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COMPUTER EDUCATION NOTES
Class: 7th

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Computer Education Unit – 1 (Hardware Basics) Notes 1st Term – 2020

Q. 3 – Define the following.

a) System Unit: System unit is a box where processing takes place. It consists of the main circuit board, processor, power supply and storage devices etc.

b) Memory: Memory stores data and instructions so that CPU can process them. It is the working space of a computer.

c) Processor: Processor works like a human brain. It is a silicon chip fixed o the motherboard. It carries out set of instructions and process them efficiently and accurately.

d) Barcode Reader: Barcode reader is an input device. It collects information by reading the barcode printed on different products.

e) Motherboard: Motherboard is the main circuit board. All the computer components are plugged/connected with it.

Q. 4 – Differentiate between the following.

Hardware	Software
Physical parts of computer system are known as hardware.	Set of instructions to perform any task is called software.
Hardware is made-up of electronic components.	Software is developed by writing instructions in a programming language.
Hardware may be Input device, output device, memory storage device etc.	Software is of two types System software and Application software.

Arithmetic Unit	Logic Unit
AU is used to perform mathematical operations like addition, subtraction etc.	Logic unit is used to compare two quantities like greater than and equal to etc.
It gives answer in the form of any value.	It gives answer in the form of true/false.

RAM	ROM
RAM is random access memory.	ROM is read only memory.
It is a type of main memory used to store data temporarily.	It is another type of main memory used to store data permanently.
Its contents are lost when power supply is cut off.	Its contents are not lost when power goes out.

Expansion slot	Expansion cards
Expansion slot is a long narrow socket on the motherboard.	Expansion card is a small circuit board on the motherboard.
Different expansion cards can be plugged in it like sound and LAN card.	It gives the computer capability to control any device like storage or input/output.

Input devices	Output devices
Devices used to enter data into the computer.	Devices used to receive data from the computer.
Takes the data from user and sends it to the processor for further processing.	Takes the processed data from processor and then sends it back to the user.
Keyboard, microphone and pointing devices etc.	Monitor, printers and speakers etc.

Q. 5 – Give brief answers to the following questions.

i) Define the brain of computer and write down the names of its components.

Processor works like a human brain. It is a silicon chip fixed on the motherboard. Its primary purpose is to carry out set of instructions and process the data efficiently and accurately. It is also known as Central Processing Unit (CPU).

ii) What are the main functions of arithmetic logic unit?

Arithmetic and logic unit is a component of central processing unit (CPU). All mathematical and logical problems are solved in this portion of processor.

Arithmetic unit performs mathematical operations like addition, subtraction, multiplication and division. Logic unit is used to compare two values and it gives answer in the form of true or false.

iii) What is read only memory?

ROM stands for read only memory. It is an area where data and instructions are stored permanently. It contains startup instructions of the computer and information about its hardware devices. It if fixed on the motherboard.

It is non-volatile memory. Information is not lost when the power is switched off. Data cannot be changed or removed from ROM that is why it is called read only memory.

iv) Write down three main uses of fingerprint reader.

Fingerprint reader captures a fingerprint impression. It is then translated into digital code. Its main uses are as follows:

1. It is mostly used for criminal investigations and security systems.
2. It is used for logging into a computer.
3. It is also used in a door lock for home security system.

v) What is the main function of a Robot?

Robots are mechanical agents which are developed to help human beings. They can also interact with physical objects. Robots are used in different fields such as car manufacturing, medicine, military and transportation etc.

Many factory jobs are performed by robots. Robotic hands are widely used in factories. NASA is using robots for space exploration.

vi) How many expansion slots are there in a computer? Write their names.

There are three types of expansion slots where different expansion cards can be plugged in. Names of these slots are as follows:

i. ISA (Industry standard architecture)
ii. PCI (Peripheral component interconnect)
iii. AGP (Accelerated graphics port)

vii)Write names of major expansion cards and explain two of them.

