

SHORT QUESTIONS

INFORMATION AND COMMUNICATION TECHNOLOGY

17.1 Information and Communication Technology

(1) What is difference between data and information?

Ans:

DATA	INFORMATION
<p>"A representation of facts, concepts or instructions in the formalized manner suitable for communication, interpretation or processing by humans or machines is called data." OR</p> <p>"Data is a collection of facts. It is raw material of information."</p> <p>Examples:</p> <ul style="list-style-type: none"> • Numeric data • Alphabetic data 	<p>The raw facts arranged in suitable manner provide information. OR "Processed data is known as information."</p> <p>Example:</p> <ul style="list-style-type: none"> • Text • Graphics • Figures etc.

(2) Define the terms.

(i) Information technology (ii) Telecommunication

i. **Information Technology**

The scientific method used to store information, to arrange it for proper use and to communicate it to others is called information technology.

ii. **Telecommunication**

The method that is used to communicate information to far off places instantly is called telecommunication.

(3) What do you understand by information and communication technology?

Information and communication technology is scientific and technical methods and means to store, process and transmit vast amounts of information in seconds with help of electronic equipment.

17.2 Component of Computer Based Information

(4) What are the components of information technology?

Ans: (i) Hardware (ii) Software (iii) Data
(iv) Procedure (v) People

(5) What is difference between Hardware and Software?

Ans:

Hardware	Software
<p>The hardware of computer system consists of physical components installed in main computer box and all associated equipments interconnected in an organized way.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Mouse • Monitor screen • Printers 	<p>The term software refers to computer programs and the manuals that give the set of instruction to the hardware of compute that tells the CBIS parts what to do. After instruction the hardware part of CBIS produce the useful information from raw data.</p> <p>Examples</p> <ul style="list-style-type: none"> • Dos • Windows • Linux

17.3 Flow of Information

(6) What is meant by flow of information?

Flow of information

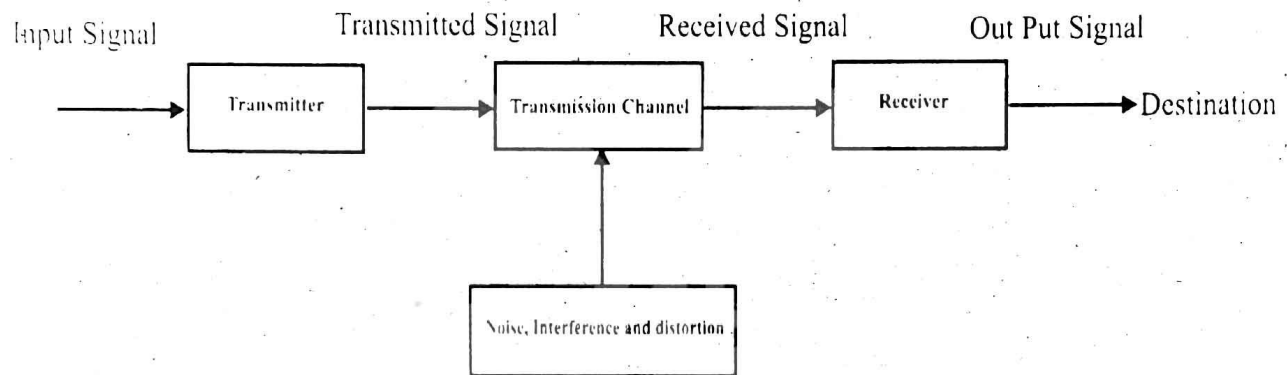
The transformation of information from one place to another place is known as flow of information. The information transferred in different way through telecommunication equipments.

(7) Why satellite communication system is based on microwaves instead of radio waves.

The radio waves are refracted by the different layers in the earth's atmospheric system. But the microwaves are not refracted. This does not lead weaken signal and easy to receive the information over long distance. That is micro-waves are used in satellite communication system.

