

ITT TRAINING NOTES

Define COMPUTER --- Computer is an electronic device or flexible machine that can manipulate data ..

C -----common

O-----operating

M-----machine

P-----particularly

U-----used for

T-----technical

E-----education

R-----research

OPERATIONS OF COMPUTER

- 1) **Input**---A computer accepts data that is provided by means of an input device such as keyboard , mouse etc
- 2) **Processing**--- A computer performs operations on the data to transform it in some way
- 3) **Output**---the computer produces the output on the device such as printer or monitor that shows the result of the processing operations.
- 4) **Storage**--- A computer stores the result of processing operations for further use.

It is also known as IPOS Cycle

ELEMENTS OF COMPUTER

- I) **Hardware**---physical parts of computer are termed as hardware
- II) **Software**---the term software refers to set of computer programs and procedures which Describes the program and how they are to be used

TYPES OF SOFTWARES

1) **System software**----it is set of one or more program designed to control the operations. Example

Operating system---it is interface between user and hardware

Programming language—these are the system software which transforms the instructions prepared by the programmer into a programming language into a form which can be interpreted and executed by the computer system

UTILITY PROGRAMS---utility programs are the set of one or more programs which help user in system maintainencetask&performing the task of routine nature ,some of the task commonly performed by the utility program are

a)formatting of hard disk

b) taking backup of files stored on hard disk on to the DVD &pendrive

2) **APLLICATION SOFTWARES**---It is set of one or more programs designed to solve specific problem

Or to do a specific task

EXAMPLE

Word processing Software —It enables us to make use of a computer system for creating ,editing & Printing documents .it is also known as MS WORD or WORD PROCESSOR

Spread sheet Software--- it is also known as MS EXCEL .it is numeric data analysis tool which allows Us to create a kind of computerised ledger

3) **DATABASE SOFTWARE**----- It is the set of one or more programs which enables us to create the database ,maintain it , organize its data into a desired form and to retrieve useful information from it

Front end language---PHP, DOT NET

Back end language--- ORACLE, SQL, MS ACCESS

III) DATA----- Raw facts and figures are termed as data like 3,4 are data

Information----Processed data is termed as information like 3+4 is 7 is information

USER—user is person who operates computer or uses it.

Procedure---procedure are the steps that one must follow to perform a specific computer related task , example ATM

LANGUAGES OF COMPUTER---

- 1) Machine level language--- it is also known as binary language ,it is written in binary code that is Zeroes and ones (0001001) base on the machine the language that is understood by the computer is only machine language.
- 2) Assembly language---- it uses numeric code
Suppose -a+b
Plus a,b
- 3) High level language --- C , C++ etc

TRANSLATORS---

- 1) Interpreter---it converts high level language into machine level language (line by line check & then convert)
- 2) Compiler---it also converts high level language into a low level language(it check whole program then convert)
- 3) Assembler—it converts assembly language into machine level language

MICROSOFT OFFICE

Extension ---docx

- 1) Quick access toolbar—the quick access toolbar provides us to access the command which are frequently used by default like save , undo & redo appears on quick access toolbar
- 2) Title bar---next to quick access toolbar is the title bar which displays the title of the document currently in use usually MS WORD names first new we open as document one
- 3) Ribbon—the ribbon is at the top portion of the document below the quick access toolbar and is used to issue the command ,it has 7 tags ,they are
a)home b)insert c) page layout d)references e) mailings f)review g)view
- 4) Ruler---ruler is located below the ribbon & is used to change the format of word document

SHORTCUT KEYS----

CTRL + shift+ A ----- format all letter s capital

CTRL+B-----bold

CTRL + page down---go to next page

CTRL + page up----- go to previous page

CTRL + E----- centre paragraph

Shift + F3---- change case

ALT+F4-----close

CTRL+C----- copy

CTRL+V-----paste

CTRL+X---- cut

CTRL +Shift + C-----copy format

Back space---delete one character to the left

Delete---delete one character to right

CTRL + Backspace-----delete one word to the left

CTRL + W----- close the active window
 CTRL + U-----underline
 CTRL + Shift + D----double underline
 CTRL + End---- go to end of document
 End---go to end of line
 Shift + End----select till end of line
 CTRL + F----opens the find dialogue box
 CTRL + D----opens font dialogue box
 F1---open word help
 CTRL + i-----italics
 CTRL + L--- left align paragraph
 CTRL + N ----opens the new word documents
 CTRL + o-----opens the open dialogue box
 CTRL + Shift + V-----paste format
 F7--- open spelling & grammar dialogue box
 CTRL + H----- open replace dialogue box
 CTRL + s--- save
 F12----save as
 CTRL + A----- select all
 CTRL + Home----go to the start of document
 Home--- go to start of line
 CTRL + Z -----Undo
 CTRL + Y----- Redo
 CTRL + F1----- hides or show the ribbon
 CTRL + Shift + W -----underline words but no space

