1. Which of the following interfaces is primarily used for connecting internal peripherals within a computer system?

a) PCI Bus
b) SCSI Bus
c) USB
d) Serial Bus

Answer: a) PCI Bus
Explanation: The PCI (Peripheral Component Interconnect) Bus is commonly used for connecting internal peripherals such as network cards, sound cards, and graphics cards within a computer system.

---

2. What type of data transfer mode is characterized by the simultaneous transmission of multiple bits over separate channels?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: b) Parallel
Explanation: Parallel data transfer involves transmitting multiple bits simultaneously over separate channels, typically used for high-speed data transfer within computers.

---

3. Which mode of data transfer requires synchronization between the sender and receiver based on a shared clock signal?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: c) Synchronous
Explanation: In synchronous data transfer, communication between devices is synchronized based on a common clock signal, ensuring accurate timing for data transmission.

---

4. What type of data transfer involves sending data one bit at a time over a single channel?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: a) Serial
Explanation: Serial data transfer involves sending data sequentially, one bit at a time, over a single channel or wire, commonly used in communication protocols like UART and SPI.

---

5. Which technology allows peripherals to transfer data directly to and from memory without involving the CPU?

a) USB
b) SCSI
c) DMA
d) PCI

Answer: c) DMA (Direct Memory Access)
Explanation: DMA allows peripherals to transfer data directly to and from memory without CPU intervention, improving overall system performance by reducing CPU overhead.

---

6. Which bus interface is commonly used for connecting external storage devices such as hard drives and tape drives?

a) PCI Bus
b) SCSI Bus
c) USB
d) FireWire

Answer: b) SCSI Bus
Explanation: The SCSI (Small Computer System Interface) Bus is commonly used for

connecting external storage devices such as hard drives and tape drives, known for its high performance and versatility.

---

7. Which interface is designed primarily for connecting various external peripherals such as keyboards, mice, and printers to a computer system?

a) PCI Bus
b) SCSI Bus
c) USB
d) Ethernet

Answer: c) USB (Universal Serial Bus)
Explanation: USB is widely used for connecting external peripherals like keyboards, mice, printers, and storage devices to a computer system due to its ease of use and versatility.

---

8. Which mode of data transfer does not require a constant clock signal for synchronization?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: d) Asynchronous
Explanation: In asynchronous data transfer, devices synchronize data transmission using start and stop bits rather than a continuous clock signal, allowing for flexibility in timing.

---

9. Which component is responsible for managing data transfer between external peripherals and the CPU in a computer system?

a) I/O Interface
b) I/O Processor
c) DMA Controller
d) SCSI Controller

Answer: b) I/O Processor
Explanation: The I/O Processor is responsible for managing data transfer between external peripherals and the CPU, handling tasks such as interrupt handling and data buffering.

---

10. Which type of data transfer mode is commonly used for long-distance communication due to its robustness against signal degradation?

a) Serial
b) Parallel
c) Synchronous

d) Asynchronous

Answer: a) Serial
Explanation: Serial data transfer is often preferred for long-distance communication because it is less susceptible to signal degradation compared to parallel communication.

---

11. Which bus interface provides high-speed communication between components inside a computer system, typically used for graphics cards and high-performance peripherals?

a) PCI Bus
b) SCSI Bus
c) USB
d) PCIe

Answer: d) PCIe (Peripheral Component Interconnect Express)
Explanation: PCIe is designed for high-speed communication between components inside a computer system, commonly used for graphics cards, solid-state drives, and other high-performance peripherals.

---

12. What technology allows multiple devices to share the same communication channel by assigning unique addresses to each device?

a) Multiplexing
b) USB
c) SCSI
d) I/O Processor

Answer: a) Multiplexing
Explanation: Multiplexing allows multiple devices to share the same communication channel by assigning unique time slots or frequency bands to each device, maximizing the use of available bandwidth.

---

13. Which data transfer mode is suitable for high-speed communication within a computer system due to its parallel transmission of data?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: b) Parallel
Explanation: Parallel data transfer, which involves transmitting multiple bits simultaneously over separate channels, is suitable for high-speed communication within a computer system.

---

14. Which technology is commonly used for connecting external peripherals to laptops and desktop computers due to its plug-and-play capability?

a) SCSI
b) USB
c) FireWire
d) Ethernet

Answer: b) USB (Universal Serial Bus)
Explanation: USB is widely used for connecting external peripherals to laptops and desktop computers due to its plug-and-play capability, allowing devices to be easily connected and disconnected without restarting the system.

---

15. What type of data transfer mode is commonly used for transmitting data over long distances, such as telecommunications networks?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: a) Serial

Explanation: Serial data transfer is commonly used for transmitting data over long distances, such as telecommunications networks, due to its reliability and efficiency in long-distance communication.

---

16. Which mode of data transfer relies on a continuous clock signal for synchronizing data transmission between devices?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: c) Synchronous
Explanation: Synchronous data transfer relies on a continuous clock signal for synchronizing data transmission between devices, ensuring accurate timing and alignment of data.

---

17. What technology allows data to be transferred between devices using light signals rather than electrical signals?

a) USB
b) Fiber Optic
c) Ethernet

d) SCSI

Answer: b) Fiber Optic
Explanation: Fiber optic technology allows data to be transferred between devices using light signals transmitted through optical fibers, offering high bandwidth and immunity to electromagnetic interference.

---

18. Which bus interface is commonly used for connecting networking devices such as network interface cards (NICs) to a computer system?

a) PCI Bus
b) SCSI Bus
c) USB
d) Ethernet

Answer: d) Ethernet
Explanation: Ethernet is commonly used for connecting networking devices such as network interface cards (NICs) to a computer system, enabling communication over local area networks (LANs) and wide area networks (WANs).

---

19. Which mode of data transfer allows devices to communicate without requiring strict timing synchronization?

a) Serial
b) Parallel
c) Synchronous
d) Asynchronous

Answer: d) Asynchronous
Explanation: Asynchronous data transfer allows devices to communicate without strict timing synchronization, using start and stop bits to indicate the beginning and end of data transmission.

---

20. What component manages the flow of data between the CPU, memory, and I/O devices in a computer system?

a) I/O Interface
b) I/O Processor
c) DMA Controller
d) Bus Arbitrator

Answer: b) I/O Processor
Explanation: The I/O Processor manages the flow of data between the CPU, memory, and I/O devices in a computer system, handling tasks such as data transfer, interrupt handling, and I/O operations coordination.

Related posts:

1. Introduction to Information Security
2. Introduction to Information Security MCQ
3. Introduction to Information Security MCQ
4. Symmetric Key Cryptography MCQ
5. Asymmetric Key Cryptography MCQ
6. Authentication & Integrity MCQ
7. E-mail, IP and Web Security MCQ