock the windows 10 desktop.

      (a) Shift + L   (b) Ctrl + L

      (c) Windows + L   (d) Any of these

17. Shortcut keys to open Action Center.

      (a) Windows + A   (b) Windows + C

      (c) Windows + P   (d) Windows + Spacebar

18. Shortcut keys to open windows setting.

      (a) Windows + I   (b) Windows + A

      (c) Windows + S   (d) Windows + H

19. Shortcut keys to show windows 10 desktop.

      (a) Windows + D   (b) Windows + B

      (c) Windows + T   (d) Windows + K

20. This is a Windows 10 feature.

      (a) Action Center   (b) Multiple desktop

      (c) Cortana   (d) All these

21. The name of online data storage facility of windows 10 is ;

      (a) Sky drive   (b) One drive

      (c) Ten drive   (d) Soft drive

22. Due to this feature of windows 10, icons looks transparent like a glass
  (a) Aero feature (b) Dyno feature
  (c) Trans feature (d) None of these

23. Windows 10 support this ;
  (a) DVD (b) Blu Ray Disk
  (c) Internet Digital TV (d) All these

24. You can use cortana of windows for ;
  (a) Here any song (b) Ask any question, about your files
  (c) Ask the weather condition (d) All these

25. This is a virtual assistant in widows 10.
  (a) Action center (b) Cortana
  (c) MS Edge (d) Windows store

26. Data that can be store free of cost in One drive of Windows 10 is;
  (a) Upto 2GB (b) Upto 10 GB
  (c) Upto 25GB (d) Upto 500GB

27. Horizontal strip on bottom side of windows 10 is called ;
  (a) Task bar (b) Status bar (c) Title bar (d) All these

28. Time, date, internet connection and battery meter show on this part of taskbar;
  (a) Time area (b) Date area
  (c) Notification area (d) Both a and b

29. Taskbar of windows 10 holds ;
  (a) Search box (b) Pinned programs
  (c) Notification area (d) All these

30. In windows 10, this modification can be made on task bar.
  (a) Change the location of task bar
  (b) Task bar can be hide
  (c) Icon size on task bar can be changed (d) All these

31. System tray contains icon of this item.
  (a) Wi-fi (b) Blue tooth
  (c) Volume & clock (d) All these

32. A folder may contain ;

    (a) Files   (b) Sub folders

    (c) Data   (d) Both a & b

33. Screen savers are basically used for this monitor;

    (a) LCD   (b) LED backlight   (c) Plasma   (d) CRT

34. This task can be performed through control panel.

    (a) Adding hardware   (b) Add/Remove programs

    (c) Clock Setting   (d) All these

35. Delete files and folders in windows 10 goes in ;

    (a) Hard disk   (b) Recycle bin

    (c) Dust bin   (d) None of these

36. Number of horizontal and vertical pixels on monitor screen is called;

    (a) Screen saver   (b) Screen resolution

    (c) Screen pixels   (d) Wallpaper

37. Small pictures on desktop, representing some programs are called;

    (a) Folder   (b) Icon

    (c) Program   (d) Desktop picture

38. This icon appear automatically on desktop screen.

    (a) This PC   (b) Recycle bin

    (c) My documents   (d) Both a & b

39. This is used to control and manage computer hardware & software.

    (a) Web browser   (b) Control panel

    (c) Control master   (d) Start button

40. Windows 10 O/S is a ;

    (a) Multi user   (b) Multi-tasking

    (c) Multidimensional   (d) All these

41. By deleting a shortcut of a file ;

    (a) Data of the file remain save   (b) Data of the file will be lost

    (c) Data of the file will be changed   (d) All these

42. Microsoft corporation produce;

    (a) Computer software   (b) Hardware

    (c) Both hardware and software   (d) None of these

43. The tray which is display on left side of task bar is called;

      (a) Icon's tray   (b) Windows tray

      (c) System tray   (d) Non system tray

44. First screen that appears after log in is called ;

      (a) Primary screen   (b) Desktop screen

      (c) Interface   (d) Program screen

45. To shut down the computer, this button is clicked first.

      (a) Shut down button   (b) Start button

      (c) Power button   (d) Any of these

46. This is an option of control panel of windows 10.

      (a) Hardware & sound   (b) User accounts

      (c) Network and internet   (d) All these

ANSWERS KEY

1. (b)	2. (d)	3. (d)	4. (d)	5. (d)	6. (a)	7. (c)	8. (b)
9. (b)	10. (c)	11. (b)	12. (b)	13. (d)	14. (d)	15. (b)	16. (c)
17. (a)	18. (a)	19. (a)	20. (d)	21. (b)	22. (a)	23. (d)	24. (d)
25. (b)	26. (c)	27. (a)	28. (c)	29. (d)	30. (d)	31. (d)	32. (d)
33. (d)	34. (d)	35. (b)	36. (b)	37. (b)	38. (d)	39. (b)	40. (b)
41. (a)	42. (a)	43. (c)	44. (b)	45. (b)	46. (d)		

SHORT ANSWER TYPE QUESTIONS

1. Define Windows operating system.
2. What is GUI.
3. Write short introduction of Windows 10.
4. Write names of some new features of windows 10.
5. What is folder?
6. What is an icon?
7. For which purpose, recycle bin is used.
8. For which purpose, file explorer is used in windows 10.
9. For which purpose, control panel is used.
10. How file can be searched in windows 10.
11. What is meant by shortcut.
12. What is cortana.
13. Write short introduction of "Edge" browser.
14. Which facility is available in windows 10 store.

15. What is available in windows 10 task bar.

16. What is aero graphical user interface in windows 10.

17. What is "Windows hellow".

18. What is minimum capacity of system for windows 10 installation.

19. What is desktop screen.

20. Introduce windows 10 taskbar & its items.

21. What is notification area, what is displays.

22. What is meant by system loading.

23. What is meant by "Login".

24. Write method of creating new folder in Windows 10.

25. Write method of adding/deleting items in system tray of windows 10.

26. Write method of creating new user's account in windows 10.

27. How anything saved in computer can be searched in windows 10.

28. Define screen resolution.

29. How a file of a specific program is identified.

30. Why screen saver is used.

LONG QUESTIONS

1. Write 8 features of windows 10.

2. Write the names of parts of windows 10 interface and their location.

3. Write method of installation of windows 10.

4.   Write in detail components of taskbar in windows 10.

5. Write important features of MS Windows 10. Write method of setting background, screen saver and resolution in windows 10.

6. Write method of creating new user account in windows 10.

7. Write method to create desktop shortcut and folder in windows 10.

8. Write method of changing taskbar settings in windows 10.

9. Write all methods of searching file in windows 10.

10. Write names of components of control panel of windows 10.

11. Write method to uninstall a program in windows 10.

12. What is user account, write its types.

CHAPTER 3

Microsoft word

General Objective:

Understand basic concepts of Microsoft Word.

Specific objectives:

After studying this chapter students should be able to:

- ➢ Define working of MS-Office
- ➢ Describe MS-Word & different parts of its screen.
- ➢ Create a new document.
- ➢ Apply Editing & formatting on text.
- ➢ Save a document & Open an existing document.
- ➢ Work on Page setup (Set the Margins & Paper)
- ➢ Use the Spelling& Grammar Check
- ➢ Set Paragraph Alignment
- ➢ Insert Page numbers, Symbols, Text box & Picture in the document
- ➢ Use the different Format menu drop down commands (Drop Cap, Change Case, Bullet & Numbering and Border & Shading)
- ➢ Insert the 'Table and it's Editing
- ➢ Print the document
- ➢ Save a document file as PDF format

3.1 - INTRODUCTION TO MICROSOFT OFFICE

MS. Office is one of the most popular application software. It is a complete office suite with various software programs like MS Word, MS Excel, MS. Power Point etc. It is developed by Microsoft Corporation. In latest MS. Office versions, new user interface is introduced which has replaced the old menus and toolbars of office 2003 and old versions. In new versions Ribbons and Office button is introduced. Word processing is the process of creating text documents. It is used to create, edit, format text and also used to add graphics in the document. In order to perform word processing, a software is required which is known as word processor. A word processor is software which is used to create, edit and print documents. Word processor provides facility to write text, store it, modify it by using various commands and print the document as well. There is a number of word processing software available in market. Some of them are MS Word, Open Office writer, Word Perfect and Google Drive document. But most commonly used word processing software is Microsoft Word.

3.2 - INTRODUCTION TO MS WORD & ITS SCREEN

MS WORD

Microsoft Word is one of the most popular software programs in the world, used by millions of the people around the world. There are various features to create, read and edit documents. Most of the features are not used by users because all of them are not necessary for every user. We will use some basic features of MS Word. It has many features, some of them are discussed under:

- Easy Typing and easy to use
- Adding, removing and Copying text
- Text formatting
- Bullets and numbering
- Header and footer
- Spelling and grammar check
- Inserting pictures
- Preview facility.
- Creating tables and many more features.

SCREEN INTRODUCTION OF MS WORD

Microsoft introduces a new look screen environment in MS Word that offers a more efficient and straight forward approach. What's new in Word is shown in **figure 3.2** and outlined below.
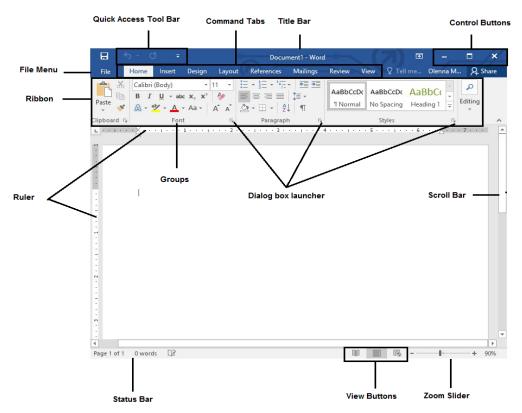

Figure 3.2- MS Word Screen Layout

1. **File Menu:** Provides access to menu commands in Word. All commonly used features such as New, Open, Save, Print and Recent Documents are available under this button.

2. **Ribbon:** The Ribbon replaces the menus and toolbars in previous versions. The Ribbon exposes most of the features that were hidden in File menus. The Ribbon makes it easier to see and find commands to format your document.

3. **Quick Access Toolbar:** A customizable toolbar at the top of an active document. By default, the Quick Access Toolbar displays the Save, Undo, and Repeat buttons and is used for easy access to frequently used commands. To customize this toolbar, click on the dropdown arrow and select the commands you want to add.

4. **Title Bar:** A horizontal bar at the top of an active document. This bar displays the name of the document and application.

5. **Command Tabs:** An area on the Ribbon that contains buttons that are organized in groups. The default tabs are Home, Insert, Page Layout, Reference, Mailings, Review and View.

6. **Window controls:** are used to change the size of a window, or to close it.

7. **Groups:** A Group of buttons on a tab that is exposed and easily accessible. These buttons were formally embedded in menus on the Menu Bar.

8. **Dialog Box Launcher:** A button that launches a dialog box containing options for refining a command.

9. **Status Bar:** A horizontal bar at the bottom of an active window that gives details about the active document.

10. **View Toolbar:** A toolbar that enables, adjusts, and displays different views of a document's content.

11. **Zoom Slider:** A button that magnifies or reduces the contents in the document window.

12. **Document Area:** The white space framed between rulers and the scroll bars looking like a blank sheet of paper. This is the area where you type the text of the document.

13. **The Cursor:** The blinking vertical line in the document area is called cursor or insertion point. The typed characters appear at its location.

14. **Ruler:** The ruler is a measurement tool used with MS Word that allows the program's user to align graphics, text, tables, or other elements on a page. When enabled the horizontal ruler appears at the top of the document, and the vertical ruler is on the left-side of the document.

15. **Help Button:** Click the help button to open the help window for the MS Word program.

16. **Scroll Bar:** Scrollbar is used to display different portions of a document in the document windows. There are two types of scrollbar, horizontal scrollbar appears on bottom of the document window and vertical scrollbar appears in the left side of the document window.

3.3 – CREATION OF NEW DOCUMENT

You can create new documents by using the menu option with keyboard or mouse and by using shortcut key.

CREATING A NEW DOCUMENT USING KEYBOARD

Just follows these steps to create new document using keyboard

- Press **Alt + F** to open **File Menu**. From the menu select **New** command and press **Enter.** The New Document dialog box will appear (**Figure 3.3**).

- Select Blank document under the **Blank and recent** section. It will be highlighted by default.

- Press **Enter** to create new document.

    OR

    Another method is as under:

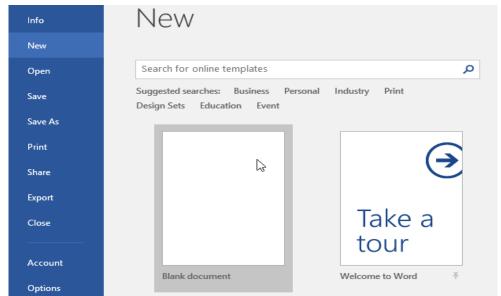- Press **Ctrl + N** keys from keyboard to create new blank document rapidly.

Figure 3.3 – New Document Creation Options

CREATING A NEW DOCUMENT USING MOUSE

- Click the **File Menu** to open the menu. Click **New** command the **New Document** dialog box will appear.

- Click to select the Blank document under the **Blank and recent** section then click on **Create** button to create new document.

    OR

- Click the **New** tool on **Quick Access Toolbar**. The new blank document will create instantly.

3.4 - EDITING & FORMATTING OF TEXT

3.4.1 - EDITING OF TEXT

The great feature of word processors is that you can go back and edit your document as much as you like, before printing it out.

To edit your document, you need to be able to do two things.

- First, you need to identify and select the text you want to change.
- Second, you need to make your change. Broadly, there are four kinds of change you can make to a document
  1. Add text
  2. Remove text
  3. Copy text
  4. Move text

3.4.2 TEXT SELECTION METHODS FOR EDITING

Text selection makes sure to change the specific part of text. There are two ways to select your text either by using keyboard and mouse.

TEXT SELECTION USING KEYBOARD

1. Press [**Shift**] + [**Arrow keys**] to select text toward left, right, up or down.
2. Press [**Shift**] + [**Home/End**] to select the beginning/end of the current line.
3. Press [**Ctrl**] + [**Shift**] + [**Home/End**] to select the beginning/end of the document.
4. Press [**Ctrl**] + [**A**] to select whole document.

TEXT SELECTION USING MOUSE

1. Click where you want to start selecting text, press the left mouse button, and **Drag** across the text, then release the mouse button where you want to end.
2. Once to put the cursor next to a letter; Twice (**double-click**) to select the **word**; Three times (**triple-click**) to select the **paragraph.**
3. To select a **single line**, move your mouse over to the left margin of your text and click

4. To **Select Whole Document** Go to **Home** ribbons, click the down arrow next to the word **Select**, and then click **Select All** (**figure 3.4.2**)
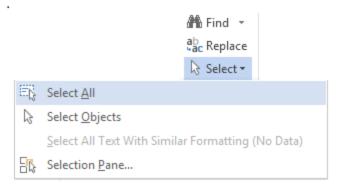

Figure 3.4.2 – Select All Text

3.4.3 PROCEDURE TO ADD & REMOVE TEXT

Adding Text:

One of the best things about word processing is that it's so easy to add something to your text.

1. Click the point to bring cursor where you'd like to add to your text.
2. Type the new text.
3. The line breaks will automatically adjust themselves to accommodate the addition to your text.

Removing Text:

In Word there are two ways that you can delete your text, character by character or delete selected text.
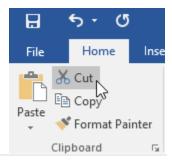
1. Use [**BACKSPACE**] key to delete characters to the left of the cursor.
2. Use [**DEL**] key to delete characters ahead of the cursor.
3. **OR** select the text that you want to delete and press [**DEL**] key

3.4.4 PROCEDURE TO USE THE CLIPBOARD

Cutting, copying, and pasting are some of the most practical features of a word processor, here are examples to use clipboard. **Figure 3.4.4** shows the clipboard ribbon.

CUTTING AND PASTING PROCEDURE

1. Select the relevant text.
2. Use [**Ctrl**] + [**X**] shortcut key or click the **Cut** button in the Home ribbon (clipboard group) – its icon is a pair of scissors.

3. Where did the selected text go? It's been moved to the **Clipboard,** an (invisible) storage area.

4. Place the cursor at the point where you'd like to add the text.

Figure 3.4.4 - Clipboard

5. Now use [**Ctrl**] + [**V**] or click the **Paste** button in Clipboard group.

COPYING AND PASTING PROCEDURE:

1. Select the relevant text.

2. Use [**Ctrl**] + [**C**] shortcut key or click the **Copy** button in the Home ribbon

3. The text been copied to clipboard.

4. Place the cursor at the point where you'd like to copy the text.

5. Now use [**Ctrl**] + [**V**] or click the **Paste** button in Clipboard group.

3.4.5 PROCEDURE FOR UNDO, REDO & REPEAT

(A) THE UNDO COMMAND

This command undoes previous actions allowing you to recover from mistakes as though they never happened. Follow these actions:

Procedure:

1. Click the **Undo** button on the Quick Access Toolbar

OR

2. Press [**Ctrl**] + [**Z**] keyboard shortcut

(B) TO REDO COMMAND:

The Redo command will redo a previously undone action.

Procedure:

1. Click the Redo button on the Quick Access Toolbar

OR

2. Press [**Ctrl**] + [**Y**] keyboard shortcut

(C) REPEAT AN ACTION

The Repeat command will repeat the last action you carried out. This can greatly speed up the completion of certain tasks.

Procedure:

1. Click the Repeat button on the Quick Access Toolbar

OR

2. Press [**F4**] keyboard shortcut

3.4.6 - FORMATTING OF TEXT

In Microsoft Word formatting can be applied to make the document more presentable and interesting. Format means the way a document looks or appears. When we format the text its means we actually change the default formatting into our desired formatting.

We can change the font, font style, font color and font size of the text. We can also define the format of paragraphs in a document. We can make lists by using bullets and numbering. Microsoft Word has various formatting options. Before we apply any format to the text, we need to select first the section or part of text that we wish to change.

FORMATTING USING FONT

1. Select the text by keyboard or mouse

2. Select the **Home tab**

3. From the Font panel, select the font, font style, and font size and font color according to your requirement. The **screenshot** below displays the different font formatting options.
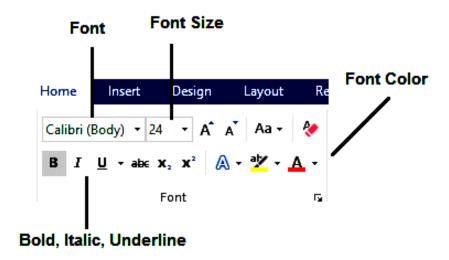

Figure 3.4.6 – Formatting Using Font Panel

Different font tools are described below in table

Formatting Options	Description
Font	Changes the font of the selected text to the font name specified as Times New Roman, Arial, Calibri etc
Font Size	Changes the font size of the selected text to the size specified.
Bold	Makes the selected text **Bold.**
Italics	Applies *Italic* formatting to the selected text.
Underline	Underlines the selected text.
Font Color	Formats the selected text with the color chosen.

Table 3.4.6 – Formatting Using Font Panel

USING KEYBOARD SHORTCUTS

1. Ctrl + B   for bold   **Example**
2. Ctrl + I   for Italic   *Example*
3. Ctrl + [to decrease the font size   Example
4. Ctrl +]   to increase the font size   Example
5. Ctrl + U   for underline   Example

3.5 - SAVING AND OPENING A DOCUMENT

3.5.1 SAVING FILE

WHY SAVING FILES?

Files are necessary to save permanently on secondary storage device for future use. You can save files to the hard disk located inside your computer, a floppy disk, an external hard drive, a net-work storage drive, or a portable storage disk, such as a USB flash drive.

FILE SAVING METHODS:

SAVING A DOCUMENT USING KEYBOARD

- Press [**Ctrl**] + [**S**] keyboard shortcut

  OR

- Press **Alt + F** to open **File menu** then select **Save or Save As** command and press ENTER

Note:

- Use **Save** to save a document for the first time or to save changes.

- Use **Save As** to also save a document for the first time or to save a previously saved document with different name and in a different location.

Saving a Document: Mouse Option

- Click the File Menu   →**Save or Save As**   OR
- Click the **File** icon on the Quick Access Toolbar

If you are saving the file for the first time, the Save As pane will appear in backstage view.

Now choose where to save the file and give it a file name. Click Browse to select a location on your computer. Alternatively, you can click One Drive to save the file to your One Drive.

Figure 3.5.1 (a)– File Saving

By doing above actions the Save As dialog box will appear as shown in **figure 3.5.1 (b)**
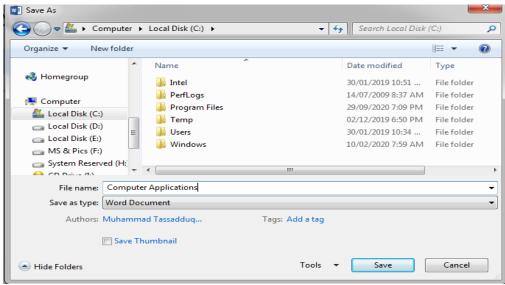

Figure 3.5.1 (b) – File Saving Dialog Box

Save As Dialog Box Entries

- From the **Save in** pull-down list, select the appropriate location (drive and folder name) where you want to save your file for future use. **My Documents** is the default folder to manage user's documents.
- In the **File name** text box, type a meaningful file-name like "Computer application"
- From the **Save as type** pull-down menu, select the type of file but this is **optional**
- Press Enter or Click on **SAVE button.** Your document will be saved.

3.5.2 OPENING AN EXISTING DOCUMENT

Once you have created and saved a document, you may need to retrieve it from your storage medium. For example, you might want to revise the document or reprint it. To grab your word file from secondary storage media, do following.

OPENING A DOCUMENT BY KEYBOARD

- Press [**Ctrl**] + [**O**] keyboard shortcut to get OPEN dialog box
  OR
- Press **Alt** + **F** to open File menu then select **Open** command and press ENTER

OPENING A DOCUMENT BY MOUSE

- Click the **File Menu** and then click **Open** Command   (**OR**)
- Click the **Open** icon on the Quick Access Toolbar
- Navigate to **Backstage view**, then click **Open**.

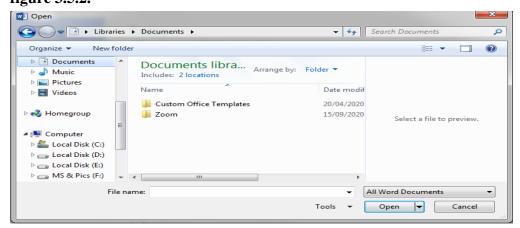By doing above actions the **Open** dialog box appears as shown in **figure 3.5.2.**

Figure 3.5.2 – File Opening Dialog Box

As the dialog box appears, provide **location** (destination drive and folder) of your file, **file name** which you want to open and press **ENTER** or click the **Open** button to open your desired file.

3.6 - PAGE SETUP (SET THE MARGINS & PAPER SIZE)

You can use the **Page Setup** group of commands on the **Page Layout** tab, shown in **Figure 3.6** , to change how you setup a document's pages. Open the Page Setup dialog box for access to more options by clicking on small arrow.
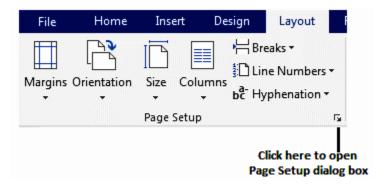

Figure 3.6 – Page Setup Options

3.6.1 – SETTING MARGINS

Margins are the white space that borders the text on the edges of a page. MS Word sets default margins for new documents, but you can change them to fit your document requirements.

To set the page margins do following

1. On the **Page Layout** tab, in the **Page Setup** group, click **Margins.**

2. Click the margin type that you want. For the most common margin width, click **Normal**.

3. When you click the margin type that you want, your entire document automatically changes to the margin type that you have selected.

4. You can also specify your own margin settings. Click **Margins**, click **Custom Margins**, and then in the **Top**, **Bottom**, **Left**, and **Right** boxes, enter new values for the margins.

3.6.2 – PAPER SETTING

Paper size is important aspect to consider when you work on your documents, designs and brochures etc. The defualt paper size is **Letter 8.5 × 11** inches. If you will be printing on a different size paper, the Paper size button in the Page Setup group makes it convenient to change the settings.

To set or select the paper size do following

1. On the **Page Layout** tab, in the **Page Setup** group, click **Size**.

2. For the most common paper size, click **Letter**.

Click on **More Paper Sizes** to set custom paper size.

3.7 – SPELLING AND GRAMMAR CHECK

MS Word automatically checks spellings and grammar as you type. It is done by comparing each word to Word's built in dictionary and grammar rules. Word flags words that might be misspelled with a wavy red underline and wavy green underline for grammatical error.

CORRECTION PROCEDURE

You can also right-click a word that has red or green wavy line and see a shortcut menu with suggestions for correction as shown in **figure 3.7 (a)** below:
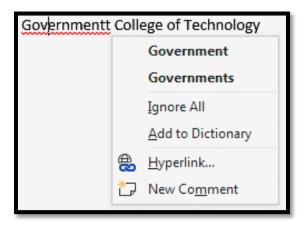

Figure 3.7 (a) – Spelling and Grammar Check Facility

You can check all spellings and grammar in a document with a single action using the **Spellings & Grammar** button in the **Proofing** group on the **Review tab** or by pressing keyboard shortcut **F7**.

When a possible error is detected, Word displays the Spelling and Grammar on Task Pan to show you error and suggest a correction. Use the **Change** button in the Spellings and Grammar dialog box to correct an error, or use the **Change All** button to correct all instances of the same error. You can ignore the action on any errored word by using **Ignore** or **Ignore All** options. By clicking the **Add** button, you can add your word to dictionary.
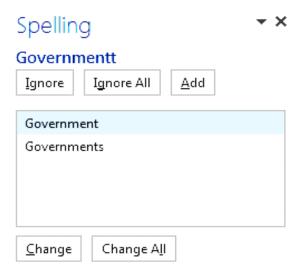
Figure 3.7 (b) – Spelling and Grammar Check

3.8 - PARAGRAPH ALIGNMENT

Text alignment is a word processing software feature that allows users to horizontally align text on a document. Paragraphs are aligned relative to the left and right margins in a document.