HOW TO APPLY PASSWORD---

Go to --- (save as ---tools---general options)

AUXILIARY STORAGE DEVICE

This is long term non volatile memory .The term non volatile means that it stores and retain the programs and data even after the computer is switched off. These Devices are useful in transferring data or program from

from one computer to another these are two types of auxiliary storage devices

- 1) SEQUENTIAL ACCESS--- in sequential access the data stored in the media can only be read in the sequence and to get to a particular point on media we have to go through all the preceding points Ex Cassettes
- 2) RANDOM ACCESS--- it is also known as direct access media because a disk drive can access any point at random without passing through the preceding point .DVD,CD

Hard Disk----- the magnetic disk on which we can store computer data .hard disk hold more data and are faster than floppy disk .hard disk are less portable than floppy disk

Floppy disk --- unlike hard disk are portable because we can remove them from disk drive .floppy disk are slower to access than hard disk & have less storage capacity . but these are less expensive and are portable ,floppies are of two types

1) 5 ¼

2) 3 ½

Optical Disk ----these are the storage medium from which data is read and to which it is written by lasers .there are three types of optical disk

CD-ROM--- compact disk-read only memory .data In CD-ROM is permanent and can be read any number of times. But CD-ROM cannot be modified

WORM—the term stands for write once read many .with the WORM disk we can write data onto the WORM disk only once after that WORM disk behaves like CD-ROM

ERASABLE DISK--- optical disk that can be erased and loaded with new data are often refers to as erasable optical disk

DVD--- digital versatile disk ,digital video disk

Mail merge--- the term mail merge is typically used to describe the process of merging some form of address database within a form of letter to create a group of individual letter for example suppose we want to call 100 candidates for an interview then we will either type 100 letters one by one or just create letter and get 99 photographs of created letter after this we will fill names and local address on 100 letters one by one manually in all the above cases it will waste a time and processing speed .speed also becomes slow to avoid such problem to create 100 letters manually we use the concept of mail merge which is the automatic process in mail merge which is an automatic process in mail merge , we store name address in one file which is called data or the data source file & general body of letter which is common for all 100 candidates is stored in another file called master file or mail file

Go to --- insert – start mail merge ,select recipient ---type new list, Finish mail merge

Microsoft access –file is made of list which is known as back end

& word document displayed is front end

CLASSIFICATION OF COMPUTERS

Super computer --- super computer handle mostly complex scientific application or program .super computer has high technology which is used for special purpose suppose super computer are mainly used for whether forecasting ,airflow control traffic , defence system , railway reservation .super computer have high capacity memory & compute the data processing with very short time.

MAIN FRAME—main frame contains 3 processors

1)host processor – The host processor is responsible for controlling the other processors .all the peripheral devices(input & output devices) & mathematical operations

2) Front end processors—the front end processors is responsible for handling the communication from all the remote terminals .connect to computer system

3)back end processors—Back end processors is used to handle data retrieve operations

PORTABLE COMPUTERS--- the portable computers are very small in size .example laptop

IMBEDED COMPUTERS—these are build into special purpose devices such as video games ,microvave ovens smart video games recorders ,wrist watches ,alarm clock ,CD-players

CLASSIFICATION OF COMPUTER ON BASIS OF FUNCTIONS----

- 1) **Analog computers** – analog computers are those computers in which data varies continuously that is movement of data is continuous .these computers are used for measuring the temperature and pressure
- 2) **Digital computers**--- Digital computers are those computers in which data flow in discrete form that is by parts .example of digital computers is digital watch
- 3) **Hybrid computers** --- hybrid computers measures both continuous & discrete form of data .hybrid computers are combination of analog computer & digital computer example ECG machine

PARTS OF COMPUTER

- 1) **CPU**--- in order to work needs same sort of brain or calculator this device is known as central processing unit . CPU reads and executes program instructions ,performs calculations and makes decisions .The CPU is responsible for storing and retrieving information on disk and other media .it also handles information from one parts of the computer to another computer.

Function of CPU—

The CPU carries out instructions and tells the rest of the computer system .what to do .this is done by control unit of CPU which sends command signals to other component of systems

It performs arithmetic calculation Example comparison ,sorting & Combining this is performed by part of CPU known as arithmetic Logic unit (ALU) it is also hold data & instructions which are in current use .these are kept in main storage or memory

CONTROL UNIT---

THE control unit directs the entire computer system to carry out stored program instructions the control unit must communicate with both the arithmetic logic unit and main memory .the control unit uses the instructions contained in the instruction registers to decide which circuit needs to be activated the control unit coordinates the activities of the peripheral devices linked to the computer. The control unit instructs the arithmetic logic unit which arithmetic operations is to be performed

ARITHMETIC LOGIC UNIT (ALU)---

The arithmetic logic unit executes arithmetic & logic operations . Arithmetic operations includes addition , subtraction multiplication & division.

