Q1. What is BIOS? Explain functions of BIOS?

Ans. Short for Basic Input/Output System, the BIOS (pronounced bye-oss) is a ROM chip found on motherboards that allows you to access and set up your computer system at the most basic level.

Functions of BIOS-

POST – Test the computer hardware and make sure no errors exist before loading the operating system. Additional information on the POST can be found on our POST and Beep Codes page.

Bootstrap Loader – Locate the operating system. If a capable operating system is located, the BIOS will pass control to it.

BIOS drivers – Low level drivers that give the computer basic operational control over your computer's hardware.

BIOS or CMOS Setup – Configuration program that allows you to configure hardware settings including system settings such as computer passwords, time, and date.

Q2. Write short note on-

1) SIMM and DIMM
2) LCC and PLCC

1) SIMM and DIMM –

SIMM– Short for Single In-line Memory Module, SIMM is a memory module developed by Wang laboratories in 1983. The SIMM circuit board that holds six to nine memory chips per board, the ninth chip usually an error checking chip

(parity or non-parity). The SIMM was used with computers using a 486, early Intel Pentium, and compatible processors. However, because the Pentium is 64-bit and a SIMM is only 32-bits wide, they must be installed two at a time when used with any 64-bit processor.

DIMM– Short for Dual In-line Memory Module, DIMM is a module containing a circuit board and one more random access memory chips. DIMMs have a 168-pin connector and, since the advent of the Pentium Processor, a 64-bit path. Because of the new bit path, DIMMs can be installed one at a time, unlike SIMMs that would require installation in pairs.

2) LCC and PLCC

LCC – A leadless chip carrier (LCC or LLCC) is an integrated circuit package that has no pins/leads for contact. This surface-mount device makes use of metal pads at the outer edges to establish connection with the circuit board. Leadless chip carriers are popular, as they are light in weight, adaptable to a wide range of applications

PLCC– Short for Plastic Leadless Chip Carrier, PLCC is a cheaper version of the leadless chip carrier socket. Although similar, PLCC and LCC are not compatible with one another.

Q3. What is Chipset? What are functions of Chipset?

Ans. Chipset- In a computer system, a chipset is a set of electronic components in an integrated circuit that manages the data flow between the processor, memory and peripherals. It is usually found on the motherboard. Chipsets are usually designed to work with a specific family of microprocessors. Because it controls communications between the processor and external devices, the chipset plays a crucial role in determining system performance.

FUNCTION OF CHIPSET-

The actual function of a chipset is to communicate between all components of the modern PC. The chipset contains numerous components, and moreover, it makes various interfaces available for connecting additional components (USB, IDE, etc). As a rule, the chipset consists of two units, the Northbridge and the Southbridge. The reason that it is made of two units instead of one is that it's difficult to integrate all components onto a single chip.

Q4. What is IRQ? Give purpose and standard assignment of IRQ?

Ans. An IRQ (interrupt request) value is an assigned location where the computer can expect a particular device to interrupt it when the device sends the computer signals about its operation.

For example, when a printer has finished printing, it sends an interrupt signal to the computer.

PURPOSE OF IRQ-

Since multiple signals to the computer on the same interrupt line might not be understood by the computer, a unique value must be specified for each device and its path to the computer.

Some of the standard IRQ assignments are given in table-

IRQ	Assignment
0	system timer*
1	keyboard*
2	link to second IRQ controller*

Q5. What is RAM? Explain SDRAM, SGRAM, RDRAM and DDRAM?

Ans. RAM– Random Access Memory, or RAM (pronounced as ramm), is the physical hardware inside a computer that temporarily stores data, serving as the computer's "working" memory.

Additional RAM allows a computer to work with more information at the same time, which usually has a dramatic effect on total system performance.

Some popular manufacturers of RAM include Kingston, PNY, Crucial Technology, and Corsair.

SDRAM– Short for Synchronous DRAM, a type of DRAM that can run at much higher clock speeds than conventional memory.

SGRAM– Synchronous Graphics RAM (SGRAM) is clock-synchronized random access memory that is used for video memory. It is relatively low-cost video memory.

RDRAM is a memory technology offers improved memory access at a slightly higher cost when compared to SDRAM.

DDRAM – Short for Double Data Rate-Synchronous DRAM, a type of SDRAM that supports data transfers on both edges of each clock cycle effectively doubling the memory chip's data throughput. DDR-SDRAM also consumes less power.

Q6. What is magnetic storage? Explain encoding scheme?

Ans. MAGNETIC STORAGE- Magnetic storage or magnetic recording is the storage of data on a magnetized medium. Magnetic storage uses different patterns of magnetization in a magnetisable material to store data and is a

form of non-volatile memory.

ENCODING SCHEME-

Encoding is the process of converting data into a format required for a number of information processing needs, including:

- Program compiling and execution
- Data transmission, storage and compression/decompression
- Application data processing, such as file conversion

Encoding can have two meanings:

- In computer technology, encoding is the process of applying a specific code to data for conversion.
- In electronics, encoding refers to analog to digital conversion.

Q7. What is Master Slave configuration?

Ans. In computer networking, master/slave is a model for a communication protocol in which one device or process (known as the master) controls one or more other devices or processes (known as slaves).

Once the master/slave relationship is established, the direction of control is always from the master to the slave(s).

For example- In a computer laboratory, there is a server computer which act as master computer and all other computers connected to this computer is act as slave computer.

Q8. What is I/O ports? Explain Serial port and parallel port?

Ans. Alternatively referred to as I/O address, I/O ports, and I/O port address,

the input/output port is what allows the software drivers to communicate with hardware devices on your computer.

SERIAL PORT– Serial ports are generally built into the mother board, which is why the connectors behind the casing and connected to the mother board by a wire cable can be used to connect an exterior element. Serial connectors generally have 9 or 25 pins.

PARALLEL PORT– Parallel data transmission involves sending data simultaneously on several channels (wires). The parallel ports on personal computers can be used to send 8 bits (one octet) simultaneously via 8 wires.

Q9. Write short note on-

1) USB
2) Laser Printer

1) USB– Short for Universal Serial Bus, an external bus standard that supports data transfer rates of 12 Mbps. A single USB port can be used to connect up to 127 peripheral devices, such as mice, modems, and keyboards.

2) LASER PRINTER– A type of printer that utilizes a laser beam to produce an image on a drum. The light of the laser alters the electrical charge on the drum wherever it hits. The drum is then rolled through a reservoir of toner, which is picked up by the charged portions of the drum. Finally, the toner is transferred to the paper through a combination of heat and pressure. This is also the way copy machines work.

Q10. Explain BIOS advanced setup?

Ans.- A program used to edit hardware settings in the BIOS of a PC. On earlier PCs, users had to change a setting when a new drive was added, but auto-detect features were later added. Although some settings are quite arcane and modified only by experienced technicians, users sometimes may need to make a change, such as the boot order of the PC (see first boot sequence).

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