It enables the composition of a text document using different text positioning on the whole or selected part of a page. By default, text is **left-aligned**. Different alignments can be used by alignment buttons in the Paragraph group. You can **right-align**, **center-align** and **justify** a paragraph as well.

The paragraph alignment commands can be accessed by selecting the **Paragraph Group** in **Home Tab** as shown below in **figure 3.8.**

Figure 3.8 – Paragraph Alignment

Different paragraph alignment tools with their shortcut keys are described below in table.

Alignment Option	Shortcut Key	Description
Align Left	Ctrl + L	The default margin placement for normal text that is aligned on the left.
Align Right	Ctrl + R	Text is aligned at the right margin and text lines show a ragged left edge.
Center	Ctrl + E	The text is centered between the left and right margins of the page (with both margins having irregular edges).
Justify	Ctrl + J	The text is paced irregularly across each line so both the left and the right margins are straight edged and uniform

3.9 - INSERTING PAGE NUMBERS, SYMBOLS, TEXT BOX & PICTURE IN THE DOCUMENT

3.9.1 - ADDING PAGE NUMBERS

- On the **Insert** tab, in the **Header & Footer** group, click **Page Number**(**figure 3.9.1**)
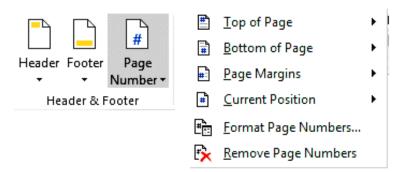

Figure 3.9.1 – Inserting Page Numbers

- Click **Top of Page**, **Bottom of Page**, or **Page Margins**, depending on where you want page numbers to appear in your document
- Choose a page number design from the gallery of designs.

3.9.2 – ADDING SYMBOLS

1. Click where you want to insert the symbol.

2. On the **Insert** tab, in the **Symbols** group, click **Symbol**.

3. Do one of the following:

   o Click the symbol that you want in the drop-down list.

   o If the symbol that you want to insert is not in the list, click **More Symbols**. In the **Font** box, click the font that you want, click the symbol that you want to insert, and then click **Insert**.

3.9.3 – ADDING TEXT BOX

Figure 3.9.2 – Inserting Symbols

Text boxes are block of text in your document that can place anywhere in the document. To insert text box, follow these steps:

1. Click on the **Insert** tab, in the **Text** group, click **Text Box** then click **Draw Text Box**.

2. Click in the document, and then drag to draw the text box the size that you want.

3. To add text to a text box, click inside the text box and then type or paste text.

NOTE:

- To position the text box, click it, and then when the pointer becomes a ✛, drag the text box to a new location.
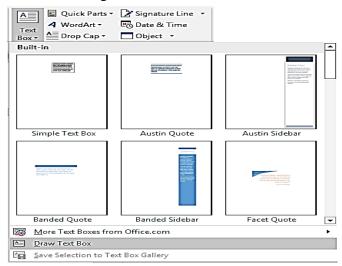

Figure 3.9.3 – Inserting Textbox

3.9.4 – ADDING PICTURE

You can make Word documents more colorful and readable by adding pictures within text. It's great fun to add life to your pages when you add

different graphics by using pictures, clip art, drawings, and more. To insert pictures, do following

1. Click the **Insert** tab, and then click the **Picture** tool in the **Illustrations** group.

Figure 3.9.4 (a) – Inserting Picture

2. The Insert Picture Window (below) appears. Now locate a saved picture on a device or in your file space. Select the picture you require by clicking on it and then click on Insert.
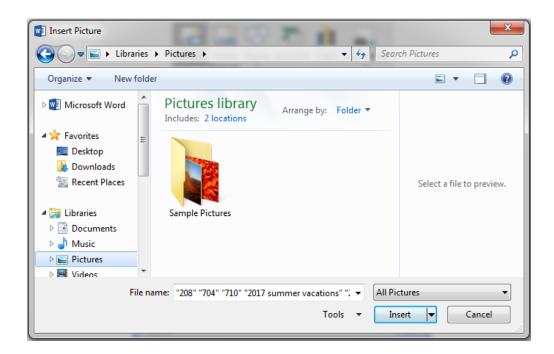

Figure 3.9.4 (b) – Insert Picture Dialog Box

3.10 - USE THE DIFFERENT FORMATTING COMMANDS

3.10.1 - DROP CAP

A drop cap refers to an initial letter in a paragraph that has been formatted with large font size. Word also places the letter inside its own frame, which enables the letter to display either in the top left corner of the paragraph or in the margin.

To apply the drop cap, follow these steps:

1. Click inside the paragraph where you want the drop cap to display

2. Select the **Insert Tab** then select Drop Cap command from **Text Group** as shown in **Figure 3.10.1**.

3. Click the small arrow to open Drop Cap options (None, Dropped and In Margin)
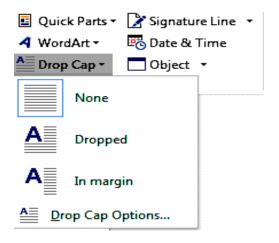
4. Click to apply either Dropped or In Margin

Figure 3.10.1 – Drop Cap

3.10.2 – CHANGE CASE

Change Case are used to change text case from upper to lower, lower to upper, and everything in between. For example, you want a sentence you just typed in your Word document to be a title with every word capitalized.

Follow these steps:

1. Select the sentence.
2. Under the **Home** tab, click the **Change Case** command in the Font group.
3. Select Capitalize Each Word.
4. Click the small arrow of Change Case Tool to select from different categories

OR

1. Select the sentence or text

Figure 3.10.2 - Change Case

2. Press **SHIFT + F3** shortcut key (Every time you will use this shortcut key, replaces your text in different case)

3.10.3 – BULLETS & NUMBERING

Bullets and Numbering are used to make lists. **Numbered lists** are used to show a sequence of information. A **bulleted list** might be better if there is no priority or sequence among the list items. Lists can be single-level or multilevel.

Create a Bulleted List

1. Click where you want to create a bulleted list.
2. Click the **Home** tab.
3. Click the **Bullets** button arrow, and then select a bullet style.
4. Type the first item in your list, and then press Enter.
5. Type the next item in your list, and then press Enter.
6. Click the **Bullets** button, or press Enter again to end the list.

Create a Numbered List

1. Click where you want to create a numbered list.
2. Click the **Home** tab.
3. Click the **Numbering** button arrow, and then select a numbering style.
4. Type the first item in your list, and then press Enter.
5. Type the next item in your list, and then press Enter.
6. Click the **Numbering** button, or press Enter again to end the list.

3.10.4 – BORDER & SHADING

Borders are lines that you can add to the top, bottom, left, or right of paragraph. Borders make paragraphs stand out and are great for emphasizing headings. Using **Shading,** selected text's background can be filled with different color and patterns.

Follow these steps to apply borders and shading

1. From the **Ribbon**, select the **Home** tab, within the **Paragraph** section, the **Shading** and **Border** options are available as shown in **Figure**.

2. Select the paragraph(s) to which you want to add shading and/or border.

3. To add border, click **BORDERS** then select the desired border option from list.

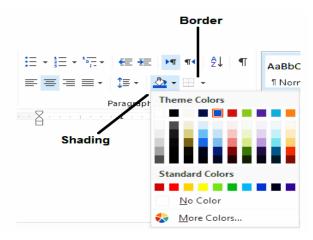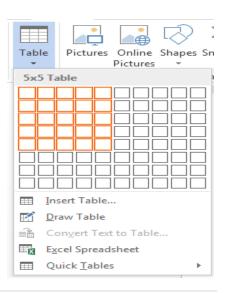4. To add shading, click **SHADING** then select the desired shading option from list.

Figure 3.10.4 – Border & Shading

3.11 - TABLE INSERTING AND ITSEDITING

3.11.1 – PROCEDURE TO CREATE TABLE

A table is a means of arranging data in rows and columns. The intersection of rows and columns forms cells. A cell is the unit of table to enter data. It's often easier to read or present information in table format than in paragraph format. Using MS Word's table, you can insert text and pictures etc. into the table's cells.

There are two procedures to insert table, by selecting rows and columns and using Insert Table dialog box.

1. Rows and Columns Selection Method

1. On the **Insert** ribbon, Click the **Table** button.
2. **Drag** your mouse across the white boxes.
3. They will **highlight** across and down.
4. The **top bar** will tell you **how many rows** and **columns** you are creating.
5. Click the mouse when you have reached your desired size.

2. Using Dialog Box Method

1. On the **Insert** ribbon, Click the **Table** button
2. Select **Insert Table** option, Insert Table dialog will open
3. Provide Number of Columns and Number of Rows in dialog box.
4. You can set AutoFit behavior of table by selecting one choice (optional)
5. Click on **OK** button to create your desired table

3.11.2 – PROCEDURE TO MODIFY A TABLE

To Insert a Row:

1. Position the cursor in the table where you want to insert a row
2. Select the **Layout** tab on the Ribbon
3. Click either the **Insert Row Above** or the **Insert Row Below** button in the **Rows & Columns** group

To Insert a Column

1. Position the cursor in the table where you want to insert a column
2. Select the **Layout** tab on the Ribbon
3. Click either the **Insert Columns to Left** button or the **Insert Columns to Right** button in the **Rows & Columns** group

To Delete a Row

1. Position your cursor in the row that you would like to delete
2. Select the **Layout** tab on the Ribbon
3. Click the **Delete** button in the **Rows & Column** group
4. Select **Delete Rows**

To Delete a Column

1. Position your cursor in the column that you would like to delete
2. Select the **Layout** tab on the Ribbon
3. Click the **Delete** button in the **Rows & Column** group

4. Select **Delete Columns**

3.12 - PRINTING THE DOCUMENT

After completion, a document can be printed as well. For printing a document following method is used.
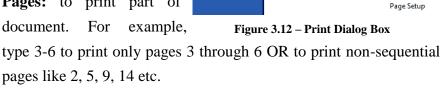
1. Click the **File Menu** and select the **Print** command from menu **OR** Press **Ctrl + P** keyboard shortcut. The Print dialog box will appear as shown in **figure.**
2. Click the **Name** field to select your preferred printer (if more than 1 printer).
3. In **Page Range** area, select one of following options
    *   **All:** to print all pages in document
    *   **Current Page:** to print only what you see on current screen.
    *   **Pages:** to print part of document. For example, type 3-6 to print only pages 3 through 6 OR to print non-sequential pages like 2, 5, 9, 14 etc.

Figure 3.12 – Print Dialog Box

    *   **Selection:** to print only highlighted text or graphics.

4. Enter the required number of copies in the **Number of Copies** field.

5. If you want to print more than one page per sheet, then select the required number in the **Pages per Sheet** field.

6. Click **OK** to get printouts or hardcopies.

3.13 - SAVING A DOCUMENT FILE AS PDF FORMAT

The Portable Document Format (**PDF**) is a **file** format used to present documents in a manner independent of application software, hardware, and operating systems.

NOTE: The PDF add-in does not come as standard. You have to download and install it from Microsoft website.

To save your file as PDF format, follow these steps:

1. Click the **File Menu** then click on **Save As**, and then click **PDF or XPS**. The dialog box Publish as PDF and XPS will open as shown in **Figure 3.13**.
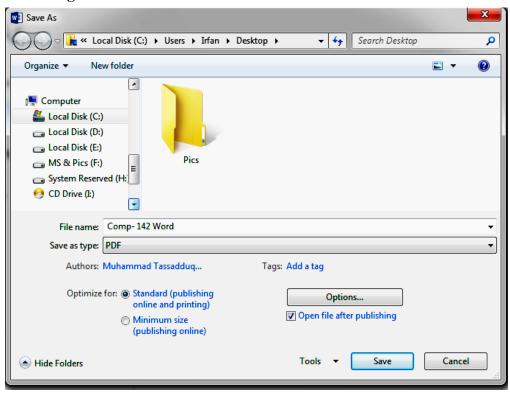

Figure 3.13 – Publish as PDF or XPS Dialog Box

2. Follow all the normal processes to select a save location, file name and file type.

3. Select whether you are publishing to print or web.

4. You can select page range, document content, non-printing information and PDF options by clicking **Options**. Click Ok to accept changes.

5. Click **Save** to complete. This will take some moments.

EXERCISE

Short Questions

1. Define the Microsoft Office.

MS. Office is one of the most popular application software. It is a complete office suite with various software programs like MS Word, MS Excel, MS Power Point etc. It provides different functions which are normally used in Office working.

2. Enlist some MS office applications

1. Microsoft Word
2. Microsoft Access
3. Microsoft Excel
4. Microsoft PowerPoint
5. Microsoft OneNote
6. Microsoft Outlook

3. Define the Word processor.

A word processor is application software that performs various tasks like formatting text, printing text, page setup, composing document etc.

4. Enlist some well-liked word processors.

1. Microsoft Word
2. Word Pro
3. Word Perfect
4. Word Star

5. Define the Microsoft Word.

Microsoft Word is one of the most popular software programs in the world, used by millions of the people around the world. There are various features to create, read and edit documents.

6. What is the File Menu?

The File Menu contained commonly known commands related to file such as New, Open, Save, Close, Print and Recent Documents.

7. Define the Ribbon of MS Word?

The Ribbon replaces the menus and toolbars in previous versions. The Ribbon shows most of the features that were hidden in File menus. The Ribbon makes it easier to see and find commands to format your document.

8. Define the Quick Access Toolbar of MS Word?

A customizable toolbar at the top of an active document. By default, the Quick Access Toolbar displays the Save, Undo, and Repeat commands.

9. Define the Title bar?

The title bar is horizontal bar at the top of an active document. This bar displays the name of the document and application.

10. Define the document area.

The white space framed between rulers and the scroll bars looking like a blank sheet of paper. This is the area where you type the text of the document.

11. Define the cursor.

The blinking vertical line in the document area is called cursor or insertion point. The typed characters appear at its location.

12. Define the ruler.

The ruler is a measurement tool used with MS Word that allows the program's user to align graphics, text, tables, or other elements on a page.

13. Define the scroll bar.

Scrollbar is used to display different portions of a document in the document windows. There are two types of scrollbar, horizontal and vertical.

14. Define the window control buttons.

These three control buttons provide quick and basic functions for manipulating each Window currently visible. The first "dash" button will minimize the window. The middle button will cause the window maximize or will return the window to its original size. The last "X" button will close the window.

15. Define the zoom slider.

The buttons that magnifies or reduces the contents in the document window

16. What is shortcut key to access File Menu?

Alt + F is the keyboard shortcut to access the File Menu.

17. What command is used to create new file in MS Word?

Click on File Menu >> NEW, used to create new file in MS word.

18. What is keyboard shortcut to create new file?

Ctrl + N is keyboard shortcut to create new file.

19. Which file template is mostly used when new word file is created?

The Blank Document template is mostly used when new word file is created.

20. Why documents are necessary to save?

If you want to use documents in future, it is necessary to save them.

21. Which command is used to save a word file?

The SAVE command is used to save a file in MS word.

22. What is difference between SAVE and SAVE As command?

The Save command is normally used to save a document for the first time or to save changes. On the other hand, Save As command is used to save a previously saved document with different name.

23. What is procedure to save file in MS Word?

To save a document follow one of these methods:

Press Ctrl + S from keyboard.

OR

Press Alt + F to open File menu then select Save or Save As command.

OR

Click the Save icon on the Quick Access Toolbar.

A dialog box appears, in which select location where you want to save, then type name of document and Click on SAVE button.

24. Which command is used to open an existing word file?

The OPEN command is used to open an existing word file.

25. Why already saved files opened?

Already saved files can be opened to read, edit or reprint them.

26. What is the procedure to open your word files?

To open already existing document, follow one of these methods:

Press Ctrl + O from keyboard.

OR

Press Alt + F to open File menu then select OPEN command.

OR

Click the OPEN icon on the Quick Access Toolbar.

A dialog box appears, in which select location where your document exists, then select name of document and Click on OPEN button.

27. What is text editing?

Text editing is the ability to change text by adding, deleting and rearranging letters, words, sentences and paragraphs.

28. When text selection is needed?

Text selection is normally used for text formatting.

29. What is shortcut to select whole document?

Ctrl + A is the shortcut to select whole document.

30. What is the method to select text?

By pressing SHIFT and ARROW keys from keyboard you can select text. By dragging the mouse text can be selected by mouse.

31. Which keys are used to erase text character by character?

The BACKSPACE and DELETE keys are used to erase text character by character.

32. Define the clipboard.

A clipboard is a temporary storage for data that the user wants to copy from one place to another. For example, you might want to cut text from one part of a document and paste it in another part or somewhere else. When you will select the text and then cut or copy that text, it stores in clipboard for further use.

33. What is the shortcut key for Cut, copy and paste command?

CTRL + X is the keyboard shortcut for cut command.

CTRL + C is the keyboard shortcut for copy command.

CTRL + V is the keyboard shortcut for paste command.

34. What is the shortcut key for Undo and Redo command?

CTRL + Z is the keyboard shortcut for copy command.

CTRL + Y is the keyboard shortcut for redo command.

35. What is difference between CUT and COPY command?

When we use Cut command, selected data removes from original location. On the other hand, in Copy command data remains present in its actual location.

36. Define the Undo command.

This command undoes previous actions allowing you to recover from mistakes as though they never happened.

37. Define the Redo command.

Redo command is used to revert the effects of the undo command.

38. Define the Repeat command.

The Repeat command is highly versatile, labor-saving feature which repeats the most recent action taken, not including selecting text, scrolling, or repositioning the insertion point. We usually use it to repeat typing or formatting.

39. What is keyboard shortcut for Repeat command?

F4 is keyboard shortcut for Repeat command.

40. Define the text formatting in MS Word?

In Microsoft Word formatting can be applied to make the document more presentable and interesting. Format means the way a document looks or appears. When we format the text its means we actually change the default formatting into our desired formatting.

41. What are keyboard shortcuts for bold, italic and underline?

Bold → CTRL + B

Italic → CTRL + I

Underline → CTRL + U

42. What are keyboard shortcuts for font size to increase and decrease?

CTRL + [to decrease the font size

CTRL +]   to increase the font size

43. What kind of working can be done during text formatting?

During the text formatting, you can change font, font style, font color, font size of the text, text highlighting using bold, italic and underline etc.

44. What kind of paragraph alignment can be applied?

There are four types of paragraph alignment

1. Left Align   3. Center Align
2. Right Align   4. Justify

45. What are keyboard shortcuts for paragraph alignments?

    1. Align Left   →   CTRL + L

    2. Align Right   →   CTRL + R

    3. Centered   →   CTRL + E

    4. Justify   →   CTRL + J

46. Define the Drop Cap.

A drop cap is a large capital letter used as a decorative element at the beginning of a paragraph or section. The size of drop cap is usually two or more lines of regular text. It is used to add an artistic touch in word documents, such as stories and articles.

47. How the drop cap can be inserted?

To apply the drop cap follow these steps

1. Click inside the paragraph where you want the drop cap to display.

2. Select the Insert Tab then select Drop Cap command from Text Group.

3. Click the small arrow to open Drop Cap options (None, Dropped and In Margin)

4. Click to apply either Dropped or In Margin

48. What is the purpose of Change Case?

Change Case are used to change text case from upper to lower, lower to upper, and everything in between.

49. What are change case choices in MS Word?

There are five change case choices as following

1. Sentence Case

2. Lower Case

3. Upper Case

4. Capitalize Each Word

5. Toggle Case

50. Why bullets & numbering are used?

Bullets and Numbering are used to make lists, the numbered lists and the bulleted lists.

51. What is difference between numbered and bulleted lists?

Numbered lists are used to show a sequence of information. A bulleted list might be better if there is no priority or sequence among the list items.

52. Define the Borders & Shading toolbar.

The Borders and Shading toolbar allows you to customize the border. This includes the type, style, color, weight, shading, and background color. Using Shading, background of selected text can be filled with different color and patterns.

53. Define the Spelling and Grammar check feature of MS Word.

Spelling and Grammar check is a decent feature which is used to find spelling and grammar mistakes, and also provide facility to correct them.

54. How the Spellings and Grammar check feature works?

MS Word automatically identifies misspelled words. It also finds grammar errors and underlines them as follows.

- A red underline below spelling errors.
- A green underline below grammar errors.
- A blue line under correctly spelled but misused words.

55. What is shortcut key to access Spelling and Grammar feature?

F7 is the keyboard shortcut to access the Spelling and Grammar feature.

56. Differentiate between Header & Footer.

The header is a section (blank space) that appears in the top margin, while the footer is a section (blank space) that appears in the bottom margin.

57. What is the purpose of using Header & Footer?

Header & Footer generally contains important information such as page numbers, date, time, author name, publisher name, chapter name, book name, and document name etc.

58. How to insert a table?

Following steps are used to insert a table:

- Click on Insert Tab, then click the Table button
- Drag your mouse across the white boxes.
- They will highlight across and down.
- The top bar will tell you how many rows and columns you are creating.
- Click the mouse when you have reached your desired size.

59. How to insert page numbers in a document?

Procedure:

- On the Insert tab, in the Header & Footer group, click Page Number.
- Click Top of Page, Bottom of Page, or Page Margins, depending on where you want page numbers to appear in your document.
- Choose a page number design from the gallery of designs.

60. How to add symbols in a document?

To add symbols do following:

- Click in document area where you want to insert the symbol.
- On the Insert tab, in the Symbols group, click Symbol.
- Click the symbol that you want in the drop-down list.

61. Define the text box.

Text boxes are block of text in your document that can place anywhere in the document.

62. How to insert text box?

Procedure:

- On the Insert tab, in the Text group, click Text Box then click Draw Text Box.
- Click in the document, and then drag to draw the text box.
- To add text to a text box, click inside the text box and then type the text.

63. Define the page setup.

Page setup is used to set the size and layout of the page. It includes everything from the size, margins, page orientation, and quality of print.

64. What are the margins in page setup?

Margins are the white space that borders the text on the edges of a page. MS Word sets default margins for new documents, but you can change them to fit your document requirements.

65. What is page orientation?

Page orientation is the direction in which a document is displayed or printed. There are two types of orientation. These are portrait and landscape.

66. Define the Print Preview.

Print preview is a function provided for displaying a page, document or any other material before it is sent to a printer. Print preview is a useful function to users as it helps them to see how the final printed material will appear.

67. What is keyboard shortcut for print command?

      CTRL + P is the keyboard shortcut for print command.

68. Shortly describe the Page Range options of Print dialog box.

      Here is Page Range options with short description

- All: To print all pages in document

- Current Page: To print only what you see on current screen.

- Pages: To print part of document. For example, type 3-6 to print only pages 3 through 6.

- Selection: To print only highlighted text or graphics.

69. Why we choose the printer name in Print dialog box?

      If more than one printers are attached with the computer or network then Name of preferred printer must be selected.

70. Define the PDF.

      The Portable Document Format (PDF) is a file format used to present documents in a manner independent of application software, hardware, & OS.