(8) Draw flow chart of flow of information.

Ans:



17.4 Transmission of Electrical Signals

17.5 Transmission of radio waves through space

(9) What do you know about telephone? Describe its construction

Ans: telephone also has diaphragm to turn voice into electrical signals by vibration which are transmitted over phone lines.

Telephone system has two main parts:

(i) Mouthpiece / Transmitter

(ii) Earpiece / Receiver

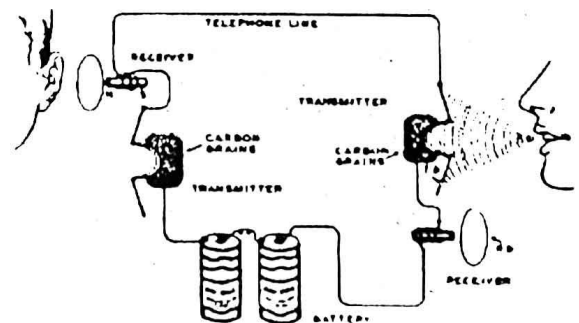
(10) What is function of Mouthpiece and Earpiece

Ans: Mouthpiece

When compressional waves of voice strike with diaphragm, the diaphragm also vibrated which compress the carbon and electrical signal produced. These electrical signals flow through the wire in the form of electrical current.

Earpiece

Receiver received electrical signal which flow through the electromagnet. The electromagnet produces a varying field cause the vibration in metal diaphragm. This vibration of the diaphragm produces sound waves.



(11) What is fax machine?

Ans: Fax machine is also known as 'Telefacsimile's'. Fax machine is used to send the copy of documents from one place to another place.

Fax machine scans the documents page and convert it into electrical signals and transmit it to another fax machine through telephone lines.

The receiving fax machine receive these electrical signals and converted these signals into copy with the help of printer

(12) What is cell phone? Describe its main parts.

Ans: Cell Phone:

A cell phone is device which consists on radio transmitter and radio receiver and used for two way communication. It send and receive the information with help of electromagnetic waves.

Construction and Working:

Main parts of cell phone network are as following

- Cells
- BS
- MSC

(13) What is meant by Modulation?

Ans: Modulation:

The process in which we superimpose information on electromagnetic waves called modulation.

(14) What do you know about photo phone?

Ans: In common telephone system, we can transfer and receive sound only but in photo phone. We can send and receive sound the picture also. By using the photo and phone number of our friends or family members on this telephone you can call them by pressing pad with their photos. Thus we can communicative with our relatives or friends on photo phone with the physical appearance of each other.

(15) How the desired station is picked through any radio station?

Ans: In a radio set, a variable capacitor is used to receive or pick the desire frequency of any radio signal. It is because the radio waves have broad spectrum of waves of different wavelengths and frequencies transmitted by different radio station simultaneously. A variable capacitor helps in picking the desired frequency of broadcasted radio waves.

(16) What is the difference between the mobile phone and the normal phone?

Ans: Mobile phone works on the basis of two way radio communication system. It is based on wireless systems. However in telephone, the signals are transmitted through telephone cables in the form of electrical pulses.

17.6 Transmission of Light Signals through optical fiber

(17) What is meant by optical fibre?

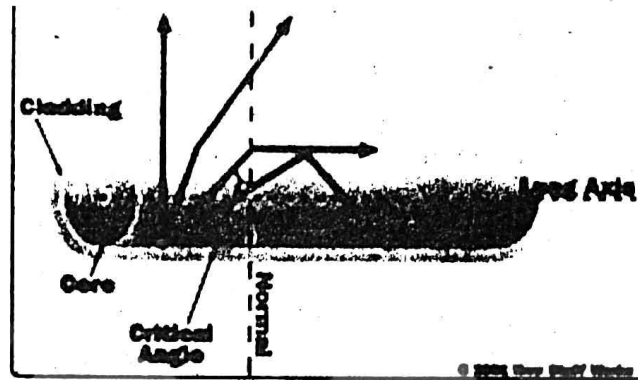
Ans: Optical Fiber:

An optical fiber or optical fibre is a flexible, transparent fiber made of high quality extruded glass or plastic, slightly thicker than a human hair. It can function as a waveguide, or "light pipe" to transmit light between the two ends of the fiber

(18) Describe working principle of optical fiber?