There are four major types of expansion cards. Expansion cards enhance the capacity of computer system to control different devices. Names of these cards are sound card, graphics card, network interface card and modem.

i. **Sound card:** It allows a computer to receive sound in digital form and reproduce it through speakers.

ii. **Network Interface Card:** This card enables a computer to connect and communicate with other computers.

viii) **What information is gathered from barcodes?**

Barcode is a set of light and dark lines present on different products. It is used as an input device that gives information directly to the computer for processing. It gathers information by reading a barcode.

Every barcode has a series of numbers known as "Universal Product Code". It reflects the country of origin, manufacturer's code, product name and check digit to verify code.

ix) What is cutting edge technology? Give some examples.

The most advanced stage in the development of computer technology is known as cutting edge technology. It is also known as leading-edge technology or state-of-the-art technology. The term "Cutting Edge" can be applied to any type of technology including automotive, medical, engineering and countless other industries. Examples are robots, fingerprint readers and barcode readers etc.

x) Why RAM is called volatile memory?

RAM is random access memory which stores data temporarily. Random access memory is called volatile memory because information stored in RAM is lost when the power is switched off. For example, you are typing a letter and the power goes off, the contents of the letter will not be saved.

Q. 6 – Match column A with Column B and write answer in Column C.

A	B	C
i) Motherboard	a) CPU	Main board
ii) System unit	b) AGP slot	Box
iii) Brain	c) Security systems	CPU
iv) Libraries	d) Main board	Barcode
v) Graphics/3D card	e) CU (Control Unit)	AGP slot
vi) Fingerprint reader	f) Robot	Security systems
vii) Peripherals	g) Box	I/O devices
viii)Traffic policeman	h) Non-volatile	CU (Control Unit)
ix) Mechanical agent	i) I/O devices	Robot
x) ROM	j) Barcode	Non-volatile
	k) Volatile	
	l) Sound card	

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Computer Education Unit – 2 (Software Basics) Notes 1st Term – 2020

Q. 3 – Define the following.

i) Software: Set of instructions given to the computer to perform a specific task is called software.

ii) Utility Program: Utility program allows a user to analyze, configure and to maintain the computer system. It performs tasks related to management of computer.

iii) File Manager: A utility program that helps user to locate, rename, move, copy and delete files. Windows Explorer is an example of file manager.

iv) Disk Scanner: This program is used to detect physical and logical problems of a disk. It checks the disk for errors and resolves them.

v) Device Drivers: A system software that tells the operating system how to communicate with a device is called device driver. A device cannot work properly without device drivers.

Q. 4 – Differentiate between the following.

File manager	Image viewer
A utility program to locate, rename, move, copy and delete files.	A utility program to view and manage images.
Windows explorer acts as file manager.	Windows picture and fax viewer acts as image viewer.

Application software	System software
Application software accomplishes tasks specified by user/users.	System software controls and directs the operations of a computer hardware.
A computer can perform various tasks without application software.	A computer cannot perform any task without system software.
Windows media player, MS-Excel and MS-Word are examples.	Operating system, device drivers and utility programs are examples.

Entertainment software	Educational software
They are developed to entertain users.	They are designed to help a user to learn a particular skill.
Mostly they are used or entertainment purposes like playing games etc.	They hep and guide users in different subjects like mathematics, science and English etc.
Media player and need for speed are examples.	Drill & practice software and educational games are examples.

Word processing	Spreadsheet
This software is used to create documents such as letters, reports and notes etc.	This software is used to work with numbers and formulas to perform calculations.
Data is entered page wise.	Data is entered in tabular form (rows and columns).
MS-Word and Notepad are examples.	Lotus and MS-Excel are examples.

Device drivers	Utilities
Tells the operating system how to communicate with any device.	Allows a user to analyze, configure and maintain the computer.
A device cannot work without drivers.	Performs tasks related to the management of computer.
Driver of printer and sound card are examples.	Disk cleaner and windows explorer are examples.

Q. 5 – Give brief answers to the following questions.

i) What is an operating system?

Operating system is just like the soul of a computer. It is a system software. A collection of programs that supervises and controls overall functions of a computer system. It also organizes all the data and runs other applications in the computer system. It creates a link between user and the computer. Microsoft Windows is the most popular operating system.

ii) List names of any five application software.