71. Write the procedure to make PDF file in MS Word

      Click the File Menu → Save As → PDF or XPS → the dialog box appears

In the dialog box provide following information:

- File name

- Location to save

- File Type (as PDF)

- Click Publish

E X E R C I S E
M u l t i p l e   C h o i c e s
Q u e s t i o n s

1. Microsoft Office is an office _____ of business applications.

   a. suite   b. building   c. component   d. none of these

2. Microsoft Word is a _____ Program.

   a. Spreadsheet   b. Word Processing   c. Presentation   d. database

3. What is included in Microsoft Office?

   a. Word   b. Excel   c. PowerPoint   d. all of these

4. Example of Word Processor program _____.

   a. MS Word   b. Word Pro   c. Word Perfect   d. all of above

5. Microsoft Word software is type of _____ software.

   a. system   b. application   c. firmware   d. none of these

6. Microsoft Word is used to _____ the text in a document.

   a. write/type   b. edit   c. format   d. all of these

7. The Ribbon in MS Word contains _____.

   a. scattered commands   b. groups of commands

   c. toolbars   d. none of these

8. The bar at the top of MS Word screen which shows software name and file name is _____.

   a. Title bar   b. Status bar   c. Ruler   d. Scroll bar

9. The toolbar at the top that contains frequently used commands such as Save, Undo, Redo etc is _____.

   a. Title bar   b. Quick Access Toolbar

   c. Status bar   d. Scroll bar

10. The horizontal bar at the bottom that provides page numbers, total written words etc about the active document is _____.

   a. Quick Access Toolbar   b. Menu bar

   c. Status bar   d. toolbar

11. A button that magnifies or reduces the contents in the document window is _____.

   a. zoom slider   b. magnifier

c. view bar   d. none of above

12. The document can be zoomed maximum up to _____.

  a. 100 %   b. 200 %   c. 400 %   d. 500 %

13. The white space framed between rulers and scroll bars looks like a blank sheet is _____.

  a. White space   b. document area

  c. application area   d. page area

14. The blinking vertical line in the document area, where the typed character appears is called _____.

  a. line   b. I beam

  c. cursor   d. pointer

15. The _____ is a measurement tool for the page in MS Word and allows the user to align graphics, text, tables.

  a. Insertion point   b. Ruler bar   c. Scroll bar

  d. none of above

16. The _____ is used to display different portions of a document.

  a. Scroll bar   b. Ruler bar   c. Status bar

  d. none of above

17. The keyboard shortcut to open the help window for MS Word program _____.

  a. F1   b. F2   c. F7   d. F5

18. A toolbar that displays, and enables different views of a document's content.

  a. Quick Access Toolbar   b. View Toolbar

  c. Window control bar   d. none of these

19. The _____ key is used to open File menu.

  a. Ctrl + F   b. window   c. Alt + F

  d. Shift + F

20. Which option in Office menu is used to close a file in MS Word?

  a. New   b. Quit   c. Close   d. Exit

21. The _____ shortcut key is used to create new file in MS Word.

  a. Ctrl + O   b. Ctrl + N   c. Ctrl + S   d. Ctrl + M

22. The _____ shortcut key is used to save a file in MS Word.

  a. Ctrl + O   b. Ctrl + N   c. Ctrl + S   d. Ctrl + M

23. To save previously saved document with different name, different location and different type the _____ command is used.

    a. Save As   b. Save   c. Save To   d. Save With

24. The default extension for saving of MS Word file is _____.

    a. docx   b. txt   c. word   d. none of these

25. We specify the save details of our file in the _____ dialog box.

    a. Save   b. Save As   c. Save To   d. Save In

26. The _____ shortcut key is used to open an existing file in MS Word.

    a. Ctrl + O   b. Ctrl + P

    c. Ctrl + S   d. Ctrl + M

27. Editing of text in a document means _____.

    a. adding text   b. removing text

    c. copying & moving text   d. all of these

28. Selecting text means, selecting?

    a. A word   b. A sentence   c. Whole document

    d. all of these

29. To select a portion of text in a document by keyboard the_____ keys used.

    a. Shift + S   b. Shift + Arrow   c. Ctrl + Arrow

    d. Ctrl + A

30. To select the whole Word document the _____ shortcut is used.

    a. Ctrl + A   b. Shift + A   c. Ctrl + End

    d. Ctrl + Home

31. The most widely used way to select the text using mouse is _____.

    a. Click   b. Double Click   c. Dragging

    d. none of above

32. The _____ key is used to remove characters to the left of the cursor.

    a. Delete   b. Backspace   c. Ctrl + Delete

    d. none of above

33. The _____ key is used to remove characters to the right of the cursor.

    a. Delete   b. Backspace   c. Ctrl + Delete

    d. none of these

34. A _____ is a temporary storage area for data that the user wants to cut or copy from one place to another.

    a. clipboard   b. master board   c. mother board

    d. circuit board

35. The keyboard shortcut for Cut command is _____.

    a. Ctrl + C   b. Ctrl + V   c. Ctrl + X

    d. Ctrl + P

36. The keyboard shortcut for Copy command is _____.

    a. Ctrl + C   b. Ctrl + V   c. Ctrl + X

    d. Ctrl + O

37. The keyboard shortcut for Paste command is _____.

    a. Ctrl + C   b. Ctrl + V   c. Ctrl + X   d. Ctrl + P

38. Which operation you will perform if you need to move a block of text?

    a. Copy & Paste   b. Cut & Paste   c. Move & Paste

    d. None of above

39. The keyboard shortcut for Undo command is _____.

    a. Ctrl + C   b. Ctrl + V   c. Ctrl + X   d. Ctrl + Z

40. The keyboard shortcut for Redo command is _____.

    a. Ctrl + C   b. Ctrl + Y   c. Ctrl + X   d. Ctrl + Z

41. The keyboard shortcut for Repeat command is _____.

    a. F4   b. Ctrl + Y   c. F8   d. F5

42. _____ means the appearance of text in MS Word.

    a. editing   b. formatting

    c. selecting   d. none of these

43. What is the default font used in MS Word document?

    a. Times New Roman   b. Arial   c. Calibri   d. txt

44. The keyboard shortcut for Bold command is _____.

    a. Ctrl + B   b. Ctrl + Y   c. Ctrl + O   d. Ctrl + I

45. The keyboard shortcut to make text Italic is _____.

    a. Ctrl + B   b. Ctrl + Y   c. Ctrl + O   d. Ctrl + I

46. The keyboard shortcut to make text Underline is _____.

    a. Ctrl + B   b. Ctrl + U   c. Ctrl + O   d. Ctrl + I

47. The keyboard shortcut for increasing the font size is _____.

    a. Ctrl +]   b. Ctrl +)   c. Ctrl + {   d. Ctrl + [

48. The keyboard shortcut for decreasing the font size is _____.

    a. Ctrl +]   b. Ctrl +)   c. Ctrl + {   d. Ctrl + [

49. What is the smallest and largest font size available in Font Size tool?

    a. 8 and 72   b. 10 and 72

    c. 8 and 48   d. 12 and 92

50. Ctrl + B shortcut is used to _____ the text.

    a. bold   b. select   c. Italic   d. border

51. In MS-Word header & footer will display by default.

    a. on first page   b. every page   c. even page

    d. none of above

52. Ctrl + L shortcut is used for _____.

    a. Right Align   b. Left Align   c. Center Align

    d. Justify

53. Ctrl + R shortcut is used for _____.

    a. Right Align   b. Left Align   c. Center Align

    d. Justify

54. Ctrl + E shortcut is used for _____.

    a. Right Align   b. Left Align   c. Center Align

    d. Justify

55. Ctrl + J shortcut is used for _____.

    a. Right Align   b. Left Align   c. Center Align

    d. Justify

56. By default text is _____ aligned.

    a. right   b. left   c. justify   d. centered

57. Which items are places at the end of a document?

    a. Footer   b. End Note

    c. Foot Note   d. Header

58. The page number can be inserted at _____.

    a. Header   b. Footer   c. Both a and b

    d. None of above

59. To make the lists the _____ are used.

    a. Bullets   b. Numbers   c. Both a and b

    d. None of these

60. Bullets contain the _____.

    a. digits   b. symbols   c. text   d. None

61. An initial letter in a paragraph that has been formatted with large font size is _____.

    a. Upper Cap   b. Drop Cap   c. Fall Cap   d. Smart Cap

62. What is the default number of lines to drop for drop cap?

    a. 3   b. 10   c. 15   d. 20

63. What is the maximum number of lines you can set for a drop cap?

    a. 3   b. 10   c. 15   d. 20

64. The shortcut key for single line space is _____.

    a. Ctrl + 1   b. Ctrl + 2   c. Ctrl + 3

    d. Ctrl + 5

65. The shortcut key for double line space is _____.

    a. Ctrl + 1   b. Ctrl + 2   c. Ctrl + 3

    d. Ctrl + 5

66. The shortcut key for 1.5 line space is _____.

    a. Ctrl + 1   b. Ctrl + 2   c. Ctrl + 3

    d. Ctrl + 5

67. _____ are used to make lists.

    a. Borders & Shading   b. Bullets & Numbering   c. Copy & Paste

    d. Find & Replace

68. _____ lists are used to show a sequence of information.

    a. Numbered   b. Sequential   c. Bulleted

    d. Random

69. _____ lists are used to show information when there is no priority among the list items.

    a. Numbered   b. Sequential   c. Bulleted

    d. Random

70. Borders can be applied to _____.

    a. words   b. sentences   c. paragraphs

    d. all of above

71. MS Word underline the words that might be misspelled with a _____ underline.

    a. yellow   b. orange   c. red   d. green

72. MS Word underline the words with a wavy _____ underline for grammatical error.

    a. yellow   b. orange   c. red   d. green

73. Which shortcut key is used to spell check in MS Word?

    a. F1   b. F5   c. F7   d. F9

74. In a table data is arranged in _____.

    a. rows   b. columns   c. both a & b   d. none of above

75. A _____ is unit of table to enter data.

    a. cell   b. row   c. column   d. none of these

76. The minimum number of rows and columns a word table can have is ____

    a. zero   b. 2 rows and 1 column

    c. 2 rows and 2 column   d. 1 row and 1 column

77. _____ is an on-screen rectangular frame into which you type text and place it anywhere in the word document.

    a. picture box   b. text box   c. table   d. none of these

78. _____ are the white space that borders the text on the edges of a page.

    a. margins   b. orientaion   c. page size   d. none of these

79. Which of the following is not a type of page margin?

   a. right   b. center   c. left   d. top

80. Portrait and Landscape are _____.

   a. Paper size   b. Page Orientation

   c. Page Layout   d. page margins

81. Default page orientation of MS Word is _____.

   a. portrait   b. landscape

   c. wide   d. all of these

82. Print preview feature is used _____ printing.

   a. after   b. behind   c. before

   d. none of these

83. The shortcut key for print command is _____.

   a. Ctrl + T   b. Ctrl + P   c. Ctrl + Z   d. Ctrl + Q

84. PDF stands for _____.

   a. Program Data File   b. Portable document Format

   c. Personal Data File   d. None of above

85. The _____is a file format used to present documents in a manner independent of application software, hardware, and operating systems.

   a. PDF   b. DWG   c. JPG   d. DOCX

86. Which of the following shortcut key is used to display the help about MS Word?

   a. F1   b. F2   c. F5   d. F7

A N S W E R S K E Y

1	a	23	a	45	d	67	b
2	b	24	a	46	b	68	a
3	d	25	b	47	a	69	c
4	d	26	a	48	d	70	d
5	b	27	d	49	a	71	c
6	d	28	d	50	a	72	d
7	b	29	b	51	b	73	c

8	a	30	a	52	b	74	c
9	b	31	c	53	a	75	a
10	c	32	b	54	c	76	d
11	a	33	a	55	d	77	b
12	d	34	a	56	b	78	a
13	b	35	c	57	b	79	b
14	c	36	a	58	c	80	b
15	b	37	b	59	c	81	a
16	a	38	b	60	b	82	c
17	A	39	d	61	b	83	b
18	b	40	b	62	a	84	b
19	c	41	a	63	b	85	a
20	c	42	b	64	a	86	a
21	b	43	c	65	b		
22	c	44	a	66	d		

L o n g   Q u e s t i o n s

1: Write a brief note on user interface of MS Word.

2: Write the method to create, save, open and close a document in MS Word.

3: How to select text in MS Word by using keyboard and mouse?

4: Explain the editing of text in MS Word.

5: What is the method to add and remove text from MS Word?

6: Differentiate between:

1. Save & Save As
2. Cut & Paste
3. Copy & Paste
4. Undo & Redo

7: Illustrate the formatting of text in MS Word.

8: Write method to format text using Font group for following

1. Font
2. Font Size
3. Font Style (Bold, Italic, Underline)
4. Font Color

9: Explain all Change Case options used in MS Word.

10: Explain paragraph formatting including alignment and spacing?

11: Write a short note on following:

1. Drop Cap

2. Border & Shading

3. Change Case

12: How to make different lists in MS Word using Bullets & Numbering?

13: How you can review your word document using spellings & grammar check?

14: How you can insert and modify table in MS Word?

15: Write a short note on following:

i. Adding Page Numbers

ii. Adding Symbols

iii. Adding Text Box

iv. Adding Pictures

16: Write the procedure to setup your document page for printing

(Settings of margins and page size)

17: Explain the method to print a word document.

18: Illustrate the Print dialog box.

19: What is difference between text editing and formatting?

20: What is the procedure to save a document in PDF format?

CHAPTER 4

Microsoft Excel

General Objective:

Understand basic concepts of Microsoft Excel.

Specific objectives:

After studying this chapter students should be able to:

➢ Learn about MS-Excel & its Screen

➢ Enter data & apply formulas in worksheet

➢ Edit & Format the Cells, Row & Colum

➢ Insert Graphs in sheet

➢ Work on Page setup, Print Preview & Printing

➢ Work on different types & Categories of Charts

4.1 - INTRODUCTION TO MS-EXCEL & ITS SCREEN

4.1.1 - INTRODUCTION TO MS EXCEL

Spreadsheet is application software that contains rows and columns. Usually it is used to record and compare numerical and financial data. Spreadsheet can be used in any field that works with numbers.

MS Excel is one of the most popular spreadsheet software used to organize, calculate, and analyze data. Collections of worksheets are available in workbooks which are used to enter and manipulate data by using formulas and functions. Each worksheet is named **Sheet1**, **Sheet2**, and **Sheet3** respectively, but custom names can also be given to the work sheets. An Excel worksheet consists of a grid of columns and rows forming cells.

There are some very important features which are discussed here.

Rows and Columns:

Spreadsheet is collection of rows and columns. Rows are identified by numbers like 1 , 2 , 3 and columns are identified by letters such as A, B, C and so on. The cell name is combination of a letter and a number. Such as A4 is fourth cell in first column. Cell name is also called cell address.

Formula and functions:

Formulas are used to calculate data. In order to create a formula, start a calculation with = sign. Simply type the calculation into the cell or formula bar and when you press Enter the answer will be displayed on that Cell.

Functions are used to evaluate values and to perform different kinds of operations.

Text manipulation:

Excel also provides commands for text manipulations.

Printing Options:

To get hard copy of prepared sheet, we can use printing features.

Formatting:

Traditional text & numeric formatting can be done easily in Excel.

Auto fills:

Cells can be automatically filled with text or numeric series.

Sorting:

Data can be arranged in particular order through sorting.

Filter:

Required data based on some criteria can be displayed.

Charts:

Data can be shown graphically using charts.

PROCEDURE FOR STARTING / EXITING MS EXCEL

Starting Excel

If you have an **icon** on the desktop for Excel, then **double-click** it to open Excel.

OR

Click Start → (All) Programs → Microsoft Office Excel (**Figure 4.1**)
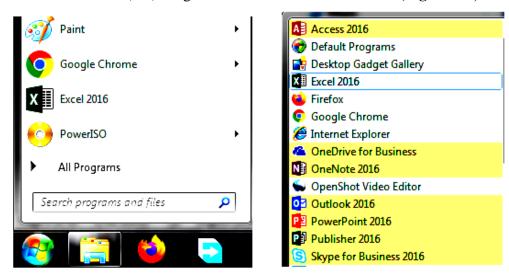
Figure 4.1.1 – Starting MS Excel

Exiting Excel

1. Close Excel by clicking the X on the far right of the title bar.   **OR**

2. Click File Menu → Click **Exit Excel** in command list**.   OR**

3. Press [**Alt**] + [**F4**] from keyboard to directly exit from Microsoft Excel.

4.1.2 – UNDERSTANDING THE MS EXCEL SCREEN

When a Excel starts, the window that is displayed on the compuer screen is called interface of the program. Figure 4.1.2 shows interface of Excel with different parts.
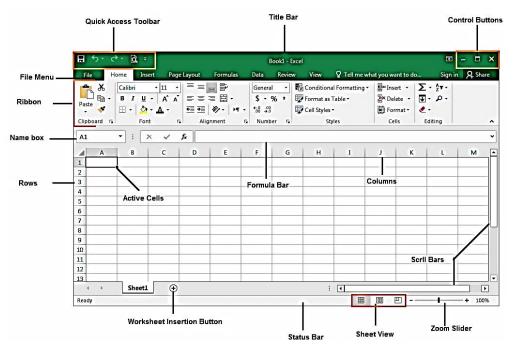
Figure 4.1.2(a) – Screen Elements of Excel

File Menu

By clicking File Menu, you will see many commonly used options like New, Open, Save, Print, etc. You can open this menu by clicking it or by pressing (ALT + F).

Quick Access Toolbar (QAT)

The Quick Access Toolbar is a toolbar that provides quick access to the commands represented by the buttons you put on it. If you use an Excel command frequently, you can add it to the Quick Access Toolbar.

You can even add commands to the Quick Access Toolbar that are not in the ribbon. By default, the Quick Access Toolbar contains the **Save**, **Undo** and **Redo** buttons.

Figure 4.1.2(b) – Quick Access Toolbar

The Ribbon

The Ribbon consists of tabs, groups, and command. Each tab contains a collection of groups, and each group contains related commnads. Each tab of the Ribbon contains a different set of controls that are linked together.
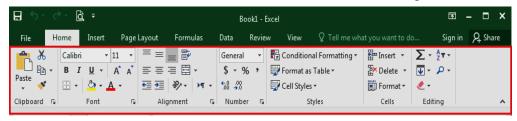
Figure 4.1.2 (c) – Ribbon

Title Bar

Next to the Quick Access toolbar is the Title bar as shown below. On the Title bar, Microsoft Excel displays the name of the workbook you are currently using. At the top of the Excel window, you should see "Microsoft Excel - Book1" or a similar name.
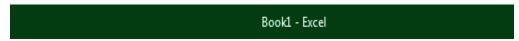
Figure 4.1.2 (d) – Title Bar

Name Box

The Name Box as shown in figure below is the box to the left of the formula bar that **displays** the **cell name** that is currently selected in the spreadsheet. Usually a cell name is combination of column name and row number.

Figure 4.1.2 (e) – Name Box

The Formula Bar

The formula bar is a section in Microsoft Excel that shows the contents of the current cell and allows you to create and view formulas. The Figure below is example of what the formula bar looks like in Microsoft Excel. To start creating a formula, click the mouse cursor in the formula bar and enter an equal sign (=). In the below example, we're using the =SUM, which is telling Excel to add cells from A2 to A5.

Figure 4.1.2 (f) – Formula Bar

Row Headings and Column Headings

The row headings are the numbers at the left side of the screen that identify each row by number. The column heading are the letters across the top of the worksheet grid that identify each column by one or more letters.
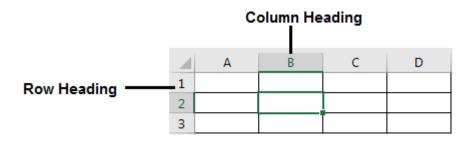
Figure 4.1.2 (g) – Row and Column Heading

The Cells

The main working area of Microsoft Excel consists of cells. A cell is the intersection of a column and a row. A cell is identified by its name and every cell has a unique name in a worksheet.

Active Cell

The active cell is the cell in which text and numbers appear when you type. It has heavy or colored border.

Worksheet Tabs

Each worksheet has a tab at the bottom that you can click to display the worksheet. The tabs in each new worksheet have standard names (Sheet1, Sheet2, and so on), but you can give the tabs descriptive names to help you easily identify your worksheets.
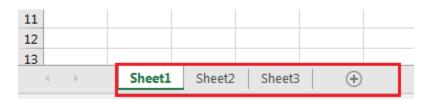
Figure 4.1.2 (h) – Worksheet Tabs

New Worksheet Insertion Button

To quickly insert a new worksheet at the end of the existing worksheets, click the **Insert Worksheet tab** at the bottom of the screen.

Scroll Bars

On the right side of the cells area, there is a vertical scroll bar that allows you to scroll up and down in case your document cannot display everything at a time.

In the lower right section of the main window, there is a horizontal scroll bar that allows you to scroll left and right if your worksheet has more items than can be displayed all at once.

Sheet View

Click a button to change sheet view. You can change the sheet view into **Normal** view, **Page layout** view, and **Page breakpreview** view.

Zoom Slider

The readout at the left end of the zoom controls shows the current zoom percentage. You can zoom by dragging the slider or by clicking the **-** (minus) and + (plus) buttons.

Status Bar

The Status bar is at the bottom of the Excel spreadsheet and provides useful information from the Excel software.

4.2 - ENTERING DATA & APPLYING FORMULAS IN WORKSHEET

4.2.1 - DATA ENTERING IN WORKSHEET

In MS Excel data can be entered in different manners.You can enter data in one cell, in several cells at the same time, or on more than one worksheet at once.

The data that you enter can be **numbers**, **text**, **dates**, or **times**.

You can format the data in a variety of ways. And, there are several settings to make data entry easier for the user.

ENTERING TEXT

Entering text in worksheet can make your financial, statistical or scientific spreadsheet more meaningful, useful and easier to follow. Excel automatically left-aligns the alphabetic data. You can enter either values (numbers and dates) or labels (text) into any cell within the worksheet.

To enter the text into cells, follow these steps.

1. Move the cell pointer to the required cell and then type the data. While you type the data you will notice that it appears both in the worksheet (in the example below, the text appears in cell A2) and in the Formula Bar.

2. Type text into the cell and press Enter to move to next cell.

Figure 4.2.1 (a) – Entering Text into a Cell

3. To enter data on a new line within a cell, enter a line break by pressing **Alt** + **Enter**.

4. You can enter text by selecting many cells to merge them into single cell. This can be done by using "merge cells" option.

ENTERING NUMBERS

Numbers are mostly used for calculations and functions. A numeric cell may contain numbers, a decimal point (.), plus (+) or minus (-) signs, and currency symbol like ($). Excel automatically right-aligns the number values.

To enter number value, do following

1. Click to select the cell where you want to enter numbers.

2. Enter Units and Rate in the Cells A2 and B2 respectively.
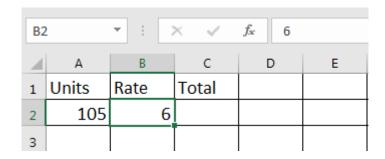
Figure 4.2.1 (b) – Entering Numeric values

3. To accept the information, press **Enter** or an **Arrow Key** or **Tab** or you can also click the check mark on the formula bar.

ENTERING DATES AND TIME IN A CELL

When you enter a date or a time in a cell, it appears either in the default date or time format for your computer or in the format that was applied to the cell before you entered the date or time. The default date or time format is based on the date and time settings in the **Regional and Language Options** dialog box (Control Panel).

To enter date or time, follow these steps.

1. Click a cell in the worksheet where you want to enter date.

2. Use a slash mark or a hyphen sign to separate the parts of a date; for example, type **05/09/2020** or **05-Sep-2020**.

TIP: To enter the current date and time, press **CTRL+SHIFT+;** (semicolon).

3. If you want to get current date whenever you open the worksheet, there are two functions that can be used for this purpose. These are **TODAY** and **NOW** functions as follow in below example.
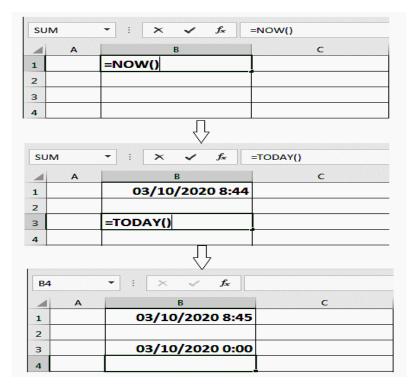
Figure 4.2.1 (c) – Entering Current date

4.2.2 – APPLYING FORMULAS IN WORKSHEET

An Excel Formula is an expression which calculates the value of a cell. A formula starts with an equal sign (=).

For example, the following formula multiplies 2 by 3 and then adds 5 to the result.

$$= 5 + 2 * 3$$

Formula can range from basic mathematical operations, such as addition, subtraction etc. to complex engineering and statistical calculations.

A formula can also contain any or all of the following: functions, references, operators, and constants.

Different mathematical operators can be used in a formula:

+ (plus sign)   for addition

- (minus sign or hyphen)   for subtraction

* (asterisk)   for multiplication

/ (slash)   for division

^ (caret)   for raising a number to an exponential power

ARITHMETIC OPREATIONS USING CONSTANTS

Example formula	What it does
= 7 + 3	Adds 7 and 3
= 8 - 2	Subtracts 2 from 8
= 6 / 4	Divides 6 by 4
= 3 * 2	Multiplies 3 times 2
= 9 ^ 2	Raises 9 to the 2nd power
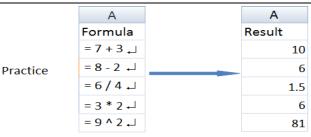
Figure 4.2.2 – Use of operators (a)

ARITHMETIC OPREATIONS USING CELL REFERENCE

Example formula	What it does
=A2+B2	Adds the values in cells A2 and B2
=A3-B3	Subtracts the value in cell A3 from the value in B3
=A4/B4	Divides the value in cell A4 by the value in B4
=A5*B5	Multiplies the value in cell A5 times the value in B5
=A6^B6	Raises the value in cell A6 to the exponential value specified in B6

Table 4.2.2 – Inserting formulas

APPLYING FUNCTIONS

Function is a predefined formula. It carries out specific calculations in the cell. Functions can be a more efficient way of performing mathematical operations than formulas. Specifically, in many cases, a function will simplify formulas that you can type in manually, such as average or sum.

EXAMPLE: If you wanted to add the values of cells A1 through A5, you could type the formula '=A1+A2+A3+A4+A5', or a shorter way would be to use the SUM function and simply type '=SUM (A1:A5)'.

You can also insert formulas by using Formula tab
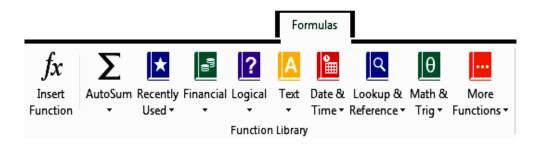
Figure 4. 2.2 (b)– Inserting functions

The following table contains the definitions and examples of several most frequently used functions:

Function	Example	Description
SUM	=SUM(A1:A15)	Finds the sum of cells A1 through A15.
AVERAGE	=AVERAGE(A1:G1)	Finds the average of the cells A1 through G1
PI	=PI( )	Returns the value of pi (3.1415…)
SIN	=SIN(60) or =SIN(B2)	Returns the sine of given angle
COS	=COS(30) or =COS(C2)	Returns the cosine of the given angle
TAN	=TAN(number) or =TAN(D2)	Returns the tangent of the given angle
MAX	=MAX(A1:A20)	Returns the highest number from cells A1 through A20
MIN	=MIN(B1:B20)	Returns the lowest number from cells B1 through B20.
SQRT	=SQRT(A5)	Finds the square root of the value in A5.
POWER	=POWER(B3, 2)	Returns the result of a number (B3) raised to power 2
COUNT	=COUNT(A1:C10)	Counts the number of cells A1 through C10 that contain numbers
FACT	=FACT(number) or =FACT(A3)	Returns the factorial of a number. The factorial of a number is equal to 1*2*3*...* number.

Table 4.2.2: Some important functions

4.3 - EDITING & FORMATTING OF CELLS, ROWS & COLUMNS

4.3.1- CELL EDITING

When Excel is in Edit mode, the word Edit appears in the lower-left corner of the Excel program window, as shown in the figure.

To start working in Edit mode, do one of the following:

Figure 4.3.1 – Cell Editing

1. Double-click the cell that contains the data that you want to edit.

2. Click the cell that contains the data that you want to edit, and then press **F2**.

This starts Edit mode and positions the cursor at the end of the cell contents. Now you can apply different editing oprations as shown in table below.