Ans: Working Principle:

The light enters the core at one end of optical fiber. These light beams hit the core-cladding interface and reflect back into the core. If the angle of incidence is less than critical angle the light beam escape from core which cause the data loss. If incidence angle is greater than of critical angle then the light beams totally reflect into the core. In this way large amount of data can be transferred from one place to another place in the form of light.



(19) What do you know about multimode?

Ans: Multimode:

When electrical signals are transmitted through wires, the signal lost increases with increasing data rate. This decreases the range of the signal. The optical fiber of multimode is 10 times bigger than fiber optics used in single mode cable. The light beams in core can travel by following different paths, that is why it is called multimode.

Advantage:

Multimode fibre optics are used to link the computer networks together and it can send information relatively short distances.

(20) What is computer?

Ans: Computer is machine that can be programmed to accept the data (input) process it (processing) to give useful information (output) and store it (storage) for further.

OR

“Computer is electronic machine which give useful processed data in short time after analyzing and arranging.”

MAIN PARTS OF COMPUTER

The some main parts of computer are given below

- Input devices
- Central processing unit (CPU)
- Output devices

(21) Briefly describe the types of computer.

Ans: Types of Computer

There are main types of computer.

1. Personal Computer:

It is general use. These are less powerful machine as compared to micro-computer.

2. Minicomputer:

These low cost computers use integrated circuits. These yet surprisingly powerful computer find their application in business and education. Minicomputer got their names due to their small size and have less powerful than main frame computers.

3. Main Frame:

Mainframe are large scale computer together with their supporting equipment cost millions of dollars. It is usually used in large firms for different functions.

4. Super computer

Supercomputers are largest, fastest and most expensive computer for complicated problems. Fastest supercomputer can perform more than one trillion calculations in one second.

(22) What is difference between input and output devices?

Input Devices	Output Devices
The device which are used to give the instructions to computer are known as input devices. Examples: Keyboard, mouse, scanner, trackball, touchpad, pointing stick, touch screen, light pen etc are the examples of input devices	The device takes results from computer and presents it in human readable form is called output devices. There are number of output devices. Examples: Video display unit/ visual display device or monitor, printers, floppy drives, hard disk, CD writer and speaker etc.

17.7 Information storage devices and Application of computer

(23) What is meant by storing devices? Name the different storage devices?

The devices which are used to store any important data or information are called information storing devices.

For Example

Audio, video tap, compact disc (CD), Laser Disc, Floppy Disk and Hard Disk. The storage devices work on different principles using electronics, magnetism and laser technology.

(24) Differentiate between primary and secondary memory?

Ans: Primary Memory

- Main memory is computer's primary storage. It is extension of the central process unit (CPU) and directly accessible to it. Main memory accepts data and instructions from input unit, exchanges data supplies instructions to the other parts of CPU.
- It is based on electronics and consists of integrated circuits (Ics). It is random access memory (RAM). It vanishes when the computer is switched off.

Secondary Memory

- Secondary memory also referred as backing storage is used to supplement the capacity of main or primary memory.
- The data storage devices are generally known as secondary memory. It is used to store the data permanently in the computer. When we open any program, data is

(25) **What are audio and video cassettes? How data is stored in these cassettes?**

Ans: Audio cassettes consist of a tape of magnetic material, on which sound is saved in a particular form of a magnetic field.

Storing information

The electric pulses produced by microphone change with respect to sound waves. These electric pulses change the magnetic field produced by electromagnet. Because of this magnetic field the magnetic tape is magnetized in specific form according to rise and fall of electric pulses. In this way this way sound is stored in specific magnetic pattern on this magnetic tape.