Names of application software are as follows:
i.   Windows media player
ii.   Google chrome
iii.   MS – Word
iv.   MS – Paint
v.   Internet explorer
vi.   MS – Excel

iii) What are utility programs?

Utility program is a system software that allows a user to analyze, configure and to maintain the computer system. It performs tasks related to management of computer, its devices and programs. There are different utility programs such as disk cleanup, windows explorer, windows picture and fax viewer, backup, security center, add or remove programs etc.

iv) Write down the basic operations of an operating system.

Some of the important operations performed by an operating system are as follows:

i.   Booting and providing a user interface: Operating system manages the startup process of a computer. It loads the system files in RAM.

ii.   Managing programs: It help users to work with multiple programs and applications simultaneously.

iii.   File management: It allows all users to manage files and folders.

iv.   Configuring devices: Operating system checks all the devices and loads their drivers when a computer starts.

v) Can a device work without device driver?

A device cannot work without having device drivers. Because device drivers tell the operating system how to communicate with the device. Some device drivers are automatically installed.

A device driver is a particular form of software that is designed to enable interact with hardware devices. Without the required device driver, the hardware device fails to work.

vi) Write down the names of windows image viewer and its working.

Image viewer is a utility program that provides an environment to view and manage images. This utility comes with the Microsoft windows with the name of windows picture and fax viewer.

The user can view, copy, move, print, edit, rotate, zoom and delete an image using this program. It also gives an option to view all the images as slideshow.

vii) How can a user delete unnecessary files from computer?

Disk cleanup utility program searches the disk for unnecessary files and allows the user to delete them safely. Using disk cleanup is as follows:

i.   Click Start button

ii.   Point to All program → Accessories → System Tools

iii.   Click Disk Cleanup (A dialogue box appears)

iv.   Select the drive you want to cleanup and click Ok

v.   Click the files you want to delete and click Ok

vi.   It deletes all unnecessary files from the drive

viii) List any three productivity software.

Productivity software helps users to work more effectively and efficiently to solve different problems. Popular productivity software's are as follows:

i.   Word Processing: Used to produce different documents.

ii.   Spreadsheet Software: Used to work with numbers and formulas.

iii.   Graphics Software: Used to draw pictures, 3D images and animations.

iv.   Multimedia Software: Used to create visual presentations.

ix) Write the steps to use disk cleanup utility in windows.

Using disk cleanup is as follows:

i.   Click Start button
ii.   Point to All program → Accessories → System Tools
iii.   Click Disk Cleanup (A dialogue box appears)
iv.   Select the drive you want to cleanup and click Ok
v.   Click the files you want to delete and click Ok
vi.   It deletes all unnecessary files from the drive

x) Write down any two uses of the following software:

i.   Word Processing:
   a. Creating, editing, saving and printing documents.
   b. Copying, pasting, moving and deleting **text** within a document.

ii. Spreadsheet:
   a. used to enter data in rows and columns (tabular form)
   b. used to create charts and graphs of different types

iii. Graphics:
   a. Used to view, move, print, zoom and rotate images
   b. Used to draw pictures, 3D images and animations

iv. Multimedia:
   a. Used to create visual presentations
   b. Multimedia devices are used to store multimedia content

Q. 6 – Match column A with Column B and write answer in Column C.

A	B	C
i) Reference software	a) MS – Word	Wikipedia
ii) Graphics software	b) Typing tutor	MS – Paint
iii) Entertainment software	c) Windows 7	Real player
iv) Educational software	d) MS – Paint	Typing tutor
v) Word processing software	e) Real player	MS – Word
vi) Operating system	f) Wikipedia	Windows 7
vii) Spreadsheet software	g) PowerPoint	MS – Excel
viii) Multimedia software	h) Disk cleanup	PowerPoint
ix) Utility program	i) MS – Excel	Disk cleanup
x) System software	j) Device driver	Device driver
	k) Manage file/folder	
	l) Configuring devices	