Editing Operation	Description
Insert characters	Click in the cell where you want to insert them, and then type the new characters.
Delete characters	Click in the cell, and then press BACKSPACE, or select the characters and then press DELETE.
Cancel edits	Press ESC to cancel any edits that you made to the cell contents.
Toggle between insert and overtype modes	Press ENTER to toggle between insert and overtype modes.
Undoing the last cell entry	After you press ENTER or TAB, you can undo your edits clicking the UNDO tool on Quick Access Toolbar or press Ctrl + Z.
Redoing the previous action	To redo the previous action click REDO tool on Quick Access Toolbar or press Ctrl + Y

Table: 4.3.1 – Cell Editing

4.3.2 - CELL FORMATTING

The Format Cells dialog box provides access to all the formatting options avialable in the Ribbon, as well as some additional formatting options. To open the Format Cells dialog box, you can click the Dialog Box Launcher in the Font, Alignment, or Number group on the Home tab of the Ribbon as shown in figures below.
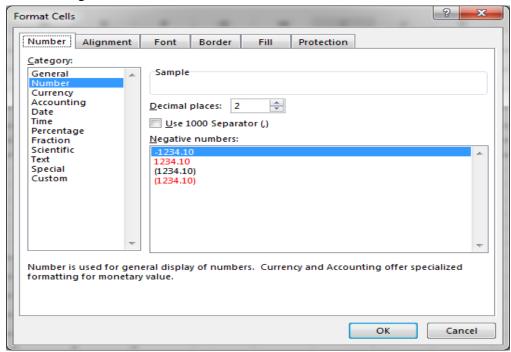
Figure 4.3.2 (a) – Formatting Cells Dialog Box
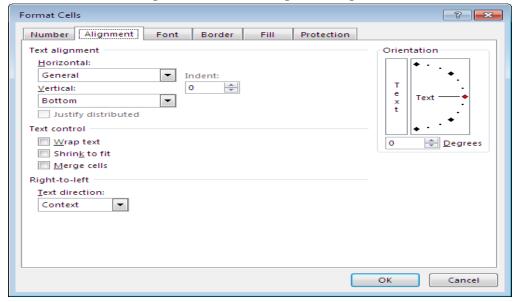
Figure 4.3.2 (b) – Formatting Cells Dialog Box
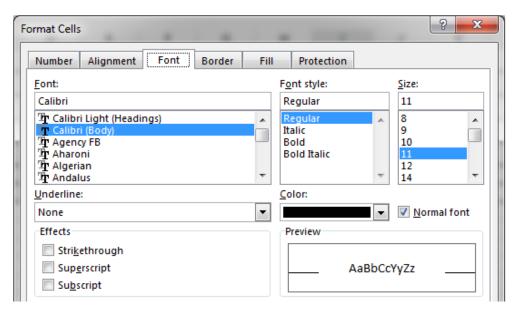
Figure 4.3.2 (c) – Formatting Cells Dialog Box
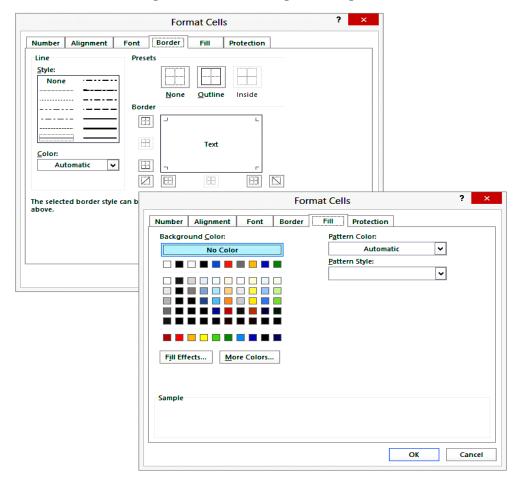
Figure 4.3.2 (d) – Formatting Options for Cells

You can use above tabs of format cells dialog box to change the number format, position of data, font options, borders, and cell background color as you have done so far.

The Number Tab: By using this tab, we can change the number in decimals, provide the desired format in terms of numbers, numbers with currency symbol & dates, convert into a percentage, fractions, etc.

The Alignment Tab: You can position text and numbers, change the orientation, and specify text control in cells by using the settings on the Alignment tab. Under Textalignment, you control the horizontal alignment, the vertical alignment, and the indention of the text in a cell.

The Font Tab: By using this tab, you can change the font, font color, font style, and font size. You can underline the text, can change the font effects.

The Border Tab: By using this tab, you can create a colorful borderline in different types of styles. If you don't need the border outline or inside, you can leave it blank.

The Fill Tab: Use the settings on the Fill tab to set the background color of the selected cells. You can also use the Pattern Color and the Pattern Style lists to apply two-color patterns or shading for the background of the cell. Fill Effects lets you apply a gradient fill to the background of the cell.

4.3.3 - EDITING OF ROWS AND COLUMNS

Editing of rows and columns includes the insertion and deletion operations as follows.

INSERT ROWS

Method 1

1. Select a cell in the row above which you want to insert a new row.
2. On the **Home Tab**, find the **Cells group** and click **Insert** followed by **Insert Sheet Rows**.
3. A new row will be inserted above the current row

Method 2

1. Select a row above which you want to insert a new row.
2. Right Click on the selected row, a menu appears from which select **Insert**.
3. A new row will be inserted above the current row.

NOTE: When you insert a row, the new row will be positioned **above** the row containing the active cell.

TO DELETE A ROW

Method 1

1. Select a cell in the row that you want to delete.
2. On the **Home Tab**, find the **Cells group**
3. Click **Delete** followed by **Delete Sheet Rows**.
4. The row containing the active cell will be deleted.
5. All the rows below it will move up.

Method 2

1. Select the row that you want to delete.
2. Right Click on the selected row, a menu appears from which select **Delete**.
3. The selected row will be deleted. All the rows below it will move up.

TO INSERT COLUMNS

Method 1

1. Select a cell in the column to the left of which you want to insert a new column.
2. On the **Home Tab**, find the **Cells group** and click **Insert** followed by **Insert Sheet Columns**.
3. A new column will be inserted to the left of the current column.

NOTE: When you insert a column, the new column will be positioned **on the left** of the column containing the active cell.

Method 2

1. Select a column to which you want to insert a new column.
2. Right Click on the selected column, a menu appears from which select **Insert**.
3. A new column will be inserted.

TO DELETE A COLUMN

Method 1

1. Select a cell in the column that you want to delete.
2. On the **Home Tab**, find the **Cells group** and click **Delete** followed by **Delete Sheet Columns**.
3. The column containing the active cell will be deleted. All the columns on its right will move left by one.

Method 2

1. Select the column that you want to delete.

2. Right Click on the selected column, a menu appears from which select **Delete**.

3. The selected column will be deleted.

4.3.4 - FORMATTING OF ROWS AND COLUMNS

In most worksheets there may be requirement to change some columns from their standard widths. Similarly, you may need to change row height.

To set an exact column width, and row height, choose **Home Tab→Format→Column width or Row height** as shown in figure 4.3.4.

You can enter width in characters in the Column Width dialog box. You can use any value from 0 to 255 characters. Similarly, you can set row height to any value between 0 and 409 points.
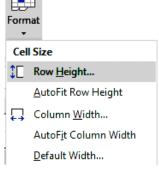
Figure 4.3.4– Rows & Columns Formatting options

The fastest and most effective way to change the width of a columns or the hieght of a row is by using AutoFit feautre. AutoFit resizes a column to just wider than its widest entry and resizes a row to just high enough for its tallest character or object.

Note: To apply the AutoFit Row Height or AutoFit Column Width, double click the right border bar of a column header or the bottom border bar of a row header or goto HOME → Format → AutoFit Column Width or AutoFit Row Height.

4.4 - INSERT GRAPHS IN WORK SHEET

To give worksheets more visual impact, or simply to make them more comprehensible, you'll often need to add pictures, shapes, diagram, charts, or other graphical objects.

Here is description and methods to add different graphs.

4.4.1 AUTO SHAPES

There are a lot of shapes available in MS Excel. These shapes range from basic shapes to complex shapes. To add auto shapes to a worksheet: Choose **Insert tab → Illustrations → Shapes** to display the Shapes panel. (Figure 4.4.1)

Click the shape you want. Excel changes the mouse pointer to a crosshair. Click in the worksheet to position one corner of the shape and drag to the size you want the shape to be.
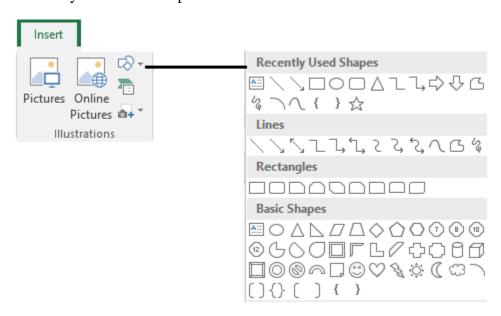
Figure 4.4.1 – Inserting Auto Shapes

4.4.2 PICTURES

During working on worksheet sometimes we need to insert a picture, such as photograph, or screen capture etc. To add pictures to a worksheet, follow these steps.

1. Select the cell.

2. Click **Insert Tab → Illustrations → Picture**, Insert Picture dialog box appears.

3. Navigate to the picture you want to add, and then select it.

4. Click the Insert button.

5. Set the corners of your picture

Figure 4.4.2 – Inserting Picture

4.4.3 TEXT BOX

Text box is a very important formatting tool which is very useful in putting text where ever we want on the document. By using text box, text can be inserted anywhere in the document.

To create a text box, follow these steps:

1. Choose Insert tab → Text → Text Box. Excel change the mouse pointer to a downward pointing arrow.

2. Click in the worksheet where you want to place one corner of the text box, and then drag diagonally to create a text box of the size you want.

3. Type the text for the text box.

4. Format the text as you want it.

Figure 4.4.3 – Inserting Text Box

4.5 - PAGE SETUP, PRINT PREVIEW & PRINTING

4.5.1 - PAGE SETUP

Before printing the worksheet or chart we can set page in different ways. There are number of page settings available that help to make worksheet much better. These options include; Paper Size, Page Orientation, and Margin Settings. Here is detailed description to apply these settings.

PAGE MARGINS

Page margins are the blank space around the edges of the page. In general, you insert data and graphics in the printable area between the margins. However, you can position some items in the margins for example, headers, footers, and page numbers.

To set margin click on Page Layout tab → Page Setup group → Margins as shown in figure 4.5.1. You will find three types of margins i.e. Normal, Wide and Narrow. But you can also set margins yourself by clicking on Custom Margins option.
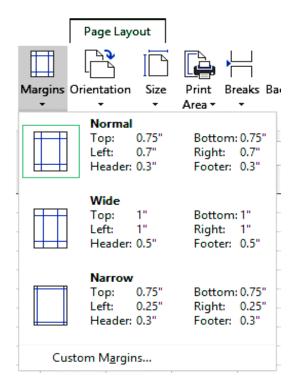
Figure 4.5.1(a) – Setting Margins of Page

PAGE ORIENTATION

You can choose either portrait (vertical) or landscape (horizontal) orientation for all or part of your Excel sheet. To apply page orientation

- Click the Page Layout tab

- Click Orientation in the Page Setup group

- Select Portrait or Landscape.

PAGE SIZE

Paper or sheet size is the size of the paper used for printing. Standard home printers print on A4 size paper, although you may have other options with your college or workplace computer to print on larger paper. To apply the page size

- Click the Page Layout tab
- Click on the Size in the Page setup group
- Select one of the preset paper sizes or use it to set a custom size as shown in figure 4.5.1 (b).

<div align="center">
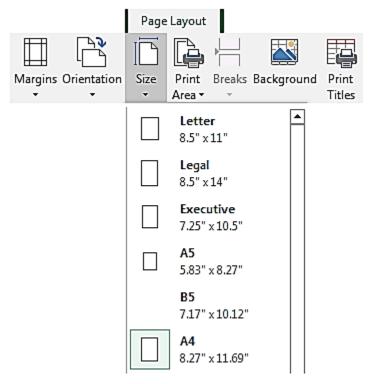
Figure 4.5.1 (b) – Page Size

</div>

4.5.2 - PRINT PREVIEW

Print Preview displays a worksheet exactly as it will be printed. To use Print Preview, follow these steps:

1. Choose **File Menu**>> select **Print** command, it displays print menu.

<div align="center">OR</div>

Click Print Preview and Print icon on Quick Access Toolbar.

2. The Print Preview displays.

Excel displays the first page of your printed output. You can view subsequent pages by clicking Previous Page and Next Page

You can also use zoom option to toggle between full page and close up view of your sheet. Click Back button to close print preview window.

4.5.3 - PRINTING A WORKSHEET

When you need to get hardcopy of your worksheet follow these steps:

1. Click the File Menu and select the **Print** command **OR** press **[Ctrl] + [P]** from your keyboard**.**

This will open Printing options as shown below in figure 4.5.3
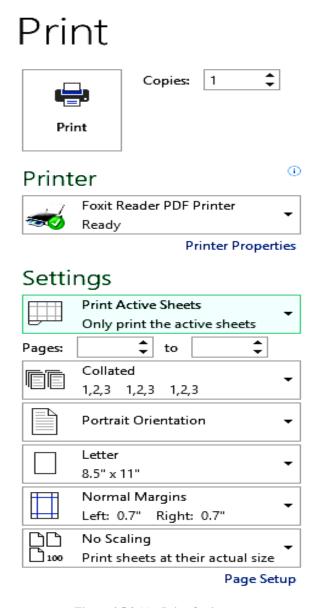
Figure 4.5.3 (a)– Print Options

2. If you have more than one printer to choose from, they will be available in the Printer area. Click the drop-down arrow next to the **Name** field to select your preferred printer.

3. To print selected pages only, find the **Print Range Area**, and type the page numbers that you want to print in the **Pages** field.

4. To print the entire workbook, you can specify this by clicking the dropdown as shown in the figure.
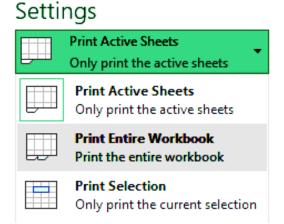
Figure 4.5.3 (b)– Printing Entire Workbook

5. There is also option to get more than one copies of the worksheet. To do this, simply enter the required number of copies in the **Copies** field.

After completing the setting Click **Print.** The specified worksheet pages will be sent to the printer.

4.6 – CHARTS, ITS TYPES & CATEGORIES

4.6.1 - CHART

A chart is a powerful tool that allows you to visually display data in a variety of different chart formats such as Bar, Column, Pie, Line etc. Excel provides an easy way to create chart.
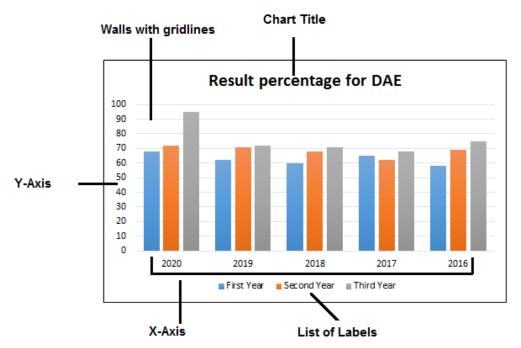
Figure 4.6.1- Chart with Elements

ELEMENTS OF A CHART

Chart Title:

A chart title is a heading that appears above the main chart. It is usually used to describe or explain what the chart contains.

Walls:

Walls define the area of the chart and help to place it in space. 2D charts have one wall (the back). 3D charts have three walls (the back, the floor, and the side.

Grid lines:

Grid lines help show the scale of the data. You generally have one set of grid lines for each axis.

Category Names:

The horizontal axis is called the category axis (X-Axis). Each set of values within your data is referred to as category names of data.

Bars:

Bars are used to represent the data values.

Labels:

Labels help us highlight important data points.

Chart area:

Chart area is the rectangular box containing the chart and all of the other chart elements.

Axis:

Each axis shows the values for the data. 2D charts have two axis:

X for horizontal

Y for Vertical.

3D charts add a Z axis which shows the depth of the data.

4.6.2 - INSERTING CHART

To insert chart in your worksheet, do following

1. Insert and select the data source with the range of data you want to make chart as shown below in figure 4.6.2.

4		Product 1	product 2	Product 3
5	2020	20000	22000	19000
6	2019	18000	21000	20000
7	2018	18500	17000	23000

Figure 4.6.2 (a)– Datasheet for Chart

2. In the Charts group on the Insert tab, click a chart type, and then click a chart subtype in the Chart gallery as shown below in figure 4.6.2 (b).
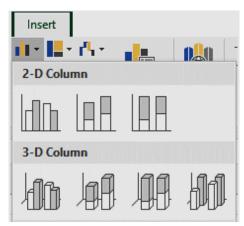
Figure 4.6.2 (b) - Inserting Chart with Type

3. The clustered column chart will be created according to above data as shown in figure 4.6.2 (c).

Figure 4.6.2 (c) – The Clustered Column Chart

4.6.3 - CHART TYPES & CATEGORIES

In Microsoft Office Excel there are many types of charts to display data in different ways. When you create a chart or change the type of an existing chart, you can select one of the following chart types.

COLUMN CHARTS

Column charts are one of the most common chart types. A column chart displays each data point as a vertical column, the height of which corresponds to the value.

The columns chart includes 2-D Column, 3-D Column, Cylinder, Cone, and Pyramid chart types. Here is an example of students obtained marks in four subjects using column chart in figure 4.6.3 (a)
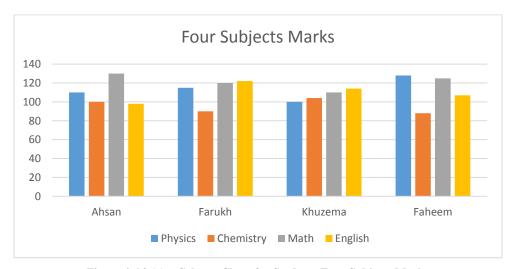
Figure 4.6.3 (a) – Column Chart for Students Four Subjects Marks

BAR CHARTS

In a Bar Chart, the categories are organized along the vertical axis and the values are organized along the horizontal axis. To create a Bar Chart, arrange the data in columns or rows on the Worksheet.

A bar chart is used when you have categories of data like types of computers, mobiles phones, movies etc. It is also a good choice when you want to compare things between different groups. Here is an example using bar chart in figure 4.6.3 (b)

Figure 4.6.3 (b) – Example of Bar Chart

LINE CHART

Line charts displays values as equally spaced points connected with a line.It is often used to plot continous data and are useful for identifying trends over time. For example, plotting daily sales of gold and silver as a line chart may help you to identify sales fluctuations over time as shown in figure 4.6.3 (c).
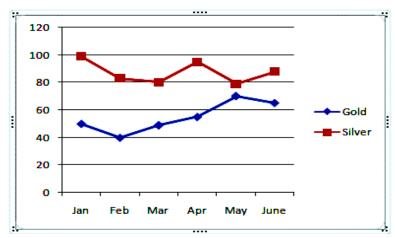
Figure 4.6.3 (c) – Line Chart for Sales Trend over Month

PIE CHART

　　A pie chart is a circular chart divided into sectors, each sector shows the relative size of each value. A pie chart is suitable for a dataset that has only one series of information. Both types of pie charts includes 2-D Pie and 3-D Pie. Example of pie chart is shown in figure 4.6.3 (d).
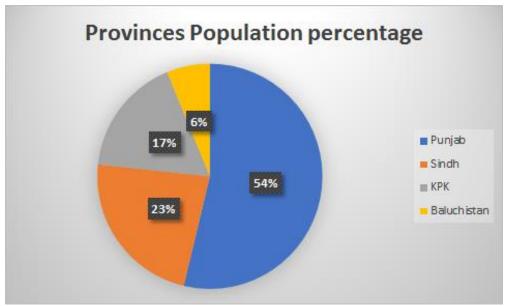

Figure 4.6.3 (d) – Pie Chart

AREA CHART

　　Area charts are similar to line charts exceps that the area underneath the line filled with color. Area charts inlcudes 2-D area and 3-D area charts types. Example of area chart is shown below in figure 4.6.3 (e).
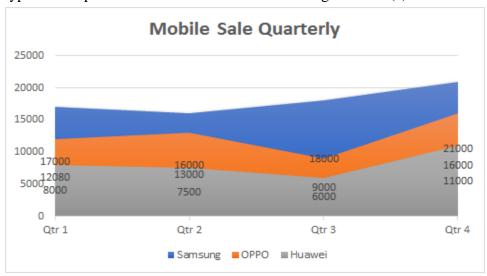
Figure 4.6.3 (e) – Area Chart for Mobile Sale

EXERCISE

Short Questions

1. Define the Spreadsheet program.

A spreadsheet is a software application that enables a user to enter, save, calculate, analyze, sort and manage data in arranged form of rows and columns.

2. Define the Microsoft Excel

Microsoft Excel is general-purpose electronic spreadsheet software used to organize, sort calculate, and analyze data.

3. What is use of Microsoft Excel?

The task you can complete with Excel ranges from preparing a simple family budget, preparing a purchase order, checking account information, budgets, transactions, billing invoices, create an elaborate 3-D chart, or managing a complex accounting ledger for a medium size business.

4. What is a workbook?

The workbook is the entire book containing a number of worksheets. Worksheet is a single page within that book. A workbook can contain at least one worksheet.

5. Define the Worksheet.

An Excel worksheet is a single spreadsheet that contains cells organized by rows and columns. A worksheet begins with row number one and column A. Each cell can contain a number, text or formula.

6. Define the Name box in MS Excel.

The Name Box is the box to the left of the formula bar that **displays** the **cell name** that is currently selected in the spreadsheet. Usually a cell name is combination of column name and row number. For example, C2 is the cell in Column C and Row 2.

7. What is Cell Reference?

A Cell reference means the cell to which another cell refers. For example, if in cell A1 you have " = A2 ", it means A1 refers to A2. Cells in the spread sheet are referred by rows and columns.

8. Define the Formula Bar.

The formula bar is used to create and view formulas. It shows the contents of the active cell.

9. Define the Row Headings and Column Headings in MS Excel.

The row headings are the numbers at the left side of the screen that identify each row by number. The column heading are the letters across the top of the worksheet grid that identify each column by one or more letters.

10. Define the Cell in MS Excel.

The main working area of Microsoft Excel consists of cells. A cell is the intersection of a column and a row.

A cell is identified by its name and every cell has a unique name in a worksheet.

11. Define the Active Cell.

The active cell is the cell in which text and numbers appear when you type. It is a rectangular box highlighting the cell in the sheet. Only one cell can be an active cell at a time.

12. Define the Worksheet Tabs.

Each worksheet has a tab at the bottom that you can click to display the worksheet. The tabs in each new worksheet have standard names (Sheet1, Sheet2, and so on), but you can give your own defined names.

13. How the data can be entered in MS Excel worksheet?

Data can be entered in a worksheet by two ways

1. **Manual:** entered by user

2. **Automatic:** where data is imported from some other systems or sources, like from Access, SQL Server or from web etc.

14. What type of data can be entered in MS Excel worksheet?

The numbers, text, dates, or times can be entered in a worksheet.

15. How to enter data on a new line within a cell?

To enter data on a new line within a cell, enter a line break by pressing [**Alt**] + [**Enter**].

16. Define the formulas in MS Excel Sheets.

Formula is an expression which calculates the value of a cell. A formula always starts with an equal sign (=).

For example, the following formula multiplies 4 by 3 and then adds 6 to the result.

$$= 6 + 4 * 3$$

17. Define the functions.

Functions are predefined formulas that can be a more efficient way of performing mathematical operations than formulas.

Specifically, in many cases, a function will simplify formulas that you can type in manually, such as average or sum.

18. What are the categories of functions in MS Excel?

There are many categories of functions, some of them are:

- Financial
- Logical
- Text
- Date & Time
- Math & Trigonometric
- Miscellaneous

19. What is the difference between formula and function?

A function is predefined formula that cannot be changed and on the other hand formula is user defined expression that has flexibility to be changed.

20. What are arithmetic operators used in MS Excel?

Following are the arithmetic operators

- + (plus sign) for addition
- - (minus sign or hyphen) for subtraction
- * (asterisk) for multiplication
- / (slash) for division
- ^ (caret) for raising a number to an exponential power

21. Give an example of arithmetic operations using constants

Example formula	What it does?
=7 + 3	Adds 7 and 3
=8 - 2	Subtracts 2 from 8
=6 / 4	Divides 6 by 4
=3 * 2	Multiplies 3 times 2
=9 ^ 2	Raises 9 to the 2nd power

22. Give an example of arithmetic operations using cell reference.

Example formula	what it does?
=A2 + B2	Adds the values in cells A2 and B2
=A3 - B3	Subtracts the value in cell A3 from the value in B3
=A4 / B4	Divides the value in cell A4 by the value in B4
=A5 * B5	Multiplies the value in cell A5 times the value in B5
=A6 ^ B6	Raises the value in cell A6 to the exponential value Specified in B

23. Define the cell range.

In a spreadsheet a **cell range** is a collection of selected **cells**. A **cell range** can be referred to in a formula. In a spreadsheet, a **cell range** is defined by the reference of the upper left **cell** (minimum value) of the **range** and the reference of the lower right **cell** (maximum value) of the **range**.

24. How a cell entry can be edited?

You can edit cell entry by doing one of the following

1. Double-click the cell that contains the data that you want to edit.

2. Click the cell that contains the data that you want to edit, and then press **F2**.

25. Define the cell formatting.

Formatting of cells in Excel means, you can change the appearance of text in a cell without changing the text itself. We can apply a number format (0.8, $0.80, 80%, etc) or other formatting (alignment, font, border, etc).

26. What is the right way to enter date in MS Excel?

To enter a date, use a slash mark or a hyphen to separate the parts of a date; for example, type 08/10/2008 or 05-Sep-2011 etc.

27. What is the keyboard shortcut to enter current date in MS Excel cell?

To enter the current date and time, press **CTRL+; (semi colon)**

28. What is the keyboard shortcut to enter current time in MS Excel cell?

To enter the current date and time, press **CTRL+SHIFT+;**

29. What is data alignment? How can we change it in a cell?

Data alignment means adjusting the data position in a cell. For this purpose we can use alignment setting in Home tab. You can set horizontal and vertical alignment.

30. Where the new inserted column is positioned?

When you insert a column, the new column will be positioned **on the left** of the column containing the active cell.

31. What is the use of clipboard?

A clipboard is a temporary storage for data that the user wants to copy from one place to another. For example, you might want to cut text from one part of a sheet and paste it in another part of the sheet or somewhere else. When you will select the text and then cut or copy that text, it stores in clipboard for further use.

