

SHORT QUESTIONS

Q.1 What is the design of John Von Neumann?

Ans. In 1951 John Von Neumann and his team proposed a design of stored program computer. According to the design:

A sequence of instructions is called a program.

All the data and the programs are stored in memory.

The machine reads all the instructions one by one and executes these instructions sequentially.

Q.2 What is Computer Architecture?

Ans. The organization and interconnection of various computer components is called computer architecture. I/O devices, CPU, Primary or Main Memory, Secondary Memory or Storage devices, I/O unit, Registers, Bus Interconnection are the components of computer architecture.

Q.3 What are I/O devices?

Ans. It stands for input and output devices. Input devices: User can communicate with the computer through input devices e.g. Keyboard, Mouse, joystick, track-ball, Microphone, camera, scanner, bar code reader etc. Output devices are used to communicate with the user e.g. Monitor, Speakers, Printers and Projectors etc.

Q.4 What is a CPU?

Ans. It stands for “central processing unit”. It is a small chip mounted on the circuit board (mother board). CPU is the brain of computer in term of computing power and it controls all the functions of computer system. CPU also performs data processing. There are two parts of a CPU. CU (Control Unit) and ALU (Arithmetic and logical unit)

Q.5 What is CU?

Ans. It stands for “Control Unit”. The CU reads the instruction from memory, decodes and executes these instructions.

Q.6 What is ALU?

Ans. It stands for “Arithmetic and Logical Unit”. It performs two types of operations on data. Arithmetic operations (addition, subtraction, multiplication and division) Logical operations (the operations produces true or false results e.g. less than, greater than, equal to not equal to etc.)

Q.7 What is the function of Main Memory?

Ans. All the program instructions and data are stored in memory prior to the execution. This unit temporarily stores the data and instructions. It is also called working area of the computer. There are two types of memory: RAM (Random Access Memory) and ROM (Read Only Memory)

Q.8 What are Secondary Storage Devices?

Ans. These devices are used to store data permanently in the computer for later use. These are CD's, Hard Disk, and Floppy Disk etc.

Q.9 What is an I/O unit?

Ans. It handles the processor's communication with its peripheral devices. These are disk drives, monitor, printer etc.

Q.10 What are Registers?

Ans. These are the high speed memory locations built into the microprocessor. The CPU uses these locations to store data and instructions temporarily to accomplish certain operations. Data is processed and transferred from one component to another with the help of registers.

Q.11 What is Bus Interconnection?

Ans. It is used to connect different parts of the computer.

Q.12 What is Main Memory?

Ans. It is a chip of semi-conductor material. Memory consists of identical cells. These cells are logically organized into a group of 8-bits (1-Byte). Each cell has a unique address to read or to write data in the memory. Data and instructions are stored in these cells in the form of bits. It is directly accessible device therefore; it is faster than other storage devices. There are two types of memory. RAM (Random Access Memory) and ROM (Read Only Memory)

Q.13 What is RAM?

Ans. RAM stands for Random Access Memory. Primary storage is usually referred as RAM. It is referred as read/write memory. It is also called volatile, or user memory. The contents of RAM are lost as the electric supply is cut-off. There are two types of RAM. SRAM, DRAM

Q.14 Define SRAM.

Ans. It stands for static random access memory. No refreshing of electric states is required in SRAM. These chips are faster than DRAM. SRAM uses less power than DRAM. Its design is more complex than DRAM. SRAM is more expensive than DRAM.

Q.15 What is DRAM?

Ans. It stands for dynamic random access memory. It must have an electric current to maintain its electric states.

Q.16 What is a ROM?

Ans. ROM stands for Read Only Memory. New data cannot be written on it. Its contents are permanent. The system manufacture writes the ROM instructions and data at the time of manufacturing and the data and instructions cannot be changed afterwards. It is referred as non-volatile, or system memory. When the power is switched off, the contents of ROM is not lost. ROM chips are used to store frequently used programs like operating system routines.

Q.17 What are the types of ROM?

Ans. PROM, EPROM, EEPROM

Q.18 Define PROM.

Ans. It stands for programmable read only memory. It is initially blank and the manufacturer writes instructions and data with some special devices. Once the information is stored onto PROM, then it cannot be changed.

Q.19 Define EPROM.

Ans. It stands for erasable programmable read only memory. It is another type of ROM chip and it is possible to erase the stored information and the chip can be reprogrammed using special devices. Information can be erased using ultraviolet rays.

Q.20 What is EEPROM?

Ans. It stands for electrically erasable programmable read only memory. It is a kind of ROM chip can be re-written using electrical devices. The stored information on EEPROM can be erased, modified or reprogrammed easily using special devices.

Q.21 What is the role of Cache Memory in computers?

Ans. It is small memory between CPU and main memory whose access time is close to the processing speed of CPU. It is used to store segments of the current programs and data frequently used in the present calculations. By making active programs and data available to the CPU at a rapid rate, it is possible to increase the performance of a CPU.

Q.22 Define Computer BUS.

Ans. These are circuits provide a communication path between two or more devices of a digital computer. A computer has more than one bus interconnection or all the components of a computer are connected with a set of parallel lines. All these lines are used to transfer data in the form of bits from one component to another component. These lines are called BUS. There are two types of buses. System Bus and Expansion Bus

Q.23 Define System Bus.