

QUESTION

(a)

Differentiate between RAM and ROM

RAM	ROM
• It is abbreviation of Random Access Memory • Random Access Memory is expensive when compared to ROM • The Speed of RAM is higher when compared to ROM • Data in RAM can be modified, erased or read. • The data stored in RAM is used by CPU to process current instructions • Data stored on RAM can be accessed by the CPU	• It is abbreviation of Read Only Memory • ROM is cheaper when compared to RAM • ROM has slower memory compared to RAM • Data in ROM can only be read. It cannot be modified or erased. • The data stored in ROM is used to bootstrap the computer. • If the CPU needs to access data on ROM, first the data must be transferred to

RAM	ROM
Data of RAM is very volatile, it will exist as long as there is no interruption in power.	to RAM and then, the CPU will be able to access the data. Data present in ROM is not volatile. It is permanent. Data will remain unchanged even when there is a disruption in the power supply.

(b)

Define Network and its various types.

Answer

Network

A network is a group of two or more computers connected intelligently that share resources such as hardware, software or data devices.

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TYPES OF NETWORK

Types of network are

- Local Area Network (LAN)
- Metropolitan Area Network (MAN)
- Wide Area Network (WAN)
- Internetwork.

LOCAL AREA NETWORK

It is operated under a single administrative system - A local Area Network is a small network that connects computers and devices within a limited area such as home, school, office or a building.

METROPOLITAN AREA NETWORK

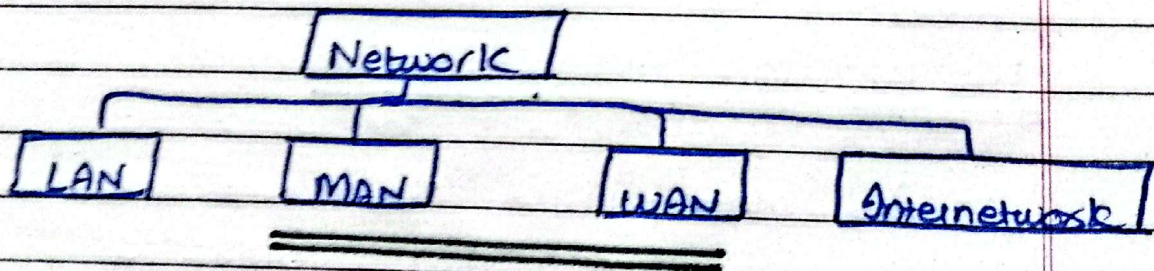
A Metropolitan Area Network is a network that covers a large area such as a city or several nearby towns connecting LAN's together - Its geographic scope falls between a LAN and a WAN.

WIDE AREA NETWORK

It is a network that covers a very large geographical area such as country or multiple countries. The internet is the largest WAN.

INTERNETWORK

A network of networks is called internetwork or internet. - It is the largest network in existence on this planet. - The internet hugely connects all WANs and it can have connection to LANs and Home networks.



(c)

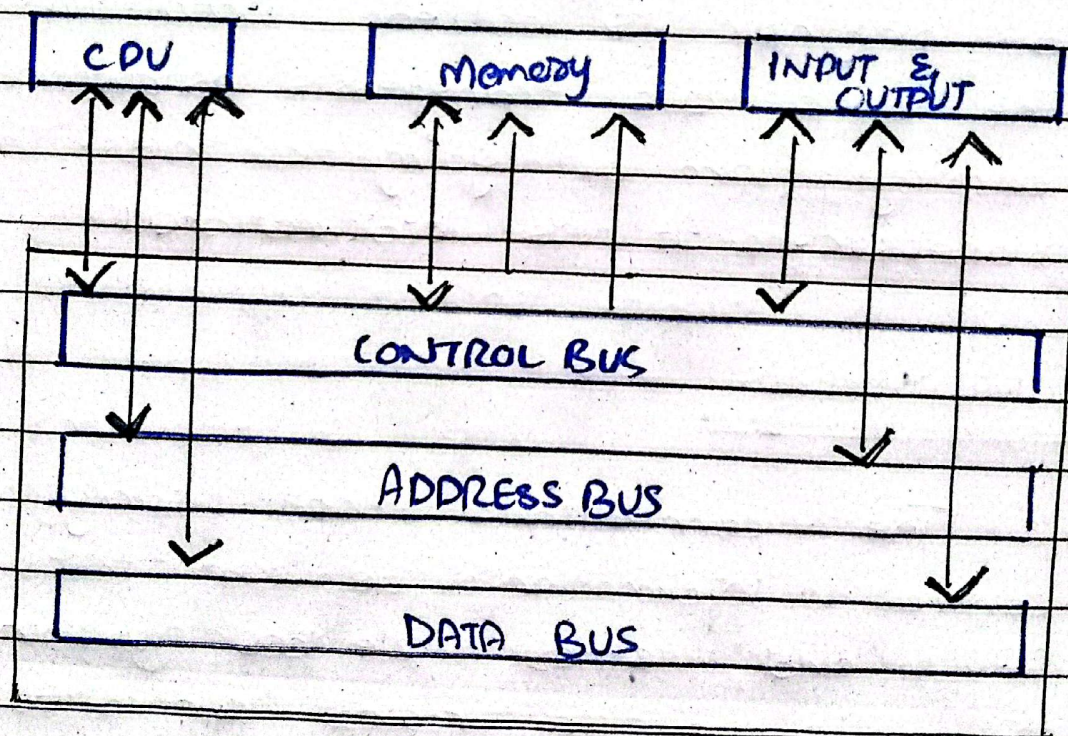
Name three basic buses employed in computer and explain for what purpose each is used for.