32. What is use of Text Box in MS Excel?

Text box is a very important formatting tool which is very useful in putting text where ever you want on the sheet. By using text box, text can be inserted anywhere in the document.

33. What is chart?

A chart is a powerful tool that allows you to visually display data in a variety of different chart formats such as Bar, Column, Pie, Line etc. Excel provides an easy way to create chart.

34. What are the elements of a chart?

Following are the elements of a chart

- Chart Title
- Walls
- Grid lines
- Category Names
- Bars
- Chart area
- Axis

35. What are types of charts in MS Excel?

Following are the types of charts used in MS Excel

- Column Charts

- Bar Charts

- Line Charts

- Pie Charts

- Area Charts

- Scatter Charts

- Other Charts

36. Define the Column Charts.

Column charts are one of the most common chart types. A column chart displays each data point as a vertical column, the height of which corresponds to the value. The columns chart includes 2-D Column, 3-D Column, Cylinder, Cone, and Pyramid chart types.

37. Define the Bar Charts.

A bar chart is essentially a column chart that has been rotated 90 degrees clockwise. One distinct advantage to use a bar chart is that the category labels may be easier to read.

38. Define the Line Charts.

Line charts displays values as equally spaced points connected with a line.It is often used to plot continous data and are useful for identifying trends over time. For example, plotting daily sales of gold and silver as a line chart may help you to identify sales fluctuations over time.

39. Define the Pie Chart.

A pie chart is a circular chart divided into sectors, each sector shows the relative size of each value. A pie chart is suitable for a dataset that has only one series of information.

40. Define the Area Charts.

Area charts are similar to line charts exceps that the area underneath the line filled with color.

41. What is keyboard shortcut to get hard copy of worksheet?

Ctrl + P is the keyboard shortcut to get hard copy of worksheet.

Multiple Choice Questions

1. Spreadsheet is an electronic document in which data is arranged in the
   _____.
   a. Rows   b. Columns   c. Both a & b   d. None of these

2. Example of Spreadsheet program is _____.
   a. MS Excel   b. MS Calculation   c. MS Word
   d. None of these

3. MS Excel is type of _____ software.
   a. application   b. counting   c. system   d. firmware

4. MS Excel is _____ software.
   a. word processor   b. spreadsheet   c. database
   d. graphic

5. The box where the cell name displays is called _____.
   a. Cell Box   b. Name Box   c. Row Box
   d. Column Box

6. The _____ is the bar where the users can create and view formulas.
   a. Formula Bar   b. Function Bar   c. Expression Bar
   d. Method Bar

7. In Excel every formula is starts with _____ symbol.
   a. #   b. @   c.=   d. %

8. In Excel sheet every column heading at the top is identified by _____.
   a. numbers   b. symbols   c. letters   d. None of these

9. In Excel sheet every row heading at the left is identified by _____.
   a. numbers   b. symbols   c. letters   d. None of these

10. In Excel, Columns are labeled as _____.
    a. A, B, C, etc.   b. 1, 2, 3, etc.   c. A1, A2, A3, etc.
    d. A1, A2, etc.

11. In Excel, Rows are labeled as _____.
    a. A, B, C, etc.   b. 1, 2, 3, etc.   c. A1, A2, A3, etc.
    d. A1, A2, etc.

12. How many sheets are there, by default, when you create a new Excel file?

   a. 1   b. 5   c. 3   d. 8

13. An Excel file is generally called a _____.

   a. spreadsheet   b. workbook   c. sheet   d. worksheet

14. The intersection of row and column on a worksheet is called _____.

   a. column   b. row   c. worksheet   d. cell

15. The cell in which text and numbers appear when you type. _____.

   a. Bold Cell   b. Colored Cell   c. Active Cell

   d. Inactive Cell

16. You can activate a cell by _____.

   a. pressing the tab key   b. clicking the cell

   c. pressing an arrow key   d. all of above

17. What type of data can be entered in MS Excel?

   a. numbers   b. text   c. date & time   d. all of these

18. Which key is used to accept the cell entry?

   a. Enter key   b. Arrow key   c. Tab key   d. all of these

19. The default alignment of text in Excel is _____.

   a. centered   b. left   c. right   d. justify

20. The default alignment of numbers in Excel is _____.

   a. centered   b. left   c. right   d. justify

21. To enter data on a new line within a cell, the _____ shortcut key is used.

   a. Alt + Enter   b. Ctrl + Enter   c. Shift + Enter

   d. None of above

22. To enter the current date and time in a cell the _____ function is used.

   a. Now   b. Today   c. Date   d. None of these

23. Example of Arithmetic operators is _____.

   a. >< =   b. + - * / ^   c. And Or Not

   d. None of above

24. Example of Relational operators is _____.

    a. >< =   b. + - * / ^   c. And Or Not

    d. None of these

25. Example of Logical operators is _____.

    a. >< =   b. + - * / ^   c. And Or Not

    d. None of these

26. Identify the symbol for exponential power.

    a. *   b. /   c. ^   d. =

27. Identify the symbol for multiplication.

    a. *   b. /   c. ^   d. =

28. Identify the symbol for division.

    a. *   b. /   c. ^   d. \

29. The correct example for addition is _____.

    a. A2 + B2   b. =add(A2,B2)   c. SUM(A2,B2)

    d. =A2 + B2

30. The correct example of a cell address

    a. 11 22   b. 911   c. 15A   d. A15

31. When you accidentally erased a record in a sheet, the _____ command is used to restore.

    a. Insert   b. Copy   c. Undo   d. Replace

32. The example of formula is _____.

    a. =A1 + A2   b. =add(A1:A2)   c. A1+A2

    d. SUM(A1:A2)

33. The example of function is _____.

    a. =A1 + A2   b. =SUM(A1:A2)   c. A1+A2

    d. =add(A1:A2)

34. Which of the following option is correct?

    a. = Average(2,3,4)   b. =Average(A2:F2)

    c. =Average(A1, B1, C1)   d. All of these

35. Which of the following is correct?

    a. =Power(2^3)   b. =Power(2,3)   c. =Power(2#3)

    d. =Power(2*3)

36. The shortcut key to edit a cell entry is _____.

   a. F1   b. F2   c. F3   d. F4

37. The keyboard shortcut to open Format Cells dialogue box is _____.

   a. Ctrl + 1   b. Ctrl + 2   c. Ctrl + 3   d. Ctrl + 4

38. Which types of charts can excel produce?

   a. Line graphs and pie charts only   b. Bar charts and line graphs only

   c. Bar charts, line graphs and pie charts   d. Only line graphs

39. Which symbol is used in cells range?

   a. **;**   b. **:**   c. **"**   d. **?**

40. Correct example of cells range from A1 to F10 is _____.

   a. A1-F10   b. A1; F10   c. A1: F10   d. A1.F10

41. You can copy cell formats from one cell to another by using the _____.

   a. Backspace key   b. Default   c. Format painter

   d. Formatting toolbar

42. A value used in a formula that does not change is called _____.

   a. Cell address   b. Constant   c. Function

   d. Range

43. Which formula can add all the numeric values in a range of cells?

   a. Count   b. Average   c. Sum   d. If

44. To insert two columns between column C and D you would _____.

   a. select column C   b. select column D

   c. select column C, D, E   d. select column D, E, F

45. The default extension of MS Excel file is _____.

   a. xlsx   b. xlw   c. xcl   d. exl

46. A diagram or graph that shows information in a simple way.

   a. picture   b. graph   c. chart   d. clipart

47. Which function in Excel tells how many numeric entries are there?

   a. Num   b. Count   c. Sum   d. PI

48. What type of chart will you use to compare performance of two cricket team in a match?

   a. Line Chart   b. Pie Chart   c. Column Chart

   d. Dot Chart

49. The process of arranging the items of a column in some sequence is known as _____.

    a. arranging   b. sorting   c. filtering   d. auto fill

50. The _____ feature of MS Excel quickly completes a series of data.

    a. Auto Fill   b. Auto Complete   c. Sorting

    d. Filtering

51. What type of chart will you use to compare performance of sales of four products?

    a. Column Chart   b. Line Chart   c. Pie Chart

    d. Bubble Chart

52. The keyboard shortcut to get printout of an Excel sheet is _____.

    a. Ctrl + E   b. Ctrl + P   c. Ctrl + R   d. Ctrl + T

53. If you require more than one hard copies of the worksheet, then enter it in_____ field.

    a. Number of Copies   b. Copies   c. Copy

    d. none of above

54. You can print _____.

    a. Selection   b. An entire workbook

    c. A single worksheet   d. All of these

55. To exit from MS Excel program the _____ shortcut is used.

    a. Alt + F4   b. Ctrl + F4   c. Shift + F4

    d. Alt + Ctrl + F4

56. A _____ is a temporary storage area for data that the user wants to cut or copy from one place to another.

    a. clipboard   b. master board   c. mother board

    d. circuit board

57. A _____ is more efficient than formulas.

    a. Chart   b. Sorting   c. Function

    d. None of these

ANSWERS KEY

1	c	13	b	25	c	37	a	49	b
2	d	14	d	26	c	38	c	50	a
3	a	15	c	27	a	39	b	51	a
4	b	16	d	28	b	40	c	52	b
5	b	17	d	29	d	41	c	53	a
6	a	18	d	30	d	42	b	54	d
7	c	19	b	31	c	43	c	55	a
8	c	20	c	32	a	44	b	56	a
9	a	21	a	33	B	45	a	57	c
10	a	22	a	34	d	46	c		
11	b	23	b	35	b	47	b		
12	a	24	A	36	b	48	a		

LONG QUESTIONS

1. Write the procedure for starting and exiting the MS Excel program

2. Write a note on components of MS Excel main.

3. Write a short note on following:

- Quick Access Toolbar
- Name Box
- Formula Bar
- Status Bar

4. How to enter text, numbers, date & time in MS Excel sheet?

5. What are the parts of formula in Excel? How a formula can be applied in worksheet?

6. What are arithmetic operators? Give examples of applying arithmetic operator in worksheet.

7. Explain the difference between formula and function by examples.

8. Explain the following functions by providing examples

    i. Sum   ii. Average   iii. SIN   iv. COS

9. Explain the editing operations in worksheet by examples.

10. Explain the all cell formatting options.

11. How to insert and delete rows, columns in a worksheet?

12. What is chart? How to insert a chart in worksheet?

13. What are the elements of chart? How to change the type of chart?

14. Write a brief note on important chart types in MS Excel.

15. What is meant by page setup. Write method of selecting page size and its margin.

16. How to get different printouts of a worksheet?

17. Write method of changing font style, font size, font color and making it bold.

18.   a) What is meant by " Wrap text ", write its method to apply in MS Excel?

        b) What is meant by "Merge Cells " in MS Excel program. Write its method.

19. Write method of entering pictures and drawing shapes in MS Excel.

CHAPTER 5

Microsoft PowerPoint

General Objective:

Understand basic concepts of Microsoft PowerPoint.

Specific objectives:

After studying this chapter students should be able to:

➢ Describe Introduction to MS-PowerPoint

➢ Explain creating a presentation

➢ Describe Editing & formatting a text box

➢ Explain Adding pictures & colors to a slide

➢ Describe Making slide shows

➢ Explain Slide Transitions

5.1 - INTRODUCTION TO MS-POWER POINT

PowerPoint is a **presentation program** that allows you to create dynamic slide presentations. These presentations can include animation, narration, images, videos, and much more. In this lesson, you'll learn your way around the PowerPoint environment, including the **Ribbon**, **Quick Access Toolbar**, and **Backstage view**.

Getting to know PowerPoint

PowerPoint 2016 is similar to PowerPoint 2013 and PowerPoint 2010. If you've previously used these versions, PowerPoint 2016 should feel familiar. But if you are new to PowerPoint or have more experience with older versions, you should first take some time to become familiar with the **PowerPoint 2016 interface**.

The PowerPoint interface

When you open PowerPoint for the first time, the **Start Screen** will appear. From here, you'll be able to create a **new presentation**, choose a **template**, and access your **recently edited presentations**. From the **Start Screen**, locate and select **Blank Presentation** to access the PowerPoint interface.
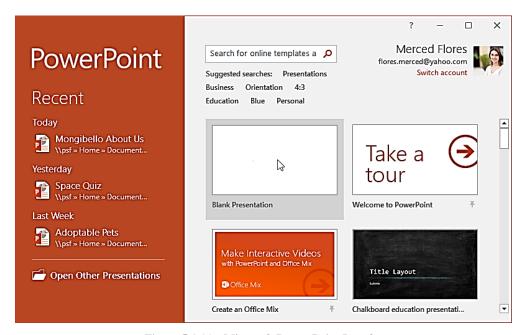
Figure 5.1 (a) - Microsoft Power Point Interface

Click the buttons in the interactive below to become familiar with the PowerPoint interface.

Figure 5.1 (b) - Working with PowerPoint Interface

The **Ribbon** and **Quick Access Toolbar** are where you will find the commands to perform common tasks in PowerPoint. **Backstage view** gives you various options for saving, opening a file, printing, and sharing your document.

The Ribbon

PowerPoint uses a **tabbed Ribbon system** instead of traditional menus. **The Ribbon** contains **multiple tabs**, each with several **groups of commands**. For example, the Font group on the Home tab contains commands for formatting text in your document.
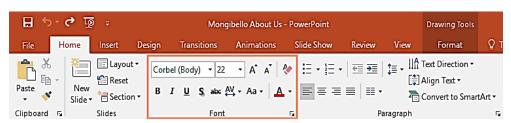
Figure 5.1 (c) – Ribbon and Font Group

Some groups also have a **small arrow** in the bottom-right corner that you can click for even more options.
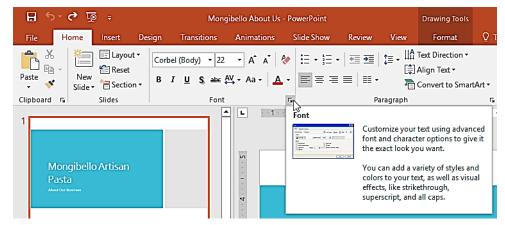
Figure 5.1 (d) –Showing and hiding Ribbon

The Ribbon is designed to respond to your current task, but you can choose to **minimize** it if you find that it takes up too much screen space. Click the **Ribbon Display Options** arrow in the upper-right corner of the Ribbon to display the drop-down menu.
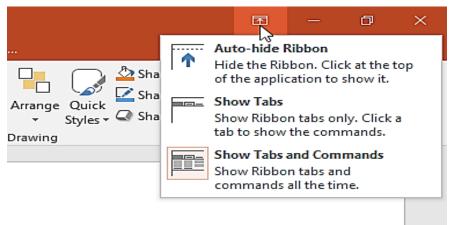
Figure 5.1 (d) - Ribbon Display Options

- o **Auto-hide Ribbon:** Auto-hide displays your workbook in full-screen mode and completely hides the Ribbon. To **show the Ribbon**, click the **Expand Ribbon** command at the top of screen.
- o **Show Tabs:** This option hides all command groups when they're not in use, but **tabs** will remain visible. To **show the Ribbon**, simply click a tab.

○ **Show Tabs and Commands:** This option maximizes the Ribbon. All of the tabs and commands will be visible. This option is selected by default when you open PowerPoint for the first time.

The Quick Access Toolbar

Located just above the Ribbon, the **Quick Access Toolbar** lets you access common commands no matter which tab is selected. By default, it includes the **Save**, **Undo**, **Redo**, and **Start From Beginning** commands. You can add other commands depending on your preference.

The Ruler, Guides, And Gridlines

PowerPoint includes several tools to help organize and arrange content on your slides, including the **Ruler**, **guides**, and **gridlines**. These tools make it easier to **align objects** on your slides. Simply click the **check boxes** in the **Show** group on the **View** tab to show and hide these tools.
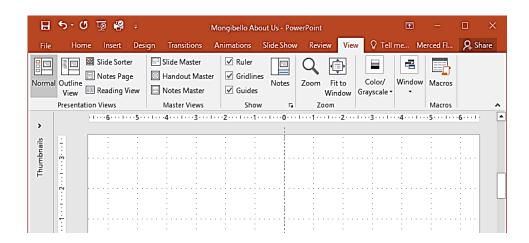
Figure 5.1 (e) - Microsoft PowerPoint View Tab

Zoom and other View Options

PowerPoint has a variety of viewing options that change how your presentation is displayed. You can choose to view your presentation in **Normal** view, **Slide Sorter** view, **Reading** view, or **Slide Show** view. You can also **zoom in and out** to make your presentation easier to read.

▪ **Switching slide views**

Switching between different slide views is easy. Just locate and select the desired **slide view command** in the bottom-right corner of the PowerPoint window.
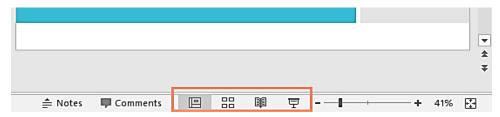

Figure 5.1 (f) – Zoom options

- **Zooming in and out**

To zoom in or out, click and drag the **zoom control slider** in the bottom-right corner of the PowerPoint window. You can also select the **+** or **-** **commands** to zoom in or out by smaller increments. The number next to the slider displays the current **zoom percentage**, also called the **zoom level**.
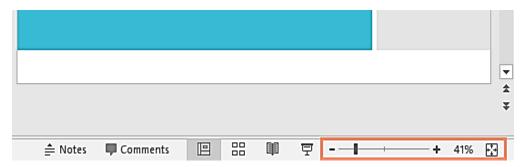
Figure 5.1 (g) – Zoom options

5.2 CREATING A PRESENTATION

PowerPoint files are called **presentations**. Whenever you start a new project in PowerPoint, you'll need to **create a new presentation**, which can either be **blank** or from a **template**. You'll also need to know how to **open an existing presentation**.

Create A New Presentation

When beginning a new project in PowerPoint, you'll often want to start with a new blank presentation.

1. Click **File** tab →Select **New** on the left side of the window→Click **Blank Presentation**.
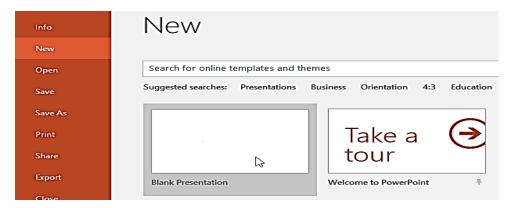

Figure 5.2 (a) - Creating a Blank Presentation

A new presentation will appear.

To create a new presentation from a template:

1. Click the **File** tab → Click **New**→Select a **Template** to review it.

   (A **preview** of the template will appear, along with **additional information** on how the template can be used.)

2. Click **Create** to use the selected template.

   A new presentation will appear with the **selected template**.

   It's important to note that not all templates are created by Microsoft. Many are created by third-party providers and even individual users, so some templates may work better than others.

Compatibility Mode

   Sometimes you may need to work with presentations that were created in earlier versions of PowerPoint, like PowerPoint 2003 or PowerPoint 2000. When you open these types of presentations, they will appear in **Compatibility**

Mode.

   Compatibility Mode **disables** certain features, so you'll only be able to access commands found in the program that was used to create the presentation.

For example, if you open a presentation created in PowerPoint, you can only use tabs and commands found in PowerPoint.

Save Presentation:

It's important to **save your presentation** whenever you start a new project or make changes to an existing one. Saving early and often can prevent your work from being lost. You'll also need to pay close attention to **where you save** the presentation so it will be easy to find later.
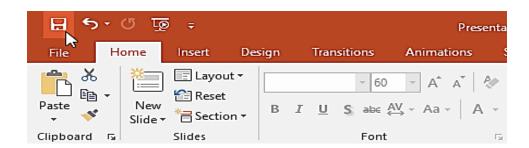
Locate and select the **Save** command on the **Quick Access Toolbar**.

Figure 5.2 (b): Saving presentation

1. If you're saving the file for the first time, the **Save As** pane will appear in **Backstage view**.

2. You'll then need to choose **where to save** the file and give it a **file name**. Click **Browse** to select a location on your computer. Alternatively, you can click **OneDrive** to save the file to your OneDrive.

3. The **Save As** dialog box will appear. Select the **location** where you want to save the presentation.

4. Enter a **file name** for the presentation, then click **Save**.

5. The presentation will be **saved**. You can click the **Save** command again to save your changes as you modify the presentation.

You can also access the **Save** command by pressing **Ctrl+S** on your keyboard. Using Save As to make a copy

Understanding Slides and Slide Layouts

When you insert a **new slide**, it will usually have **placeholders** to show you where content will be placed. Placeholders can contain different types of content, including text, images, and videos. Slides have different **layouts** for placeholders. Whenever you create a new slide, you'll need to choose a slide layout that fits your content.
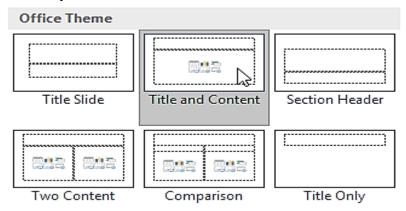

Figure 5.2 (c) - Slide Layouts

Insert a new slide:

Whenever you start a new presentation, it will contain **one slide** with the **Title Slide** layout. You can insert as many slides as you need from a variety of layouts.

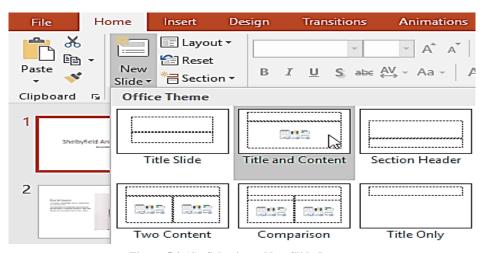1. From the **Home** tab, click the **bottom half** of the **New Slide** command.

Figure 5.2 (d): Selecting a New Slide Layout

2. Choose the desired **slide layout** from the menu that appears.

3. Click any **placeholder** and begin typing to add text.

Organizing slides

PowerPoint presentations can contain as many slides as you need. The **Slide Navigation pane** on the left side of the screen makes it easy to **organize** your slides. From there, you can **duplicate**, **rearrange**, and **delete** slides in your presentation.
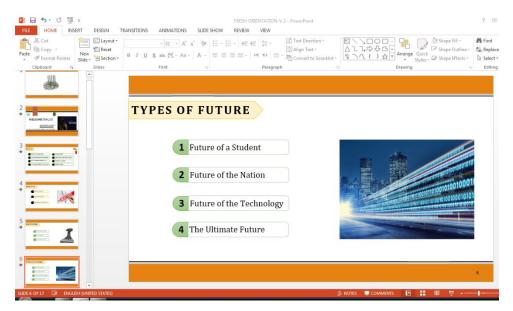

Figure 5.2 (e) - Slide Editing View

Working with slides

- **Duplicate slides:** If you want to copy and paste a slide quickly, you can **duplicate** it. To duplicate slides, select the slide you want to **duplicate**, right-click the mouse, and choose **Duplicate Slide** from the menu that appears. You can also duplicate **multiple slides** at once by selecting them first.

- **Move slides:** It's easy to change the **order** of your slides. Just click and drag the **desired slide** in the Slide Navigation pane to the desired position.

- **Delete slides:** If you want to remove a slide from your presentation, you can **delete** it. Simply select the slide you want to delete, then press the **Delete** or **Backspace** key on your keyboard.

To Copy And Paste Slides:

1. Select the **slide** you want to copy → press **Ctrl+C.**

2. Click in between the slide list where you want to paste the slide

3. Click the **Paste** command on the **Home** tab. OR press **Ctrl+V**.

4. The slide will appear in the selected location.

Apply Slide Designs:

A theme is a **predefined combination** of colors, fonts, and effects that can quickly change the look and feel of your entire slide show. Select the **Design** tab on the Ribbon, then click the **More** drop-down arrow to see all of the available designs.

Figure 5.2 (f): Applying slide designs.

1. Select the **desired design**.

2. The theme will be applied to your **entire presentation**.

5.3 - EDITING & FORMATTING A TEXT BOX

To select format text within a Text Box:

Before you can move or arrange text, you'll need to **select** it.

1. Click next to the text you want to select, drag the mouse over the text, then release your mouse. The text will be selected.
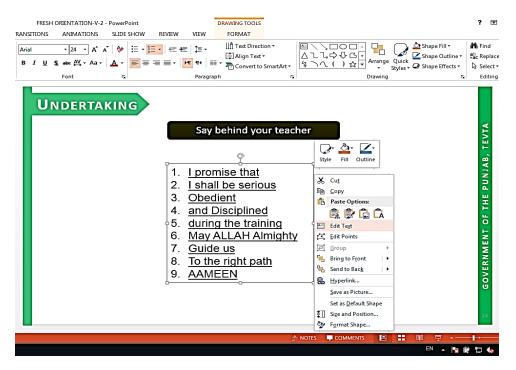
Figure 5.3 (a) - Text Editing within the Text Box
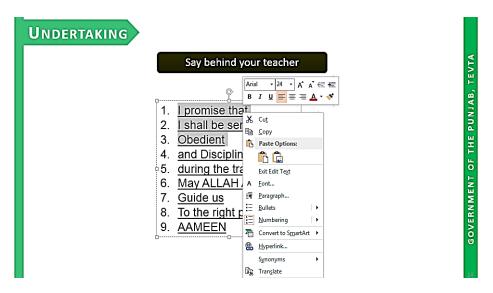
2. Select the text and edit as desired

Figure 5.3 (b) - Text Selection and Editing

Copying and Moving Text

PowerPoint allows you to **copy** text that is already on a slide and **paste** it elsewhere, which can save you time. If you want to **move** text, you can **cut and paste** or **drag and drop** the text.

To copy and paste text:

1. Select the **text** you want to copy, then click the **Copy** command on the **Home** tab.

Figure 5.3 (c) - Using COPY Tool

2. Place the insertion point where you want the text to appear.
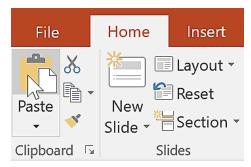
3. Click the **Paste** command on the **Home** tab.

Figure 5.3 (d) - Using PASTE Tool

4. The copied text will appear.

To cut and paste text:

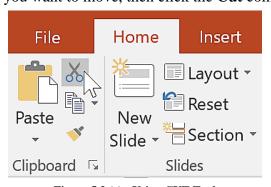1. Select the **text** you want to move, then click the **Cut** command.