Logic operations compare numbers ,letters& special characters comparison operation test for 3 conditions are

- 1) equal to conditions—in which two values are same
- 2) less than conditions—in which one value is smaller than the other
- 3) greater than conditions—in which one value is larger than the other

MEMORY UNIT----

The memory unit is the part of the computer that holds data & instructions for processing .although it is closely associated with the CPU but in actual fact it is separate .memory associated with CPU is also known as primary storage ,main storage ,internal storage & main memory

When we load software from hard disk or CD-ROM it is stored in the main memory , there are two basics types of computer memory inside the computer .

- 1) RAM--- (random access memory) , this is the main storage & in place where the program and software we load gets stored . when the CPU runs a Programs . it fetches the program instructions from the RAM & carries them out . RAM can have instructions read from it by the CPU & also it can have numbers or other computer DATA written to it by the CPU when we switched a computer off whatever is stored in Ram gets erased.

RAM is considered as random access memory because anyone can access any memory cell directly the opposite of RAM is SAM

SAM—stores data as a series of memory cells that can only be accessed sequentially example cassettes

- 2) ROM (read only memory)---the CPU only fetch or read instructions from read only memory . ROM comes with instructions permanently stored inside and these instructions cannot be over written by the computers-CPU

When we switch computer off the contents of ROM do not get erased but can stored permanently therefore it is also known as non volatile memory

OPERATING SYSTEM--- it is interface between user &hardware ,example windows

TWO MAJOR OBJECTIVES OF operating systems are as follows—

1)making computer system user friendly—computer system consist of one or more processors, main memory & many types of input output devices such as disks terminals and the hardware resources correctly and efficiently is difficult job .hence to make computer system usable by large number of users v.it become clear several years ago that some way is required to program from the complexity of the hardware resources .the gradually evolved solution to handle this problem is to put a layer of software on the top of hardware to manage all the parts of the system and present the user with an interface that is easier to program and use this layer of software is known as operating software

2)managing the resources of computer system ---the second important objective of an operating system is to manage the various resources of the computer system . this involves performing such task as keeping track of who is using which resources ,granting resource request & accounting for resources usage

CLASSIFICATION OF OPERTING SYSTEM

1) Multi user--- multiuser operating system allows two or more users to run programs at the same time

2) multiprocessing --- this refers to the computer system ability to support more than one process at the same at than one process at the same time multi processing operating system enables several process to run concurrently

3) multitasking--- this allows more than one program to run concurrently

4) multithreading --- this allows different parts of single program to run concurrent multi threading is the ability of an operating system to execute differently parts of program called threats concurrent

GUI---graphic user interface(windows)

CUI---character or command user interface, example DOS (disk operating system)

MS –Excel

MS Excel is also known as spread sheet

A spreadsheet is computer application that simulates a proper worksheet ,it displays multiple cells that together made up a grid consisting of rows and columns each cell containing either alphanumeric text or numeric values

SPREAD SHEET DETAILS

1)worksheet – worksheet is a grid made up of horizontal rows & vertical columns .the excel 2010 worksheet contains 1048576 rows 16384 columns each intersection rows and columns forms a cell in which the user can store data

2) row number—it identifies the horizontal row in the worksheet it appears left boarder of the work sheet

3) column letter – it identifies vertical column in worksheet ,it appears on the top boarder of the worksheet

4)active cell—the active cell can be identified with the block outline .data is always entered in active cell

5)formula bar—the formula bar displays the value or formulas used in the active cell ,it can also be used for entering or editing data & formulas

6) name box—The name box displays the name of active cell

7) sheet tab—it displays the name of the worksheet

Mathematical function

1)ABS---absolute

It returns the absolute value of the number ,it is number without sign ,ex -11 will come 11

Syntax =ABS (Number)

2)countif---- it counts the number of cells within the range that meet the given criteria

Syntax =countif (range,criteria)

Here criteria stands for example = or > or < than any number say 10 or 12 or 13 ...