ANSWER

COMPUTER BUS

A computer bus is a communication system used to transfer data between components within a computer or between different computers.

TYPES OF BUSES



ADDRESS BUS

A collection of wires used to identify particular location in main memory is called Address BUS.

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The address bus is unidirectional. It transports memory addresses which the processor wants to access in order to read or write data.

Data Bus:

A collection of wires through which data is transmitted from one part of a computer to another is called Data bus. The data bus transfers instructions coming from or going to the processor. It is bidirectional.

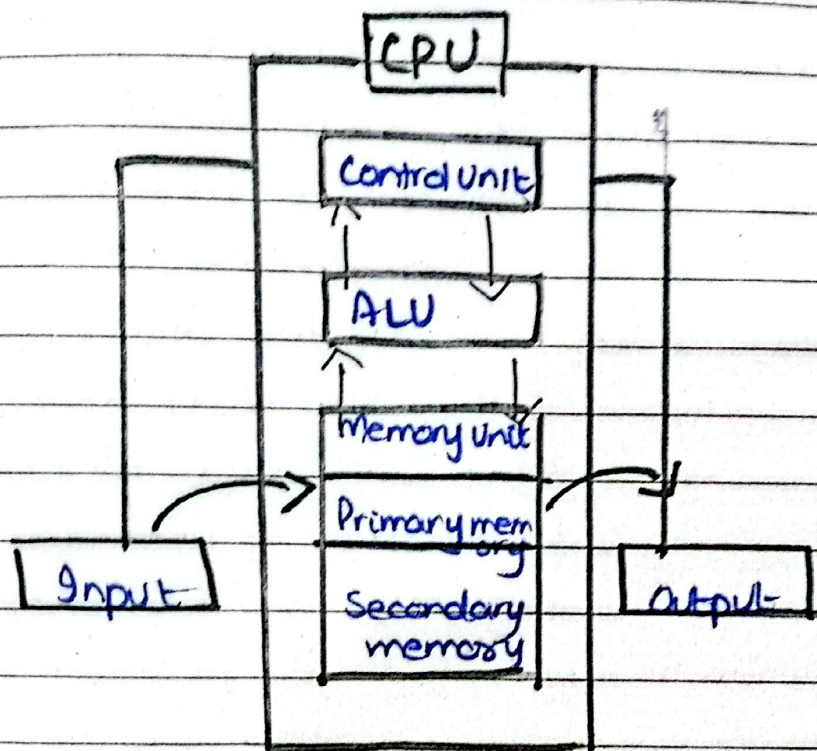
CONTROL BUS

The connections that carry control information between the CPU and other devices within the computer is called control bus. It is bidirectional because the data can flow in either direction from CPU to memory or from memory to CPU.

(d)

Draw a basic computer block diagram and briefly explain the function of each part.

ANSWER



MAJOR COMPONENTS OF COMPUTER

BLOCK DIAGRAM

INPUT UNIT

The input unit is the central component in the computer through

which all data to be processed must pass - The input unit serves three main functions i.e take the data to be processed by the user, convert the data into machine readable form & transmit the data into main memory of computer -

2- CENTRAL PROCESSING UNIT

CPU is the brain of a computer - It is mainly used for fixing instructions as well as for processing data - It has two key units -

i) Control Unit:- It controls and supervises all operations within the computer - The CU does not performs calculations but it breaks in the appropriate instructions within the stipulated time.

ii) Arithmetic Logic Unit:- It performs all mathematical calculations and logical operations - It is covered for tasks that requires decision - making.

Altogether, the CU and ALU are responsible for data processing within a CPU

3- MEMORY UNIT

It is the unit where data and

Instructions are stored - The storage can be short-term or long-term depending on the nature of memory.

i- Primary memory:- It is sometimes called RAM - It is responsible for storing data and instructions in the CPU that are frequently used while processing

ii- Secondary memory:- It is used for storing files, applications and operating systems for the long-term.

OUTPUT UNITS:-

This unit consists of presenting the results of data processing on a computer to the user - Its main functions are to convert machine readable data into human readable form, deliver processed ~~data~~ results to the user.