Figure 5.3 (e) - Using CUT Tool

2. Place the insertion point where you want the text to appear, then click the **Paste** command.

3. The text will appear in the new location.

You can access the **cut**, **copy**, and **paste** commands by using keyboard shortcuts. Press **Ctrl+X** to cut, **Ctrl+C** to copy, and **Ctrl+V** to paste.

To drag and drop text:

1. Select the **text** you want to move, then click and drag the text to the **desired location**.

2. The text will appear in the new location.

Align Text

You can use these commands to align your text at the **top**, **middle**, or **bottom** of a placeholder or text box.

5.4 - ADDING PICTURES & COLORS TO A SLIDE

Adding **pictures** can make your presentations more interesting and engaging. You can insert a **picture from a file** on your computer onto any slide. PowerPoint even includes tools for finding **online pictures** and adding **screenshots** to your presentation.

1. Select the **Insert** tab, then click the **Pictures** command in the **Images** group.

Figure 5.4 (a) - Using Insert Tab to insert a picture

2. A dialog box will appear. Locate and select the **desired image file**, then click **Insert**.

3. The picture will appear on the currently selected slide.

Inserting Screen Clipping

To insert a screen clipping:

1. Select the **Insert** tab➜ **Screenshot** command➜ **Screen Clipping**.

Figure 5.4 (b) - Using Screen Clipping Tool

2. A view of other open windows will appear. Click and drag to select the area you want to capture as a screen clipping.

3. The screen clipping will appear on the currently selected slide.

Changing Slide Color

By default, all slides in your presentation use a **white background**. Backgrounds can have a **solid**, **gradient**, **pattern**, or **picture** fill.

1. Select the **Design** tab, then click the **Format Background** command.

Figure 5.4 (c) - Changing Slide Background Colors

2. Select the desired fill options. Let's use a **Solid fill** with a **light gold** color.
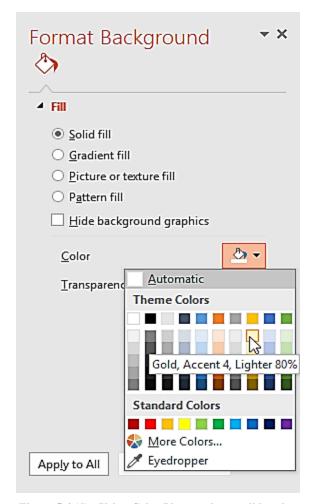
Figure 5.4 (d) - Using Color Plate to change slide color

3. If you want, you can click **Apply to All** to apply the same background style to all slides in your presentation.

5.5 - MAKING SLIDE SHOWS

Once your slide show is complete, you'll need to learn how to **present it** to an audience. PowerPoint offers several tools and features to help make your presentation smooth, engaging, and professional.

Presenting A Slide Show

▪ To start a slide show:

There are several ways you can begin your presentation:

- Click the **Start From Beginning** command on the Quick Access Toolbar, or press the **F5** key at the top of your keyboard. The presentation will appear in full-screen mode.
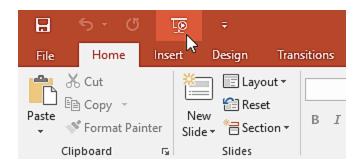
Figure 5.5 (a) - Running a slide Show using Slide show Tool

- Select the **Slide Show view** command at the bottom of the PowerPoint window to begin a presentation from the current slide.

Figure 5.5 (b) - Running a Slide Show Using from PowerPoint window

- Go to the **Slide Show** tab on the Ribbon to access even more options. From here, you can start the presentation **from the current slide** and access **advanced presentation options**.

Figure 5.5 (c) - Running Slide Show Using Slide Show Menu

To advance and reverse slides:

You can advance to the next slide by **clicking your mouse** or pressing the **spacebar** on your keyboard. Alternatively, you can use or **arrow keys** on your keyboard to move forward or backward through the presentation.

You can also hover your mouse over the bottom-left and click the **arrows** to move forward or backward.

Figure 5.5 (d) - Move Slides Forward or Backward during a slide show

To stop a slide show:

You can exit presentation mode by pressing the **Esc** key on your keyboard. Alternatively, you can click the **Slide Show Options** button in the bottom-left and select **End Show**.
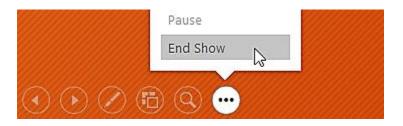

Figure 5.5 (e) - Ending a Slide Show

The presentation will also end after the **last slide**. You can click the mouse or press the spacebar to return to Normal view.
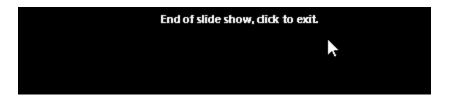

Figure 5.5 (f) - Ending of a slide show after last slide

Presentation tools and features

PowerPoint provides convenient tools you can use while presenting your slide show. For example, you can change your mouse pointer to a **pen** or **highlighter** to draw attention to items in your slides. In addition, you can **jump around** to slides in your presentation or access other programs from your **taskbar** if needed.

5.6 - SLIDE TRANSITIONS

If you've ever seen a PowerPoint presentation that had special effects between each slide, you've seen **slide transitions**. A transition can be as simple as fading to the next slide or as flashy as an eye-catching effect. PowerPoint makes it easy to apply transitions to some or all of your slides, giving your presentation a polished, professional look.

About Transitions

There are **three categories** of unique transitions to choose from, all of which can be found on the **Transitions** tab.

- **Subtle:** These are the most basic types of transitions. They use **simple animations** to move between slides.

- **Exciting:** These use more **complex animations** to transition between slides. While they're more visually interesting than **Subtle** transitions, adding too many can make your presentation look less professional. However, when used in moderation they can add a nice touch between important slides.

- **Dynamic Content:** If you're transitioning between two slides that use similar **slide layouts**, dynamic transitions will move only the **placeholders**, not the slides themselves. When used correctly, dynamic transitions can help **unify** your slides and add a further level of polish to your presentation.

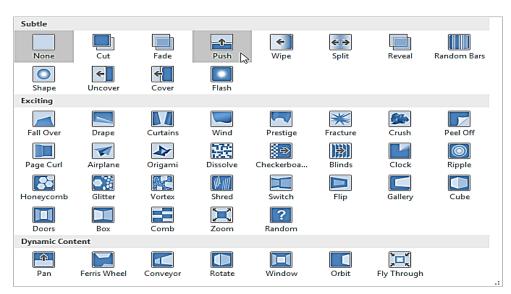**Figure 5.6 (a) - Types of Slide Transitions**

To apply a transition:

1. Select the **desired slide** from the **Slide Navigation** pane. This is the slide that will appear **after** the transition.
2. Click the **Transitions** tab, then locate the **Transition to This Slide** group. By default, **None** is applied to each slide.
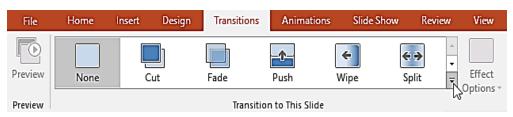3. Click the **More** drop-down arrow to display all transitions.

Figure 5.6 (b) - Transition Menu

4. Click a **transition** to apply it to the selected slide. This will automatically preview the transition.

You can use the **Apply To All** command in the **Timing** group to apply the same transition to all slides in your presentation. Keep in mind that this will modify any other transitions you've applied.
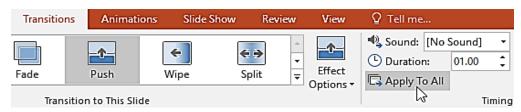

Figure 5.6 (c) - Applying Selected Transition

To preview a transition:

You can **preview** the transition for a selected slide at any time using either of these two methods:

*   Click the **Preview** command on the **Transitions** tab.

Figure 5.6 (d) - Transition Preview

*   Click the **Play Animations** command in the **Slide Navigation** pane.

Modifying transitions

To modify the transition effect:

You can quickly customize the look of a transition by changing its **direction**.

1. Select the **slide** with the transition you want to modify.
2. Click the **Effect Options** command and choose the desired option. These options will vary depending on the selected transition.
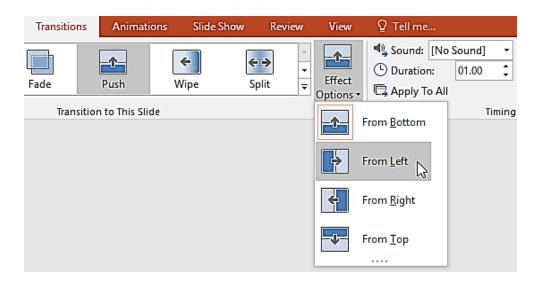
Figure 5.6 (e) - Modifying applied transitions

3. The transition will be **modified**, and a **preview** of the transition will appear.

Some transitions do not allow you to modify the direction.

To modify the transition duration:

1. Select the **slide** with the transition you want to modify.

2. In the **Duration** field in the **Timing** group, enter the **desired time** for the transition. In this example, we'll decrease the time to half a second—or 00.50—to make the transition **faster**.

Figure 5.6 (f) - Transition Duration Settings

To add sound:

1. Select the **slide** with the transition you want to modify.

2. Click the **Sound** drop-down menu in the **Timing** group.

3. Click a **sound** to apply it to the selected slide, then preview the transition to hear the sound.

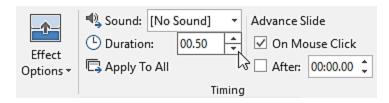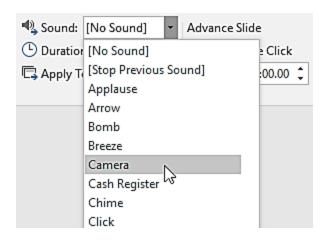**Figure 5.6 (g) - Applying Sounds within Transitions**

Sounds are best used in moderation. Applying a sound between every slide could become overwhelming or even annoying to an audience when presenting your slide show.

To remove a transition:

1. Select the **slide** with the transition you want to remove.

2. Choose **None** from the **Transition to This Slide** group. The transition will be removed.
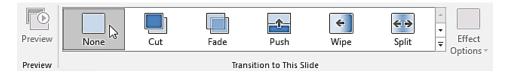
Figure 5.6 (h) – Transition of slides

To remove transitions from **all slides**, apply the **None** transition to a slide, then click the **Apply to All** command.

Advancing slides

Normally, in Slide Show view you would advance to the next slide by clicking your mouse or by pressing the spacebar or arrow keys on your keyboard. The **Advance Slides** setting in the **Timing** group allows the presentation to advance **on its own** and display each slide for a specific amount of time. This feature is especially useful for **unattended presentations**, such as those at a trade show booth.

To advance slides automatically:

1. Select the slide you want to modify.
2. Locate the **Timing** group on the **Transitions** tab. Under **Advance Slide**, uncheck the box next to **On Mouse Click**.
3. In the **After** field, enter the amount of time you want to display the slide. In this example, we will advance the slide automatically after 1 minute and 15 seconds, or 01:15:00.
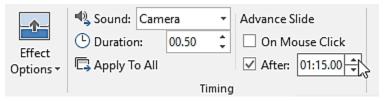
Figure 5.6 (i) - Advancing Slides Automatically

4. Select another slide and repeat the process until all slides have the desired timing. You can also click the **Apply to All** command to apply the same timing to all slides.

If you need to advance to the next slide before an automatic transition, you can always click the mouse or press the spacebar to advance the slides as normal.

EXERCISE

Multiple Choice Questions

1. Extension of MS Power Point 2016 file is;

    (a) .ppt   (b) .pwt   (c) .pptx   (d) .docx

2. A user can present his ideas in effective way using this program.

    (a) MS Word   (b) MS Publisher

    (c) MS Power Point   (d) None of these

3. MS Power Point 2016 is a software of this type.

    (a) Application   (b) Language translator

    (c) Utility Program   (d) System

4. This software is used to make presentation;

    (a) Google slides   (b) Prezi

    (c) MS Power Point   (d) All these

5. The MS Power Point program has been developed specially for;

    (a) Documentation   (b) Presentation

(c) Graphic design   (d) Engineering drawing

6. MS Power Point program can be open with........ ways.
  (a) 1   (b) 2   (c) 4   (d) 5

7. Horizontal strip under series of tabs in MS Power Point screen is called;
  (a) Status bar   (b) Slide Pane
  (c) Ribbon   (d) Scroll bar

8. The area where slides appear in smaller size in MS PowerPoint is called;
  (a) Ribbon   (b) Vertical scroll bar
  (c) Slide pane   (d) Status bar

9. Comments pane in MS Power Point screen is available on this bar.
  (a) Title bar   (b) Status bar
  (c) Scroll bar   (d) Slide pane

10. Slide counter pane is displayed in MS Power Point screen.
  (a) Below the slide pane   (b) Above the slide pane
  (c) In slide show group   (d) None of these

11. Slide of MS Power Point program can be zoomed up .... %.
  (a) 150%   (b) 200 % (c) 400% (d) 300%

12. A new power point file may be of this type;
  (a) Blank presentation   (b) Design template
  (c) Either a or b   (d) None of these

13. Shortcut key to insert new slide in MS Power Point presentation is;
  (a) Ctrl + P (b) Ctrl + N (c) Ctrl + M (d) Shift + N

14. Shortcut key to start slide show from first slide is;
  (a) Ctrl + F5 (b) F5   (c) Shift + F5 (d) Alt + F5

15. Shortcut key to start slide show from current slide is;
  (a) F5   (b) Alt + F5 (c) Shift + F5 (d) Ctrl + F4

16. This key is used to go to the previous slide.
  (a) Page up   (b) Backspace
  (c) Up arrow and left arrow   (d) Any of these

17. This key from keyboard is used to go to the next slide.
  (a) Page down   (b) Enter
  (c) Right or down arrow   (d) Any of these

18. The process to run the presentation is called;

(a) Slide run   (b) Slide show

(c) Animation   (d) Transition

19. The dotted box in which user insert text, graphics or pictures is called
    (a) Slide box   (b) Place holder
    (c) Presentation box   (d) Any of a or c
20. One page of MS Power Point file is called;
    (a) Page   (b) Slide   (c) File   (d) Slide show
21. The slide that is used as a heading of a presentation is called;
    (a) Heading slide   (b) Title slide
    (c) Starting slide   (d) Initial slide
22. The process of moving one slide to another slide is called;
    (a) Animation (b) Shift   (c) Transition (d) Drift
23. " Slide show view" displays the slides in this sequence.
    (a) Ascending slide number   (b) Descending slide number
    (c) Even slide number   (d) Randomly
24. To exit the slide show, this key is pressed from keyboard.
    (a) End   (b) Home   (c) Esc   (d) Enter
25. Specific visual or audio effect that appears during slide transitions is called;
    (a) Slide animation   (b) Slide transition
    (c) Both a & b   (d) None of these

ANSWERS KEY

1. (a)	2. (c)	3. (a)	4. (d)	5. (b)	6. (d)	7. (c)	8. (c)
9. (b)	10. (a)	11. (c)	12. (c)	13. (c)	14. (b)	15. (c)	16. (d)
17. (d)	18. (b)	19. (b)	20. (b)	21. (b)	22. (c)	23. (a)	24. (c)
25. (a)							

Short Questions

1. What is Power point?
2. What is a presentation?
3. Write two names of programs used for making presentations other than MS Power Point.
4. What is the use of hand out options of MS Power Point?
5. What is quick print in MS Power Point?

6. What is a slide?
7. What is slide pane?
8. What is the location and purpose of comment pane in MS Power Point?
9. What is notes area of MS Power Point and for which purpose it is used.
10. What is meant by slide layout?
11. What is place holder in Power Point?
12. What is meant by title slide?
13. Write short cut key to start slide show from 1st slide and current active slide.
14. What is meant by slide transition?
15. What is meant by slide animation?
16. Write method of deleting a slide.
17. What is meant by theme in power point?
18. How a new slide can be inserted in a presentation?
19. What is meant by slide show in power point?
20. Which keys of keyboard are used to run the slide show from start toward end?
21. Which keys are used go on previous slide during slide show.
22. For which purpose, the slide sorter option is used in power point.
23. How a slide show is terminated?
24. What is meant by template in power point?
25. Write names of view buttons of MS Power Point 2016.
26. Write names of contents of title bar of MS Power Point 2016.

Long Questions

1. Write introduction of components of MS Power Point 2016 screen.
2. Write method of creating new presentation and saving it in MS Power Point 2016.
3. What is meant by place holder in MS PowerPoint? Write method of changing its place.
4. Write method of filling color and changing boarder line color of text box in MS Power Point 2016.

5. What is meant by a theme? Write method of applying different themes on slides of MS Power Point 2016.

6. Define slide transition. Write method of applying different transitions on slides in MS Power Point 2016.

7. Write method of starting slide show in MS Power Point 2016.

8. What is meant by slide layout? Write its different types.

CHAPTER 6

Programming Language

General Objective:

Understand basic concepts of C++ programming language.

Specific objectives:

After studying this chapter students should be able to:

➢ Define program, programming, programmer, and programming languages.

➢ Classify computer programming languages.

➢ Describe briefly computer languages.

➢ Describe C++ programming language and its advantages.

➢ Explain arithmetic operations (addition, multiplication, subtraction, division etc.)

➢ Explain logical operations (AND, OR, NOT, Equal to, etc.)

➢ Explain the basics of loops for repetitive operations.

➢ Explain the components of Flow-Charts for simple computer program.

PROGRAM, PROGRAMMING, PROGRAMMER, AND PROGRAMMING LANGUAGES

6.1 PROGRAM

A computer program is a collection of instructions that is written in any computer to perform a specific task.

Example:

A program written in C - Language.

Define programming, programmer?

Define Programming:

The process of developing and constructing various sets of instructions to enable a computer to do a specific task is called computer programming.

Define Programmer:

A programmer is mostly a person, an individual that writes/creates computer program or computer in specific computer language.

6.2 Classify computer programming languages.

Computer programming Language are classified in two level

1. **Low-level language**
2. **High-level language**

1) **Low – level Language** are further divided in two levels

1. **Machine Language**
2. **Assembly language**

Machine Language

The machine-level language is a language that consists of a set of instructions that are in the binary form 0 or 1 and it was developed to interact with first generation of computer. Computers can understand only machine instructions, which are in binary digits, i.e., 0 and 1, so the instructions given to the computer can be only in binary codes. Creating a program in a machine-level language is a very difficult task as it is not easy for the programmers to write the program in machine instructions.

Assembly Language

This is the second generation programming language. It is a development on the machine language, where instead of using only numbers, we use English words, names, and symbols. It is the most basic computer language necessary for any processor.

2] High Level Language

When we talk about high level languages, these are programming languages. There are so many types of computer programming language, some examples are PASCAL, FORTRAN, C++ etc.

The important feature about such high level languages is that they allow the programmer to write programs for all types of computers and systems. Every instruction in high level language is converted to machine language by language translators that are compiler or interpreters. High level languages are further divided into three type:

1. Scripting Languages

2. Object-Oriented Languages

3. Procedural Programming Language

Scripting Languages

Scripting languages are constructed in such way that they allows execute one command at a time. Scripting languages are easier to learn and execute than compiled languages. Some examples are AppleScript, JavaScript and Pearl etc.

Object-Oriented Languages

These are high level languages that focus on the 'objects' rather than the 'actions'. To accomplish this, the focus will be on data than logic. The reasoning behind is that the programmers really cares about the object they wish to manipulate rather than the logic needed to manipulate them. Some examples include Java, C+, C++, Python and Swift etc.

Procedural Programming Language

This is a type of programming language that has well-structured steps and complex procedures within its programming to compose a complete program. It has a systematic order functions and commands to complete a task or a program. FORTRAN, ALGOL, BASIC, COBOL is some examples**.**

6.3 Describe briefly computer languages.

6.3.1 Human Language

To understand language is to understand the world. We use language as a means of communicating ideas of the world to each other and to ourselves. To convey our message to others or to receive other message we need to know a language.

Human language are different than computer languages. For a computer system to truly understand what we want, it'll need to experience the same events we do. It needs to understand emotion, it needs to know what it's like to have our senses, and it needs to learn to speak and communicate organically the way we do. To understand more about computer language we read a brief discussion about computer language too.

6.3.2 Computer Language

In computer science, computer languages are used to communication with a computer. Simply we can say Computer Languages are used to perform some task from computer. All computer language have their own rules, their own way to construct a program, coding is different in different language .

Just as many human-based languages exist, there are as many computer programming languages. Computer language are human friendly. If we want to talk someone whose language is English, Spanish or German we need to learn their language first. Same is case with computer language. The portion of the language that a computer can understand is called "Object code" which is written in "binary code" .Translating programming language into human understandable form is known as is known as source program. Each language, from C Language to Python, has its own distinct features, we must know these language. Though they have common feature too. Here we discuss some most common languages.

6.3.2.1 C Language

C Language is a structure-oriented, middle-level programming language mostly used to develop low-level applications C Language is used to develop systems applications that are integrated into operating systems such as Windows, UNIX and Linux. Applications include graphics packages, word processors, spreadsheets, operating system development, database systems, compilers and assemblers, network drivers and interpreters.

6.3.2.2 C + + Language

C++ is a general purpose, object-oriented, middle-level programming language and is an extension of C language, which makes it possible to code C++ in a "C style. The C++ language is used to create computer programs and packaged software, such as games, office applications, graphics and video editors and operating systems.

6.3.2.3 HTML

HTML is the standard markup language used to create web pages; it ensures proper formatting of text and images (using tags like <HTML>) so that Internet browsers can display them in the ways they were intended to look.

6.3.2.4 Java

Java is a general-purpose, object-oriented, high-level programming language with several featur7es that make it ideal for web-based development

6.3.2.5 OOP languages

OOP Languages (Object-Oriented Languages) provide us with clear modular structure for the programs which makes it good for defining abstract data types.

6.3.2.6 Pascal Language

Pascal is a teaching language, there are few industrial programs that are written in Pascal, It tends to use the keywords instead of C-style braces and the symbols, so, it is easier for the beginners to understand than languages like C++.

6.3.2.7 PHP is designed for a rapid website development. It is easy to link to the databases, generate HTTP headers. It contains a simple set of basic components that allow the programmer to quickly get up to speed.

6.3.2.8 FORTRAN

FORTRAN stands for Formula Translator and it is still used by the scientists as it allows the variables of any size up to the memory limit of the machine.

6.3.2.9 Go

GO is a general purpose, flexible language that facilitates the creation of applications.

6.3.2.10 Ruby on Rails

Ruby on Rails allows you to design web applications quickly.

6.3.2.11 Python

Python is used in a wide variety of contexts and on the web has technical advantages.

6.3.2.12 JavaScript

Java Script s used on the client's side and can be extended to the server for different functions.

6.4 Describe C++ programming language and its advantages.

C++ is an object-oriented programming language and includes concepts like classes, inheritance, polymorphism, data abstraction, and encapsulation which allow code reusability and makes programs very maintainable. C++ use multi-paradigm programming. The Paradigm   means the style   of programming. Some features and advantages of C++ is given below

6.4.1 Advantages of C++ are:

1. Object-oriented

One of the biggest advantages of C++ is the feature of object-oriented programming which includes concepts like classes, inheritance, polymorphism, data abstraction, and encapsulation that allow code reusability and makes a program even more reliable.

Not only this, it helps us deal with real-world problems by treating data as an object. C lacked this feature and hence it was created, proving to be of great significance.

2. Multi-paradigm

C++ is a multi-paradigm programming language. The term "Paradigm" refers to the style of programming. It includes logic, structure, and procedure of the program. Generic, imperative, and object-oriented are three paradigms of C++.

Low-level Manipulation

Since C++ is closely associated with C, which is a procedural language closely related to the machine language, C++ allows low-level manipulation of data at a certain level. Embedded systems and compiler are created with the help of C++.

3. Memory Management

C++ gives the programmer the provision of total control over memory management. This can be considered both as an asset and a liability as this increases the responsibility of the user to manage memory rather than it being managed by the Garbage collector. This concept is implemented with the help of DMA (Dynamic memory allocation) using pointers.

4. Large Community Support

C++ has a large community that supports it by providing online courses and lectures, both paid and unpaid. Statistically speaking, C++ is the 6th most used and followed tag on Stack Overflow and GitHub.

5. Compatibility with C

C++ is pretty much compatible with C. Virtually; every error-free C program is a valid C++ program. Depending on the compiler used, every program of C++ can run on a file with .cpp extension.

6.5 Arithmetic operations (addition, multiplication, subtraction, division etc.

Arithmetic Operators

`Arithmetic operators area symbol that performs mathematical operation on data .C language provides many arithmetic operators. Following is a list of all arithmetic operators used in C language.

Arithmetic operators used in "C" language.

Operation	Symbol	Description
Addition	+	Adds two numbers
Subtraction	-	Subtract one value from another value
Multiplication	*	Multiplies two values
Division	/	Divides one value by another value
Modulus	%	Gives the remainder of division of two integers

In C language these arithmetic operators are necessary to perform arithmetic calculation like addition, subtraction, multiplication and these are explained here with the help of C language program

Program 1: (Addition)

Write a program that inputs two integer numbers and calculates sum of two numbers.

Procedure:

#include<stdio.h>

> **Output of the Program:**
> Enter Num1=15
> Enter Num2=20
> Sum=35

```
#include<conio.h>
void main ()
{
int num1, num2,sum;
printf("Enter Num1=");
Scanf("%d",&num1)
printf("/n Enter Num2=");   ///n use for new line
Scanf("%d",&num2)
sum=num1+num2;
printf("/n sum=",sum);
getch();
 }
```

Program 2 (subtraction)

Write a program that inputs two integer numbers from the user and calculates the Subtraction of numbers.

Procedure:
```
#include<stdio.h>
#include<conio.h>
void main ()
{
int num1, num2,sub;
printf("Enter Num1=");
Scanf("%d",&num1)
printf("/n Enter Num2=");   ///n use for new line
Scanf("%d",&num2)
sub=num2-num1;
printf("/n Subtract=", sub);
getch();
}
```

> **Output of the Program:**
> Enter Num1=15
> Enter Num2=20
> Subtract=5

Program 3 (Division)

Write a program that inputs two integer numbers from user and calculates the Division of the numbers.