(26) **What is Floppy Disc?**

Ans: The floppy disc are the most common from secondary storage devices. It is made up of a small magnetically sensitive, flexible plastic wafer which coated with ferromagnetic material and enclosed in a rigid plastic cover which protects it. Most personal computers included at least one disk drive that allow the computer to read write information from on floppy disk.

Compact Disc (Cds)

It is molded plastic disk on which digital data (binary numbers) is stored in the form of microscopic reflecting and non-reflecting spots. The reflecting spots are known as 'pits' and non-reflecting spot knows s "lands".

Pits: Pits are spiral tracks encoded on the top surfaces of CD.

Lands: Lands are the area between the spits.

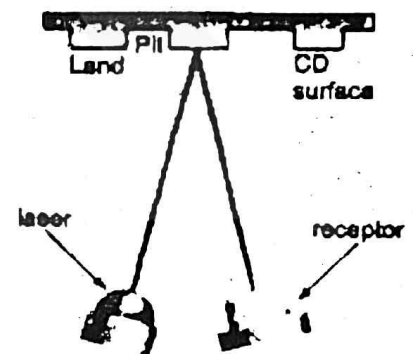


Fig. 17.18

Compact disc is laser based technology.

A fine laser beam scan the surface of rotating disk to read data. Pits and lands reflect different amount of laser light falling on the surface of CD. The reflected light from pits and lands converted into binary data. The presence of pit indicate '1' and absences of pit indicate '0'.

The data stored on CD is only readable data that cannot be altered or erased, therefore CD memory is called read only memory (ROM).

Storage Capacity

A CD can store over 680 megabyte data. A DVD the same size as traditional CD, is able to store up – to – 17 gigabyte of data.

Flash Drive

Flash drive is an electronic based device and consists of data storage ICs, and used to transfer data from one computer to another. It is small storage device which slightly larger than gum stick. Flash drive is easy to sue. We can simply plug flash drive in USB port and can copy past our created papers. Flash drive can separate from computer.

(27) Define program.

Ans: All the work is done by the computer in the light of those instructions which are called Program information in its memory as long as we desire.

(28) Define computer and enlist its different parts.

Ans: Computer is an electronic machine which, after analyzing and arranging the given information, presents it in a very short time.

Parts of computer

The parts of computer are given below:

(i) Input devices

(ii) C.P.U

(iii) Output devices

(29) Why computer becomes so popular?

Ans: The reasons of popularity of computer are as under:

- Fast working of the computer
- Accurate solution of the given information
- Large memory
- Capability of deriving results

(30) What is protocol?

Ans: All computers linked with internet use uniform communication process and same code. In the internet terminology, it is called 'protocol' whose name is TCP / IP. It is the abbreviation of transmission control protocol / internet protocol.

(31) What is HTML?

Ans: The language which is used in the internet web is understood well by all the computers linked with it and this language is called HTML which is an abbreviation of Hypertext Markup Language. Computers linked with the internet can exchange their information or can use the data base.

(32) Define word processing?

Ans: "To type something by computer's keyboard, to correct, to arrange, to amend the document, to add and delete the written portion when required is called the word processing".

(33) Define graphic designing?

Ans: "The process to draw a required line or pictures on a computer screen using mouse or keyboard is called the graphic designing".

(34) Define data managing.

Ans: "The process of collecting information regarding a subject for any purpose and to store them in the computer in more than one inter linked files which may help when needed, is called data Managing".

(35) What is remote control system?

Ans: It is an extremely useful instrument. The function of a television and some other electronic machines can be controlled by it from a large distance without any cable connection.

(36) Which part of the computer is called the brain of computer?

Ans: The central processing unit of computer is called the brain of the computer because it accepts all the instructions or program given to it, which accordingly processed by a control and memory unit.