

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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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).

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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.

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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.

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