> **Output of the program:**
> Enter Num1=15
> Enter Num2=20
> Division=1.3333

Procedure:

```
#include<stdio.h>
#include<conio.h>
void main ()
{
float num1, num2,Div;
printf("Enter Num1=");
Scanf("%d",&num1)
printf("/n Enter Num2=");   ///n use for new line
Scanf("%d",&num2)
Div=num2/num1;
printf("/n Division=", Div);
getch();
}
```

Program 4 (Product of the numbers.)

Write a program that inputs two numbers from user and calculates the Product of the numbers.

Procedure:

```
#include<stdio.h>
#include<conio.h>
void main ()
{
int num1, num2,p;
printf("Enter Num1=");
Scanf("%d",&num1)
printf("/n Enter Num2=");   ///n use for new line
Scanf("%d",&num2)
p=num1*num2;
printf("/n Product =", p);
getch();
}
```

Output of the program:
Enter Num1=15
Enter Num2=20
Product=300

Output of the program:
a+b=15
a-b=5
a*b=50
a/b=2
a%b= 0

Program 5 (mathematical operations on two variables)

Write a program that performs all mathematical operations on two variables.

Procedure:

#include<stdio.h>

#include<conio.h>

void main ()

{

int a, b;

a=10;

b=5;

clrscer( );

printf("a+b=%d \n", a+b);

printf("a-b=%d \n", a-b);

printf("a*b=%d \n", a*b);

printf("a/b=%d \n", a/b);

printf("a%b=%d \n", a%b);

getch( );

}

Program 6 Write aprogram to calculate sum, average, and product of all numbers

Write a program that inputs 4 numbers and calculate the sum, average, and product of all the numbers.

Procedure:

#include<stdio.h>

#include<conio.h>

void main ()

{

inta,b,c,d,sum,product;

Float avg;

clrscer ( );

printf("Enter 4 numbers:");

scanf("%d %d %d %d",&a,&b,&c,&d);

Output of the program:
Enter 4 numbers: 1 2 3 4
Sum of all the numbers: 10
Product of all the numbers: 24
Average of all the numbers: 6

sum=a+b+c+d;

product=a*b*c*d;

avg=sum/4.0;

printf("Sum of all the numbers: %d \n", sum);

printf("product of all the numbers : %d \n", product);

printf("Average of all the numbers: %f", avg);

getch( );

}

6.6 Explain logical operations (AND, OR, NOT, Equal to, etc.)

Logical Operators

C allows usage of three logical operators that are &&, || and !.

These are to be read as 'AND' 'OR' and 'NOT' respectively.

There are several things to note about these logical operators. Most obviously, two of them are composed of double symbols: || and &&. Don't use the single symbol | and &.

The first two operators, &&and ||, allow two or more conditions to be combined in an if statement. We explain it with the help of a program. Consider the following example.

Example 2.4:

The marks obtained by a student in 5 different subjects are input through the keyboard.

The student gets a division as per the following rules are given:

Percentage above or equal to 60 - First division

Percentage between 50 and 59 - Second division

Percentage between 40 and 49 - Third division

Percentage less than 40 - Fail

Program 1: Write a program to calculate the division obtained by the student and also used logical operators in the program.

There are two ways in which we can write a program for this example. These methods are given below.

First Method

```
main( )
{
int m1, m2, m3, m4, m5, per ;
printf ( "Enter marks in five subjects " ) ;
scanf ( "%d %d %d %d %d", &m1, &m2, &m3, &m4, &m5 ) ;
 per = ( m1 + m2 + m3 + m4 + m5 ) / 5 ;
if ( per >= 60 )
printf ( "First division ") ;
else
{
if ( per >= 50 )
printf ( "Second division" ) ;
else
{
if ( per >= 40 )
printf ( "Third division" ) ;
else
printf ( "Fail" ) ;
}
}
}
```

2nd Method

```
main( )
{
int m1, m2, m3, m4, m5, per ;
printf ( "Enter marks in five subjects " ) ;
scanf ( "%d %d %d %d %d", &m1, &m2, &m3, &m4, &m5 ) ;
 per = ( m1 + m2 + m3 + m4 + m5 ) / 5 ;
if ( per >= 60 )
printf ( "First division" ) ;
if ( ( per >= 50 ) && ( per < 60 ) )
printf ( "Second division" ) ;
if ( ( per >= 40 ) && ( per < 50 ) )
printf ( "Third division" ) ;
```

if (per < 40)

printf ("Fail") ;

}

6.7 Explain the basics of loops for repetitive operations.

Loops or iteration statement

A loop is a statement or set of statements which is executed repeatedly. A loop is used using condition. The repetition is done until condition becomes condition true. A loop declaration and execution can be done in following ways.

·   Check condition to start a loop

·   Initialize loop with declaring a variable.

·   Executing statements inside loop.

·   Increment or decrement of value of a variable.

Followings are the different types of loop statements used in C.

1. while loop

2. do- while loop

3. for loop

1. The while loop:

It is often the case in programming that you want to do something a fixed number of times. Perhaps you want to calculate gross salaries of ten different persons, or you want to convert temperatures from centigrade to Fahrenheit for 15 different cities.

The condition being tested may use relational or logical operators as shown in the following examples:

while(b < 15 || c < 20))

The other example to use relational or logical operators can be as

while (i < = 10)

while (i >= 5 && j < = 10)

− The statement within a loop may be a single line or a block of statements.In first case the

Parentheses are optional.

For example
while (i <= 10)
i = i + 1;
is same as
while (i <= 10)
{
i = i + 1 ;
}
As a rule the while must test a condition that will eventually become false, otherwise the loop would be executed forever.

Procedure
```
#include<stdio.h>
#include<conio.h>
main( )
{
int i = 1 ;
while( i <= 10)
printf ("%d\n", i);
i = i+ 1;
}
getche();
}
```
It is not necessary that loop counter will always perform as a increment operator, we can even use this operator as a decrement operator and still manage to get the body of the loop executed repeatedly, this is shown below
```
#include<stdio.h>
#include<conio.h>
main( )
{
int i = 10 ;
while ( i > = 10)
{
printf ( "\n we are Pakistani");
i = i – 1;
}
```

```
getche();
}
```

It is not necessary that a loop counter must only be an int ,it can be a float

```
main( )
{
float a = 10.5 ;
while ( a < = 10.8 )
{
printf ( "\n in dark something is shining");
printf ( ".....and sparkling");
a = a + 0.1;
}
}
```

2. The For Loop

The 'for' is known as the most popular looping instruction. The 'for' allows us to specify three things about a loop in a single line that are initial value, final value and its increment/decrement.

    a) Setting a loop counter to an initial value.

    b) Testing a loop counter to determine whether its value has reached the desired repetition result.

    c) Increasing the value of loop counter each time the program segment within the loop has executed.

Program 1: Write a program in C language that display numbers on screen using For-Loop.

```
#include<stdio.h>
#include<conio.h>m
main( )
{
int i ;
for ( i = 1 ; i <= 10 ; )
{
printf ( "%d\n", i ) ;
i = i + 1 ;
}
getche();
```

}

> **Output**
>
> **1 2 3 4 5 6 7 8 9 10**

Here, the incrimination is done within the body of the **for** loop and not in the **for** statement. Note that in spite of this the semicolon after the condition is necessary.

Method 2:

```
#include<stdio.h>
#include<conio.h>
main( )
{
int i = 1 ;
for ( ; i <= 10 ; i = i + 1 )
printf ( "%d\n", i ) ;
}
getche();
}
```

> **Output**
>
> **1 2 3 4 5 6 7 8 9 10**

Note that the initialization, testing and incrementation of loop counter is done in the **for** statement itself. Instead of **i = i + 1**, the statements **i++** or **i += 1** can also be used.

Method 3:

```
#include<stdio.h>
#include<conio.h>
main( )
{
int i ;
for ( i = 1 ; i <= 10 ; )
{
printf ( "%d\n", i ) ;
i = i + 1 ;
}
```

getche();

}

```
Output

1 2 3 4 5 6 7 8 9 10
```

Here, the incrementation is done within the body of the **for** loop and not in the **for** statement. Note that in spite of this the semicolon after the condition is necessary.

Method 4:

main( )

{

int i = 1 ;

for (; i <= 10 ; i = i + 1)

printf ("%d\n", i) ;

}

Here the initialization is done in the declaration statement itself, but still the semicolon before the condition is necessary.

Method 5:

main( )

{

int i = 1 ;

for (; i <= 10 ;)

{

printf ("%d\n", i) ;

i = i + 1 ;

}

}

Here, neither the initialization, nor the incrimination is done in the **for** statement, but still the two semicolons are necessary.

6.8 Explain the components of Flow-Charts for simple computer program

A flowchart is a type of diagram that represents a workflow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem.

Sr.No	Symbols	Purpose	Description
1		Flow line	Indicates the flow of logic by connecting symbols.
2		Terminal(Stop/Start)	Represents the start and the end of a flowchart.
3		Input/Output	Used for input and output operation.
4		Processing	Used for arithmetic operations and data-manipulations.
5		Decision	Used for decision making between two or more alternatives.
6		On-page Connector	Used to join different flowline
7		Off-page Connector	Used to connect the flowchart portion on a different page.
8		Predefined Process/Function	Represents a group of statements performing one processing task.

Examples of flowcharts in programming

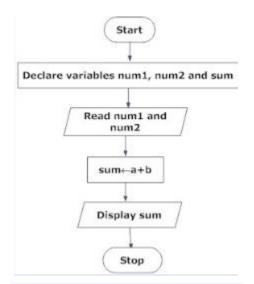**1. Add two numbers entered by the user.**

Figure 6.1 Flowchart to add two numbers

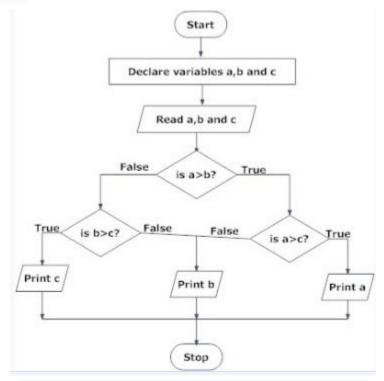3. **Find the largest among three different numbers entered by the user.**

Figure 6.2 Flowchart to find the largest among three numbers.

EXERCISE

Short Questions

Q #1 What is the key features in the C programming language?

Answer: Features are as follows:

- **Portability**: It is a platform-independent language.
- **Modularity:** Possibility to break down large programs into small modules.
- **Flexibility:** The possibility of a programmer to control the language.
- **Speed:** C comes with support for system programming and hence it compiles and executes with high speed when compared with other high-level languages.
- **Extensibility**: Possibility to add new features by the programmer.

Q #2 What is the basic data types associated with C?

Answer:

- **Int –** Represent the number (integer)
- **Float –** Number with a fraction part.
- **Double –** Double-precision floating-point value
- **Char –** Single character
- **Void –** Special purpose type without any value.

Q #3 What is the description for syntax errors?

Answer: The mistakes/errors that occur while creating a program are called syntax errors. Misspelled commands or incorrect case commands, an incorrect number of parameters in calling method /function, data type mismatches can be identified as common examples for syntax errors.

Q #4 What is the process to create increment and decrement statement in C?

Answer: There are two possible methods to perform this task.

- Use increment (++) and decrement (-) operator.

Example When x=4, x++ returns 5 and x- returns 3.

- Use conventional + or – sign.

Example When x=4, use x+1 to get 5 and x-1 to get 3.

Q #5 What is reserved words with a programming language?

Answer: The words that are a part of the standard C language library are called **reserved words**. Those reserved words have special meaning and it is not possible to use them for any activity other than its intended functionality.

Example: void, return int.

Q #6What is the difference between ++a and a++?

Answer: '++a" is called prefixed increment and the increment will happen first on a variable. 'a++' is called postfix increment and the increment happens after the value of a variable used for the operations.

Q #7 Describe the difference between = and == symbols in C programming?

Answer: '==' is the comparison operator which is used to compare the value or expression on the left-hand side with the value or expression on the right-hand side.

'=' is the assignment operator which is used to assign the value of the right-hand side to the variable on the left-hand side.

Q #8What is the general description for loop statements and available loop types in C?

Answer: A statement that allows the execution of statements or groups of statements in a repeated way is defined as a loop.

There are 4 types of loop statements in C.

- **While loop**
- **For Loop**
- **Do…While Loop**
- **Nested Loop**

Q #9What is a nested loop?

Answer: A loop that runs within another loop is referred to as a **nested loop**. The first loop is called the Outer Loop and the inside loop is called the Inner Loop. The inner loop executes the number of times defined in an outer loop.

Q #10What is the explanation for prototype function in C?

Answer: Prototype function is a declaration of a function with the following information to the compiler.

- Name of the function.
- The return type of the function.
- Parameters list of the function.

int Sum(int, int);

In this example Name of the function is Sum, the return type is the integer data type and it accepts two integer parameters.

Q#11 Define an algorithm.

Answer: An algorithm is a precise specification of a sequence of instructions to be carried out in order to solve a given problem. Each instruction tells what task is to be performed. Actually an algorithm is a series of mathematical steps written in simple English sentence.

Q#12What is the difference between while and do-while statement?

Answer: The only difference between do-while and while is that the while statement evaluates its condition at the top of the loop so that if it is false then the statements within the loop will not execute; whereas the do-while evaluates its condition at the bottom of the loop so that the statements within the do block are always executed at least once.

Q#13How the static variables are defined?

Answer: Static variables are defined within a function in the same manner as automatic variables, except that the variable declaration must begin with the *static* keyword.

Q#14Which of the following operators is incorrect and why? (>=, <=, <>, ==)

Answer: <> is incorrect. While this operator is correctly interpreted as "not equal to" in writing conditional statements, it is not the proper operator to be used in C programming. Instead, the operator != must be used to indicate "not equal to" condition.

Q#15 Compare and contrast compilers from interpreters.

Answer: Compilers and interpreters often deal with how program codes are executed. Interpreters execute program codes one line at a time, while compilers take the program as a whole and convert it into object code, before executing it. The key difference here is that in the case of interpreters, a program may encounter syntax errors in the middle of execution, and will stop from there. On the other hand, compilers check the syntax of the entire program and will only proceed to execution when no syntax errors are found.

Q#16 Can the curly brackets { } be used to enclose a single line of code?

Answer: While curly brackets are mainly used to group several lines of codes, it will still work without error if you used it for a single line. Some programmers prefer this method as a way of organizing codes to make it look clearer, especially in conditional statements.

Q#17What are header files and what are its uses in C programming?

Answer: Header files are also known as library files. They contain two essential things: the definitions and prototypes of functions. C programming is actually functions that are defined from within each header files. Each header file contains a set of functions. For example: stdio.h is a header file that contains definition and prototypes of commands like printf and scanf.

Q#18What is syntax error?

Answer: A syntax error is an error in the source code of a program. Since computer programs must follow strict syntax to compile correctly, any aspects of the code that do not conform to the syntax of the programming language will produce a syntax error.

Q#19 What are variables and in which way is it different from constants?

Variables are the terms which can change or vary over time. It does not remain constant, unlike constant. For example, the height and weight of a person do not remain constant always, and hence they are variables.

The difference between variables and constants is that variables can change their value at any time but constants can never change their value.

Both will also hold a particular value. Values held by a variable can be changed. Constants are given values at one time only, placed at the beginning of a program. This value is not altered in the program.

M u l t i p l e   C h o i c e s
Q u e s t i o n s

1. Who is known as the father of C Language?
    1. James A. Sosling
    2. Vjarne Stroustrup
    3. Dennis Ritchie
    4. Dr. E. F. Codd

2. C Language was developed in the year _____
    1. 1970
    2. 1975
    3. 1980
    4. 1985

3. Which one is not a reserve keyword in C Language?

    1. auto

    2. main

    3. case

    4. register

4. A C variable name can start with a _____

    1. Number

    2. Plus Sign (+)

    3. Underscore

    4. Asterisk (*)

5. Prototype of a function means _____

    1. Name of Function

    2. Output of Function

    3. Declaration of Function

    4. Input of a Function

6. Name the loop that executes at least once.

    1. For

    2. If

    3. do-while

    4. While

7. C Language developed at

    1. AT & T's Bell Laboratories of USA in 1972

    2. AT & T's Bell Laboratories of USA in 1970

    3. Sun Microsystems in 1973

    4. Cambridge University in 1972

8. Which of the following are fundamental control structures?

    1. Iteration

    2. Branching

    3. Sequencing

    4. All the above

9. The&& and || operators compare two
    1. boolean values
    2. boolean value
    3. numeric values
    4. numeric value

10. C Language program are converted to machine language with the help of;
    1. Compiler
    2. Editor
    3. Interpreter
    4. Linker

11. C variable cannot start with
    1. An alphabet
    2. Numeric value
    3. Symbol
    4. Both 2 and 3

12. Which of the following shows correct hierarchy in arithmetic operators?
    1. + - * /
    2. / * + -
    3. */+-
    4. -+*/

13. An array element are always stored in _____ memory location
    1. Sequential
    2. Random
    3. Both random and sequential
    4. None of these

14. Bitwise operators can operate upon
    1. 1.Double and chars
    2. 2.Float and ints
    3. Float and double
    4. Ints and chars

15. Which was the first computer language for an electronic device?

    1. Machine Language
    2. Assembly Language
    3. Short Code
    4. FORTRAN

16: Visual Basic (VB) was derived from which of the following?

    1. BASIC
    2. ALGOL
    3. PERL
    4. C++

17. FORTRAN was developed at ____?

    1. Apple
    2. Sun Technology
    3. IBM
    4. Intel

18. What will be the output of the following statement ?

int a=10; printf("%d &i",a,10);

    1. error
    2. 10
    3. 100
    4. none of these

19. What will be the output of the following statements ?

int i = 3;

printf ("%d%d",i,i++);

    1. 1.34
    2. 43
    3. 44
    4. 33

20. Which one of the following is not a linear data structure?

    1. Array
    2. Binary Tree
    3. Queue
    4. Stack

ANSWER KEYS

1	3	11	4
2	1	12	3
3	2	13	1
4	3	14	4
5	3	15	3
6	3	16	1
7	1	17	3
8	4	18	4
9	2	19	2
10	1	20	2

CHAPTER 7

INTERNET & EMAIL

General Objective:

Understand basic concepts of Internet and Email.

Specific objectives:

After studying this chapter students should be able to:

1. Learn about Internet & browser window

2. Search, Save and Print a page from internet

3. Create, Read & Send E-Mail

4. Learn about Drop Box / Online/ Sky drive/ Cloud data etc.

5. Work on File attachment.

6. Upload and download file(s) and software(s)

7. Explain some advance features over the internet and search engines

8. Differentiate Internet, Intranet and Extranet

7.1 - LEARN ABOUT INTERNET & BROWSER WINDOW

"The network of networks around the whole world is called Internet." OR "Internet can be defined as a huge collection of millions of computers, all linked together on a computer network. This is a global network that allows all of the computers to communicate with one another". Due to this network all computers can communicate with each other.

The Internet started in the 1960s as a way for government researchers to share information. Computers in the '60s were large and immobile and in order to make use of information stored in any one computer, one had to either travel to the site of the computer or have magnetic computer tapes sent through the conventional postal system.

Another catalyst in the formation of the Internet was the heating up of the Cold War. The Soviet Union's launch of the Sputnik satellite spurred the U.S. Defense Department to consider ways information could still be disseminated even after a nuclear attack. This eventually led to the formation of the ARPANET (Advanced Research Projects Agency Network), the network that ultimately evolved into what we now know as the Internet. ARPANET and the Defense Data Network officially changed to the TCP/IP standard on January 1, 1983, therefore, January 1, 1983 is considered to be the official birthday of the Internet.
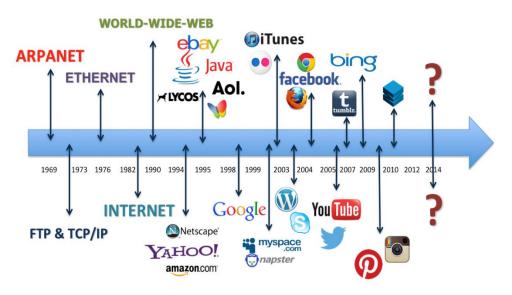

Figure 7.1 (a) - Brief History of the Internet

DESCRIBE HOW INTERNET WORKS

To view a web page from your browser, the following sequence happens:

1. You either type an address (URL) into your "Address Bar" or click on a hyperlink.

2. Your browser sends a request to your ISP server asking for the page.

3. Your ISP server looks in a huge database of internet addresses and finds the exact host server which houses the website in question, then sends that host server a request for the page.

4. The host server sends the requested page to your ISP server.

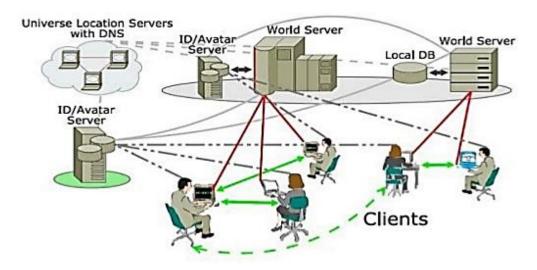5. Your ISP sends the page to your browser and you see it displayed on your screen.

Figure 7.2 (b) - 3D Internet Architecture

A home computer may be linked to the Internet using a phone – line ISP. A computer in a business or university will usually have a network interface card (NIC) that directly connects it to a Local Area Network (LAN) inside the business.

The business can then connect its LAN to an ISP using a high speed phone line like a T1 line. A T1 line can handle approximately 1.5 million bits per second, while a normal phone line using a modern can typically handle 30,000 to 50,000 bits per second.

ISPs then connect to larger ISPs, and the largest ISPs maintain fiber – optic backbones" for an entire region. Backbones around the world are connected through fiber-optic lines, undersea cables or satellite links. In this way, every computer on the internet is connected to every other computer on the Internet. Internet is a data communication system. Through this system millions of computers in the world have linked together. In only one second several thousands of bytes travel on the Internet. This extremely large network of computer networks combines all the three major methods of communications i.e

1. Earth-based telephone lines (WAN system)
2. Sea-based Fiberglass cables (Submarine cables)
3. Ether based satellite communications systems (Cyber Space)
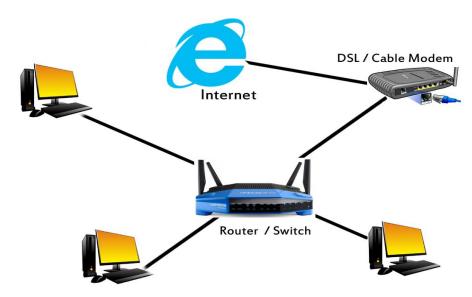

Figure 7.1 (c) - Wide Area Network (WAN)

The internet is not a real entity or a place that has building or a place. Instead, it is the result of a collaborative effort of people and computers throughout the world. The end result is an electronic link to the world of information and entertainment.

In simply words, the Internet is a network of connected computers that provide us a facility of exchange data, messages, and files with other computers that are connected to the Internet. The Internet has grown rapidly since 1990.

To understand how the Internet works, we need to have sufficient knowledge of "Networking" i.e. the connection of different computers in network.

7.2 - SEARCHING, SAVING AND PRINT A PAGE FROM INTERNET

Searching:

Searching the internet can be a frustrating business. You enter a word or a phrase into a search engine and up comes a stack of irrelevant information. What you need is the ability to refine your search to get exactly what you want. In this article, we explore seven steps that you can take to pinpoint specific information online.

- **Vary Your Search Engine:**

Search engines sort through about 625 million active websites to provide you with content. You may favor one, but don't let habit restrict you. No search engine is perfect, and they all have different blind spots.

- **Use Specific Keywords**

Keywords are the terms that you use to find content on the internet. Making your keywords as specific as possible will help your search engine to track down the information that you want.

Say, for example, that you want to find a local supplier that can design an exhibition stand for your company. If you type **stand design** into your search engine, the results will include many pages about other types of stand, whereas typing exhibition stand designer will return a more concise range of companies.

You can further refine your search by including other specific keywords. If you add your location, for example, you'll likely find someone local.

- **Use Quotation Marks**

Enclosing a search term within quotation marks prompts the search engine to search for that specific word or phrase. If the term is a single word, using quotation marks will cut out stemmed variations of it. For example, if you search for the word **director**, you'll likely receive a lot of results for direct, direction, directions, and so on, too. Typing "director" (with quotation marks), however, will ensure that you only get results for that stem word.

If the search term is a phrase, your search will be for that specific phrase, rather than for all the component words as individual items. So, for example, if you search for the phrase director of human resources, without quotation marks, your search will return results based on all of the words in the phrase (except of, which is a stop word.) Surrounding the term with quotation marks, however, will generate results that feature this specific term.

- **Refine Your Search Using Operators**

Other characters or terms, known as operators, allow you to narrow down your internet search in more targeted ways. We explore a few, below:

- o **Wildcard Searches:** use the * symbol as a placeholder for another word. For example, searching for * man in the world returns results for the richest man in the world, the tallest, the oldest, and so on. Wildcard searches are also useful when, for example, you don't know the full text of a quote.

- o **Combination Searches:** the OR operator enables you to search for two or more terms simultaneously, and is most useful when those terms are very similar. Typing selling OR retailing, for example, will return pages where either of the terms is used, without both needing to be present.

- **Use of AND**. This operator ensures that you receive only search results that include two or more terms. For example, the search "Smee Computers" AND "Devlin Corporation" would only deliver search results that includes the names of both companies.

- o **Search a Specific Site:** when you type site: followed by the URL of the website that you wish to search and a search term, you limit your search to a single website. So, site: mindtools.com "human resources" will return all the pages from MindTools.com that feature the term "human resources."

- o **Finding Related Sites:** another useful operator is related: Typing this in front of a web address that you already know – as in related:xyz.com – your search results will deliver a range of websites that are similar to xyz.com.

▪ **Key Points**

The internet is vast and often confusing, and in order to find what you want, you need to take some basic steps to make your search as focused and rewarding as possible. Strategies for pinpointing the best, most relevant content include the following:

- **Vary your search engine:** in fact, get used to using several, as they have different strengths.