3)count --- to count the numbers

Syntax =count(number)

4)fact—it returns the factorial of number ,factorial of 4 is 4*3*2*1

Syntax =fact(number)

5)mod--- it returns the remainder after number is divided by divisor

Syntax =mod(number,divisor)

6)product---it multiplies all the number given as argument and returns the product

Syntax = product(range)

7) sign—it determines the sign of the number .it returns 1 if the number is positive & it returns zero if the number is zero .it returns -1 if number is negative

8) power ---it returns the result of the number raised to a power

Syntax =power(number,power)

7) sum ---total of numbers

Syntax =sum(range)

8) sum if ---it adds the cells specified by a given criteria

Syntax = sumif(range,criteria,sum range)

Sub range is selected----which is sub range

Logical functions

- 1) **If**---it returns one value if the conditions we specify ,evaluates to prove another value if it evaluates true or false

Syntax =(logical test, value if true, value if false)

=if(cell number>4,"pass","fail")

- 2) **Not**---it refers the value of its argument

Syntax =not(logical value)

=not(2+2=4) ---then answer will be false

=not(2+2=5) -----then answer will be true

RULES

a)=not(false value) it returns true

b)=not(true value) it returns false

- 3)**OR**---it returns true if any argument is true ,it returns false if all the argument are false

(mostly comes true)

Syntax =or(logical one value,logical 2 value,.....logical n value)

=OR(2+2=4) then answer will be true

=OR(2+2=4,2+2=7,2+6=9) then answer will be true

=OR(2+5=6) then answer will be false

RULES

a)=OR(true value) it returns true

b)=OR(false) it returns false

c)=OR(true,false,false) it returns true

- 4)**AND**---it returns true if all arguments are true ,it returns false if one or more arguments is false

(mostly comes False)

SYNTAX =AND(logical value 1,logical value 2,.....logical n value)

RULES

a)=AND(true,true) it returns true

b)=and(true,false) it returns false

main function

=if(range=4,countif(range,">5"),sumif(range,">5"))

[-----] [-----]

True value

false vale

Here first range is ---only one value

Second and third range ----is more than one value

Logical value means ---addition function ,subtraction function, like 2+3=5, 3-1=2 etc

=(G77>100,"a",If(G77>=50,"b",if(G77>30,"c",if(g77=<30"fail"))))

Answer---

10 fail

20 fail

30 fail

40 c

50 b

60 b

70 b

80 a

90 a

100 a

Priority condition is first taken ,so first condition taken is small

Process to covert powerpoint file into older version of powerpoint file

Open pptx file--- save as --- tag---general options---delete password

Save as type --- power point 97-2003 presentation

Short cut keys

F1--- help

F2--- edits the active cell putting the cursor at the end

F7--- display spelling and grammar dialogue box

F11---- creates a chart using hi lighter range

F12—save as

Shift + F11 ---insert a new worksheet

CTRL+F1 ----displays or hide the ribbon

CTRL+F2 ---- print preview

CTRL+F12—open the file open dialogue box

CTRL+F4---- closes the selected workbook windows

CTRL+2--- Bold

CTRL+3 ---italics

CTRL+4--- underline

Ctrl+5 stripe through

CTRL+k--- insert hyperlink

CTRL+S---- save

ERRORS IN EXCEL

#DIV/0!

The formula contains the blank cell which excel considered to be new value

#name?---there is invalid function name in the formula for example we write summ inserted of sum

#value ----the formula refers to a cell that contains data such as text that cannot be used in formula

#reference--- the formula refers to a cell that is not valid such as the cell that was deleted

4+2=6 DELETE 4 & 2 Cell row

#####--- the column is not wide enough to display the result of calculations

=Date(2012,1,2)

Statistical function

Sum--- it compute the sum of a particular defined range

Syntax =Sum(range)

Average--- it computes the average of the particular defined range

Syntax =average(range)

Max--- it will display minimum value from a particular defined range

Syntax =min(range)

Min--- it will display minimum value from a particular defined range

Syntax = min(range)

Count--- it counts the number the number of non blank cells in a particular defined range

Syntax =count(range)

CountA---it counts the number of cells which are non blank

Syntax =CountA(range)

Count blank--- count number of cells which are blank

Syntax =count blank(range)

POINT TO REMBER----

Orientation includes –1)landscape , 2)portrait

MS WORD is known as word processing

MS EXCEL is known as spread sheet

MS power point is known as presentation tools

EXTNSIONS

excel-- .xlsx

powerpoint--.pptx

word---- .docx

Date & time function

Date function—use to enter specific date in the cell

Syntax = date(year,month,day)

Day--- use to calculate day of the month from the date

Syntax =day(cell address)

Month—use to calculate the month number from the date

Syntax =month(cell address)

Year—use to calculate year from the date

Syntax =year(cell address)

TIME—use to enter specific time in the cell

Syntax =time(hours,minutes,second)

Hours—use to calculate hours from the given syntax

Syntax =hour(cell address)

Minutes – use to calculate minutes from the given time

Syntax =minute(cell address)

Second -- use to calculate seconds from the given time

Syntax =second(cell address)

TEXT FUNCTIONS

Upper—it is text string to all upper case

Syntax = upper(cell address)

Lower –it converts all letter in the text string to lower case

Proper—it converts a text string to proper case,the first letter is in upper case and all the other letters are in lower case

Trim--- it removes all the spaces from text string except for single spaces between the words

By Abhishek garg