- **Use specific keywords:** be as specific as you can in your wording.

- **Simplify your search terms:** strip out unnecessary stop words and avoid suffixes.

- **Use quotation marks:** this narrows searches down to particular words and phrases.

- **Remove unhelpful words:** remove confusing or misdirecting terms from your searches with the - (minus) operator.

- **Refine your search using operators:** use operators to search specific sites, related sites, and particular combinations of terms.

- **Avoid search pitfalls:** the internet is a selling tool as well as a fantastic resource. Be sure that you only view advertisements if you want to.

Saving a Webpage:

Saving a webpage can be useful when you plan on accessing a particular webpage offline, or if you want to capture the content on a webpage indefinitely without having to worry about the content changing or being removed at a later date. All web browsers can save web pages for offline viewing, and you can even use special programs to download every page on a site at once.

Here are steps to save a webpage;

STEP-1: Open any web page

Figure 7.2 (a) - Open any web page

STEP-2: Right Click on the page and click "Save Page As"
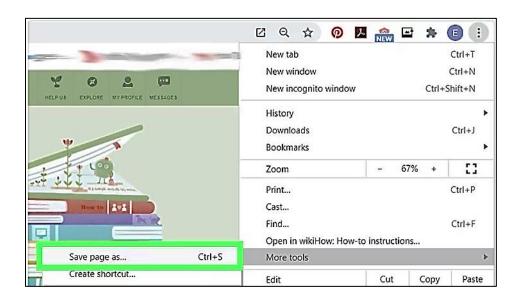

Figure 7.2 (b) - Right Click on the page and click on "Save page as…"
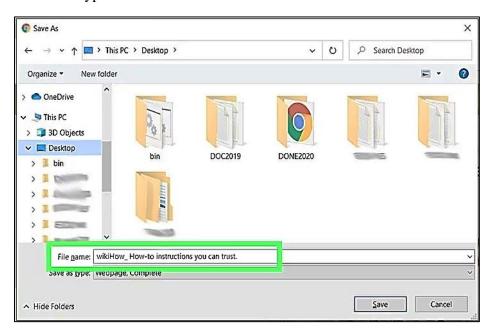
STEP-3: Type the name for file

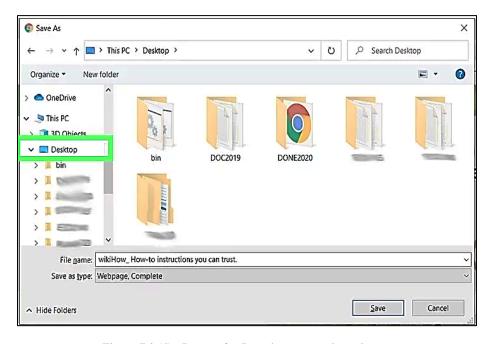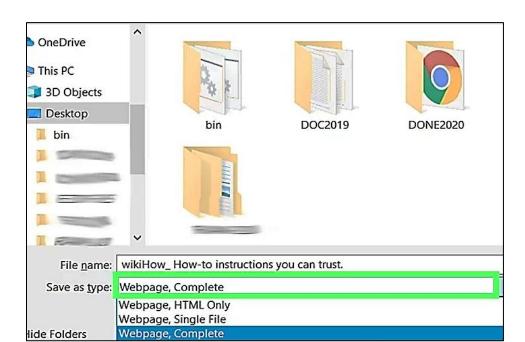**Figure 7.2 (c) - Type File Name**

STEP-4: Select location for file.

Figure 7.2 (d) - Browse for Location to save the webpage

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STEP-5: Select "Save As Type" and click "Save"

Figure 7.2 (e) - Choose "Save As" Type

Printing a Webpage:

A web page's screen appearance is no guarantee of how it prints. There are many different elements, including pictures, words, and frames, that you have to consider before printing. Many modern printers have an option that allows you to print a page exactly as it appears on screen.

Printing a web page is a fairly simple process, but it differs slightly depending on the Internet browser you use. To proceed, select your preferred browser from the list below and follow the instructions.

- **Microsoft Edge**

If you are using Microsoft Edge, follow these steps.

1. Open Microsoft Edge.
2. Click the More ⋯ icon in the upper-right corner of the screen.
3. Select Print from the drop-down menu that appears.
4. In the window that appears, under the Printer section, choose the printer you'd like to use or print to PDF.
5. Click the Print button at the bottom of the window.

- **Internet Explorer**

If you are using Internet Explorer, follow these steps.

1. Open the Internet Explorer browser then open the page you want to print.
2. Click Tools in the upper-right corner of the browser window.
3. Move your mouse pointer over Print in the drop-down menu that appears.
4. Click on Print... to bring up the Print Menu.
5. Make sure the appropriate printer is selected and adjust settings.
6. Click Apply (if you made any changes), then Print.

- **Google Chrome**

If you are using Google Chrome, follow these steps.

1. Open the Chrome browser and pull up the page you want to print.
2. Click Customize and control Google Chrome in the upper-right corner of the browser window.
3. Select Print... from the drop-down menu that appears.
4. In the window that appears, under Destination, you can see where your document prints.
5. If you need to change printers or print to PDF, click Change... and make your selection.
6. When you're done making changes, click the Print button.

- **Mozilla Firefox**

If you are using Firefox, follow these steps.

1. Open the Firefox browser and pull up the page you want to print.
2. Click Open menu in the upper-right corner of the browser window.
3. Click the Print icon on the drop-down menu that appears.
4. In the window that appears, click the Print... button in the upper-left corner.
5. Make sure the appropriate printer is selected and adjust settings.
6. Click OK to print. You can also press Ctrl+P or Cmd+P to bring up the Print Menu.
7. You may highlight and print only a portion of a page to save paper and ink.

7.3 - E-MAIL

Email is a system for delivering messages over the Internet. An e-mail sender or recipient can be anywhere in the world. E-mail is the first really popular internet application; it allows people to hold discussions over great distances. It can be sent to anywhere in the world to anyone who uses the Internet. E-mail can take as little as few seconds to go across a country, or even around the world.

It leaves a written record. You can keep copies of e-mail messages you send and receive, for your record. One message can be send to a number of people. Pictures, documents and other computer files can also be sent along with the message.

CREATING, READING & SENDING E-MAIL

Creating & sending an email:

Figure 7.3 (a) - Gmail Compose View

1. Open Gmail.
2. On the left, click ✚ Compose.
3. (Optional) To change your window size, in the upper corner, click Maximize   or Exit full Screen ✖.
4. Add recipients and a subject.
5. Enter your message. Email you start writing but don't send are automatically saved in Drafts on the left.
6. (Optional) Add attachments, such as Drive files ⬥ or photos ▣.
7. Click Send.

To cancel sending an email, at the bottom of the window, click Undo.

Reading an Email:

Unread emails are bold. To open an email, click it.

By default, replies to email are grouped into conversations. Keeping all email together in a thread makes it easier to keep track of them and saves space in your inbox.

If you prefer to separate your existing email from future email, you can turn off conversation view.
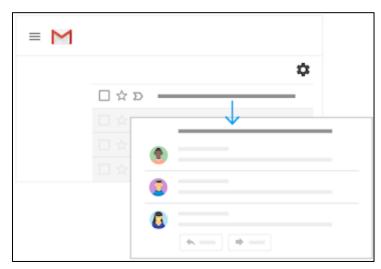
Figure 7.3 (b) - Gmail Inbox View

Turn off conversation view:

1. At the top right, click Settings.
2. In the General tab, scroll to Conversation View and select Conversation view off.
3. At the bottom, click Save Changes.

7.4 - FILE ATTACHMENTS

In order to attach files with email, follow these steps;

1. Open the Gmail home page.
2. Click Compose.
3. Click Attach.
4. Click Attach file or Insert from Drive.
5. Choose the file you want to attach.

7.5 - UPLOADING AND DOWNLOADING FILE(S) AND SOFTWARE(S)

Uploading means data is being sent from your computer to the Internet. Examples of uploading include sending email, posting photos on a social media site and using your webcam. Even clicking on a link on a web page sends a tiny data upload. Downloading means your computer is receiving data from the Internet.
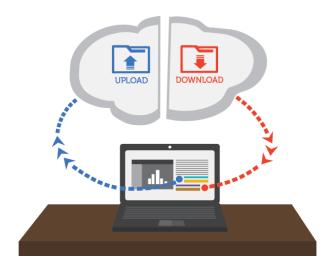

Figure 7.6 - Uploading and Downloading files

While exploring the Internet, you've probably encountered the terms downloading and uploading. Downloading means receiving data or a file from the Internet on your computer. Uploading means sending data or a file from your computer to somewhere on the Internet.

These terms describe activities you may have already learned how to do. If you've ever opened an example document in one of our tutorials, you've downloaded that file. If you've ever shared a photo you took on Face book or another social media site, you've uploaded that photo.

There are built in features with email services to upload and download files. However, there are several applications which allow users to upload and download files on the internet. Google Drive App is one of the popular software to upload and download files. IDM (Internet Download Manager) is another software used to download files.

7.6 - SOME ADVANCE FEATURES OVER THE INTERNET

- ▪ **Web Hosting:**

A service that allows the users (organizations / individuals) to publish the websites on internet is called web hosting. Any person or company having its own server and rents out web space for hosting the websites on internet can be called Web Host. A Web Hosting Company rents out space on their server for monthly fee with different packages. By using this service, users become able to show their websites on internet. Websites are stored on special computers called servers.

Figure 7.7 (a) - Web Hosting

When the users enter website address on browser, the computer automatically connect to the server and then the WebPages will be delivered to them. Today, there are thousands of web hosting services from free service to special packaged hosting service. In Paid hosting package, Web Hosting Service gives the full backup of websites, security, credit card processing, email, integrity of content and all kind of maintenance.

- ▪ **Fast Data Downloading**

Everyone wants to increase the downloading speed of their audio, video, gaming and other files. On internet, there is a variety of downloading software and tools. Internet Downloading Manager (IDM) is best tool available on internet to increase downloading speed. IDM is efficient tool that divide downloading speed to segments. Its efficiency can also be increase by using some tricks.

- **Web Conferencing Software**

Web conferencing software allows participants to conduct or attend meetings via the internet. This is also known as online meeting software or sometimes simply video conferencing itself. It enables remote meetings based on VoIP, online video, instant messaging, file sharing, and screen sharing. Web and video conferencing tools have become fundamental to how many organizations conduct business. The software enables remote employees, customers, and partners to connect easily and often. Specific uses for web conferencing software include:

- Presentations or webinars
- Conference calls
- Video meetings with multiple participants
- Running product demos and training
- 1-on-1 meetings with remote employees
- Face-to-face customer support

The top three benefits of using web and video conferencing software are:

- Enhanced communications
- Reduced travel costs
- Increased efficiency

Meet and **Skype** are examples of such software.

Ecommerce software is the engine behind the scenes of an online store, making it possible to easily manage inventory, add or remove products, calculate taxes, and everything else required to manage a website and fulfill orders.

WWW:

WWW stands for World Wide Web, which is also known as a Web, is a collection of websites or web pages stored in web servers and connected to local computers through the internet. These websites contain text pages, digital images, audios, videos, etc. Users can access the content of these sites from any part of the world over the internet using their devices such as computers, laptops, cell phones, etc. The WWW, along with internet, enables the retrieval and display of text and media to your device.

Figure 7.7 (b) - World Wide Web

The World Wide Web was launched in 1989 by English Scientist Tim Berners-Lee for adding footnote, and cross-references in hypertext documents.

www used to identify (distinguish) the content. The www uses http (Hyper Text Transfer Protocol) to link hypertext documents (web pages) on the World Wide Web. A web page is a document that is written in HTML (Hypertext Markup Language).

A hypertext document is also called a Web Page. The process of launching web page is called publishing the page. A collection of related web pages is called a Web Site. Web sites are hosted on server computers on the Internet. These computers are called Web Servers.

Use of Uniform Resource Locator (URL):

Each web page has a unique address on World Wide Web. This is called Uniform Resource Locator (URL). If you want to access a web page on the World Wide Web, you will have to specify the URL of the required page in the web browser. Protocol Identifier is the first part of the URL and Resource Name is the second part of the URL.

Basic Components of the URL:

1. Protocol
2. www
3. Domain Name
4. Resource Name
5. Question Mark signal
6. Parameters

SEARCH ENGINE

A program (software system) or a web-based tool that is used to search the documents (information) by using the keywords on World Wide Web (www) is called search engine. World Wide Web is full of information. Today, there are thousands of search engines with different abilities and powerful features. Google, Yahoo, Bing, MSN and Ask.com are the popular search engines.

Figure 7.7 (c) - Internet Search Engines

Google has become so powerful and well known search engine now a day. First text-based search engine was Veronica.

▪ **Search Engine Result Page (SERP):**

When a searcher types a keyword query then the search engine displays a page called Search Engine Result Page (SERP). SERP is a listing of results in response to a keyword queries by a searcher. These results are of two types: first type is organic results and the second is sponsored results.

Organic results are retrieved by the search engine's algorithm and sponsored are advertisements. The results are ranked on a search engine according to the queries. For organic results, each result has the title of post or article, permalink and short summary (description) on the SERP while in sponsored results, the advertiser makes decision & chooses what to display on SERP.

- **How Search Engine Works?**

Internet search engines are special sites that are designed for help the people to find information stored on other websites. Crawling, indexing and ranking are the steps of a search engine.

- **Crawling:**

Each search engine on the internet has its own spiders that go to different websites to discover the new URLs and different contents. Search engines have special and advance program for the crawling process. Web crawlers are the computer programs that scan and reading the websites. They also called spiders, bots and automatic indexers.
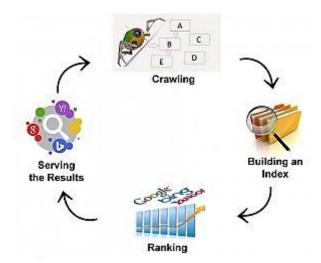

Figure 7.7 (d) - How internet Search Engines Work

When a new web page is found, the spider reads the content and images. First Spiders go to the website and look at the robots.txt file (used for crawling restrictions by the webmasters). After crawling the URLs, they generate a copy of each page of the website and then pass it to index.

▪ **Indexing:**

Index is the sets of database that contain millions of pages to display on search. Index is the big list of web pages and words. Indexed data is stored in encoded format to save the space. When a user types a query on search bar of a search engine, the search engine goes to its index library to fetch the required information for display. The search engine find millions of information in library but the algorithm of a search engine decides what information to display on SERP (Search Engine Result Page). Regularly updated websites with unique and genuine contents are given better position on SERP.

▪ **Ranking:**

The last step of search engine is ranking. Each Search engine has its own ranking algorithm to rank the web pages of a website based on keywords. Search engines regularly update their algorithms.

▪ **List of Top 10 Search Engines in the World:**

1. Google

2. Bing

3. Yahoo

4. Baidu

5. Ask.com

6. AOL.com

7. Excite

8. DuckDuckGo

9. WolframAlpha

10. ChaCha.com

HOW TO SEARCH TOPICS ON DIFFERENT SEARCH ENGINES

- **Search Topics Using GOOGLE Search Engine:**
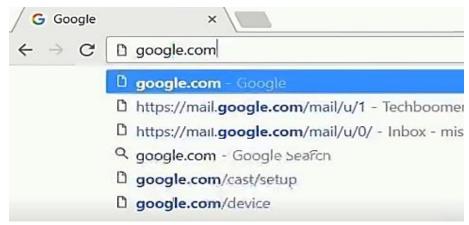
STEP-1: Open www.google.com

Figure 7.7 (e) - Google Search Page

STEP-2: Type the topic in the search bar and press ENTER

Figure 7.7 (f) - Google Search Engine

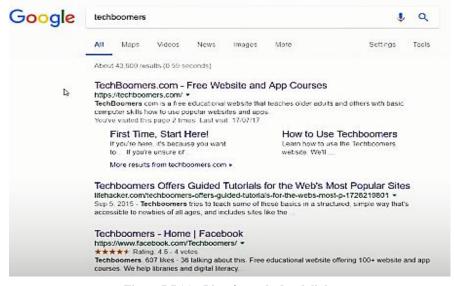STEP-3: From the searched list, click on any link close to your desired search.

Figure 7.7 (g) - List of searched web links

You may add more words to search bar in order to get the most desired results.

- **Search Topics Using YAHOO Search Engine:**

STEP-1: Open YAHOO home page i.e www.yahoo.com

Figure 7.7 (h) - Yahoo Search Engine Interface

STEP-2: Type the search related words in the search bar and click on the search button next to the search box

STEP-3: Out of the given list of topics select the most suitable one or you may repeat the process by adding more words to your search for getting the best results.

7.7 DIFFERENCE BETWEEN INTERNET, INTRANET AND EXTRANET

- **Internet:**

1. Internet can be described as a global system of interconnected computer network.
2. Internet is the largest network in as far as the number of connected devices is concerned.
3. Internet is a means of sharing information throughout the world.
4. It is not regulated by any authority.
5. Content in the network is readily accessible by everyone who is connected.
6. Internet has no known ownership.
7. Internet is unregulated and uncensored.
8. Users have unrestricted access and can access internet anonymously.
9. Security is dependent of the user of the device connected to network.
10. An example of internet is the network you use to google words with.
11. Internet contains different source of information and is available for all.
12. Users need no training on how to work with the network.

- **Intranet:**
  1. Intranet can be described as a network of computers or a private network designed for a specific group of users (organization).
  2. It is a small network with a few number of connected devices.
  3. It is used to share confidential information within the organization.
  4. It is regulated by a specific organization.
  5. The data in the network is accessible by the organization members only.
  6. Ownership of intranet is by a single organization.
  7. Intranet is regulated by the organization policies.
  8. An intranet may be accessible from the internet, but it is protected by a password and accessible only to authorized users.
  9. Security of the network is enforced through a firewall.
  10. An example intranet is a company like ExxonMobil using internal network for its business operations.
  11. Intranet contains only specific group information.
  12. Time is required to train users on how to work with the network.

- **Extranet:**
  1. Extranet can be described as a private network that uses public network to share information with clients (suppliers and vendors).
  2. It is a small network with a few number of connected devices.
  3. Extranet is a means of conveying information between members of the organization and external members.
  4. It is regulated by multiple organizations.
  5. The content on the network is accessible to members of the organization and external members with access to the network.
  6. Ownership of extranet is by a single or multiple organizations.
  7. Extranet is regulated by contractual agreements between organizations.
  8. An intranet may be accessible from the internet, but it is protected by a password and accessible only to authorized users.
  9. Security of the network is enforced through a firewall that separates internet and extranet.
  10. Example of extranet is when companies like HP, Intel and Lenovo decide to use the same network for related business operations.
  11. Extranet contains only specific group information.

12. Time is required to train users on how to work with the network.

EXERCISE

Multiple Choice Questions

1. The network of a company's own computers is called;
    (a) Internet   (b) Intranet   (c) Extranet   (d) All of these

2. Global network of computers is called;
    (a) Internet   (b) Networking   (c) Intranet   (d) Extranet

3. The software used to transfer data from one computer to another computer in internet is called;
    (a) HTTP   (b) TCP   (c) FTP   (d) All these

4. To receive data in computer from internet is called;
    (a) Downloading   (b) Uploading
    (c) Transferring   (d) None of these

5. First page of website is called;
    (a) Title page   (b) Home page
    (c) Webpage   (d) First page

6. The protocol used to transfer files on internet;
    (a) TCP   (b) ISP   (c) FTP   (d) HTTP

7. Example of World Wide Web document is
    (a) MS Word   (b) Email   (c) Web page   (d) World document

8. In an email address, the symbol used between username and email service provider is;
    (a) $ (b) #   (c) @   (d) A

9. URL is a short form of;
    (a) Universal Resource Locator   (b) Unlimited Resource Line
    (c) Under Rule Law   (d) None of these

10. Common name of web address is;
    (a) HTML   (b) URL   (c) WWW   (d) Web

11. A web page may contain;
    (a) Text   (b) Pictures   (c) Audio or video   (d) All

12. FTP stands for;
    (a) First transmission plate form   (b) File transfer protocol
    (c) First Transfer Protocol   (d) File Transmission Protocol

13.   A website is a combination of;

(a) Web addresses   (b) Web pages

(c) Web pictures   (d) Web sites

14.   Software used to see website from internet.

(a) Search engine   (b) Web browser

(c) Web searcher   (d) Web processor

15.   WWW stands for;

(a) Wild Work Web   (b) World Wide Web

(c) Word Wide Web   (d) Whole Word Web

16.   To interconnect the computer, this medium is used;

(a) Telephone line   (b) Fiber optical cable

(c) Satellite or wireless   (d) Any of these

17.   The computer from which information can be gain through internet from anywhere in the world.

(a) Host   (b) Server   (c) Main Hub (d) Both a & b

18.   All the emails received are stored in this folder of your email account.

(a) Email folder   (b) Mail box   (c) Inbox   (d) Home box

19.   The website which is used to search different web sites from internet is called;

(a) Search web   (b) Search engine

(c) Search directory   (d) Search tool

20.   The default browser of windows 10 is;

(a) Google chrome   (b) Edge

(c) Firefox   (d) Opera

21.   This is not Microsoft browser;

(a) Edge   (b) Internet explorer

(c) Firefox   (d) All these

22.   Search engine is basically a;

(a) Powerful website   (b) Powerful engine

(c) Powerful webpage   (d) Net driver

23. The service of internet by which data can be stored on remote saver.

    (a) Internet disk   (b) Internet store

    (c) Cloud storage   (d) Mass storage

24. The example of cloud storage is;

    (a) Hard disk   (b) One drive

    (c) Flash drive   (d) None of these

25. Limit of free data storage on "one drive "is;

    (a) 2.5 GB   (b) 5 GB   (c) 500 MB   (d) 700 MB

26. This is an example of online cloud storage.

    (a) One drive   (b) Drop box   (c) Google drive   (d) All these

27. In email window, cc stands for;

    (a) Carbon copy   (b) Clear copy

    (c) Close copy   (d) None of these

28. HTTP stands for;

    (a) Heavy Traffic Transfer Plan

    (b) Hyper Text Transfer Protocol

    (c) High Tension Transmission Project

    (d) None of these

29. This feature is not related to internet.

    (a) World Wide Web   (b) Google

    (c) FTP   (d) None of these

30. Network of computers of an organization which gives access to some specific consumers is called;

    (a) Networking   (b) Internet   (c) Extranet   (d) Intranet

31. If a person is connected with internet, then it is called;

    (a) Connected   (b) Online

    (c) Internet attach   (d) Any of these

32. The most popular search engine is;

    (a) Google.com   (b) Bing.com

    (c) Yahoo.com   (d) Ask.com

33.   This option is available in window of edge browser.
        (a) Download   (b) History   (c) Favorites   (d) All these

34.   To transfer a file from computer to internet is called;
        (a) File transferring   (b) Uploading
        (c) Downloading   (d) File loading

35.   This file cannot be attached with email message.
        (a) Text document   (b) Spread sheet
        (c) Video   (d) None of these

36.   In email address, siralibutt@gmail.com, this part is the username;
        (a) sirali   (b) siralibutt@
        (c) siralibutt   (d) gmail.com

37.   With reference to internet, ISP stands for;
        (a) Inter Services Protocol   (b) Internet Service Provider
        (c) Internet Service Payment (d) None of these

38.   Different web pages are linked with each other through;
        (a) Email   (b) Fiber optical cable
        c) Hyper link   (d) Net link

39.   FTP facility is used to;
        (a) Web designing   (b) Web browsing
        (c) Transfer of files through internet (d) All these

ANSWERS KEY

1. (b)	2. (c)	3. (b)	4. (a)	5. (b)	6. (c)	7. (c)	8. (c)
9. (a)	10. (b)	11. (d)	12. (b)	13. (b)	14. (b)	15. (c)	16. (d)
17. (b)	18. (c)	19. (b)	20. (b)	21. (c)	22. (a)	23. (c)	24. (b)
25. (b)	26. (d)	27. (a)	28. (b)	29. (d)	30. (c)	31. (b)	32. (a)
33. (d)	34. (b)	35. (d)	36. (c)	37. (b)	38. (c)	39. (c)	

Short Questions

1.   What is internet?
2.   What is intranet?
3.   Which medium are used to connect the computers with each other.

4. Which software is used to transfer data on internet from one computer to another computer?

5. What is internet server?

6. Write 8 advantages of internet.

7. What is WWW and for what it stands?

8. What is web page?

9. Define website.

10. For what ISP stands?

11. What is web browser?

12. Define search engine.

13. What is modem?

14. What is URL?

15. Write full name of following domain names.

16. What is an email?

17. What is FTP stands for and for which purpose it is used.

18. What is meant by home page?

19. Write two advantages of email.

20. Write names of three email service provider companies.

21. What is meant by become "online".

22. What is an Edge browser?

23. Write name of four search engines.

24. What is meant by "Sign in" with respect to email?

25. What is meant by cloud storage?

26. What is meant by uploading and downloading?

27. What is "Inbox" in email?

28. For what FTP and HTTP stands for?

29. What is difference between intranet and extranet.

30. What is a host computer?

31. What is google?

32. What is meant by CC and BCC in email?

Long Questions

1. What is an internet? Write its advantages.

2. What is difference between web page & website? Also write disadvantages of internet.

3. Explain the following.

4. For which sector, following domains are used.

   1. .com   2. .gov   3. .edu   4. .mil

5. Explain the four components of a web address given below.

   www.pbte.edu.pk

6. Which software is used for uploading and downloading file on internet? What is meant by home page of a browser?

7. Give brief introduction of components of "edge" browser window.

8. Write method of saving web page on computer hard disk.

9. Write method of printing a web page.

10. Define search engine. Write names of two famous search engines. Write method of searching a website using search engine.

11. Write method of sending and reading an e-mail.

12. Write names of two email service provider companies and write method of sending a file through email.

13. Write some advance features of internet.

14. Write method of opening a website using "Microsoft Edge" browser.

15. What is cloud storage? Write note on sky drive and one drive.

16. Write difference between internet, extranet and intranet.