1 Multiple Choice Questions

1. What is the primary function of the Central Processing Unit (CPU) in a computer system?

   (a) To store data and programs

   (b) To control the flow of data between devices

   (c) To perform arithmetic and logical operations

   (d) To provide input/output operations

2. Which of the following is NOT a type of bus in a computer system?

   (a) Address bus

   (b) Data bus

   (c) Control bus

   (d) Power bus

3. What is the purpose of the Instruction Register (IR) in the CPU?

   (a) To store the current instruction being executed

   (b) To store the address of the next instruction

   (c) To store the data being processed

   (d) To store the results of the current instruction

4. What is the difference between a Harvard architecture and a von Neumann architecture?

   (a) Harvard architecture has a separate bus for instructions and data, while von Neumann architecture has a shared bus

   (b) Harvard architecture has a shared bus for instructions and data, while von Neumann architecture has separate buses

   (c) Harvard architecture uses a RISC instruction set, while von Neumann architecture uses a CISC instruction set

   (d) Harvard architecture is used in embedded systems, while von Neumann architecture is used in desktop computers

5. What is the purpose of the Program Counter (PC) in the CPU?

   (a) To store the address of the current instruction being executed

   (b) To store the address of the next instruction

   (c) To store the data being processed

   (d) To store the results of the current instruction

6. What is the difference between a synchronous bus and an asynchronous bus?

(a) Synchronous bus uses a clock signal to synchronize data transfer, while asynchronous bus does not

(b) Synchronous bus does not use a clock signal to synchronize data transfer, while asynchronous bus does

(c) Synchronous bus is faster than asynchronous bus

(d) Asynchronous bus is faster than synchronous bus

7. What is the purpose of the Memory Management Unit (MMU) in a computer system?

(a) To translate virtual addresses to physical addresses

(b) To manage the flow of data between devices

(c) To provide input/output operations

(d) To perform arithmetic and logical operations

8. What is the difference between a cache hit and a cache miss?

(a) A cache hit occurs when the requested data is found in the cache, while a cache miss occurs when the requested data is not found in the cache

(b) A cache hit occurs when the requested data is not found in the cache, while a cache miss occurs when the requested data is found in the cache

(c) A cache hit occurs when the cache is full, while a cache miss occurs when the cache is empty

(d) A cache hit occurs when the cache is empty, while a cache miss occurs when the cache is full

9. What is the purpose of the Interrupt Handler in a computer system?

(a) To handle interrupts generated by devices

(b) To manage the flow of data between devices

(c) To provide input/output operations

(d) To perform arithmetic and logical operations

10. What is the difference between a polling and an interrupt-driven I/O?

(a) Polling involves continuously checking the status of a device, while interrupt-driven I/O involves generating an interrupt when a device needs attention

(b) Polling involves generating an interrupt when a device needs attention, while interrupt-driven I/O involves continuously checking the status of a device

(c) Polling is faster than interrupt-driven I/O

(d) Interrupt-driven I/O is faster than polling

11. What is the purpose of the Direct Memory Access (DMA) controller in a computer system?

    (a) To manage the flow of data between devices
    (b) To provide input/output operations
    (c) To perform arithmetic and logical operations
    (d) To transfer data between devices without involving the CPU

12. What is the difference between a bus arbitration and a bus mastering?

    (a) Bus arbitration involves resolving conflicts between devices requesting access to the bus, while bus mastering involves controlling the flow of data on the bus
    (b) Bus arbitration involves controlling the flow of data on the bus, while bus mastering involves resolving conflicts between devices requesting access to the bus
    (c) Bus arbitration is faster than bus mastering item Bus mastering is faster than bus arbitration

13. What is the purpose of the I/O Controller in a computer system?

    (a) To manage the flow of data between devices
    (b) To provide input/output operations
    (c) To perform arithmetic and logical operations
    (d) To control the flow of data between the CPU and devices

14. What is the difference between a serial communication and a parallel communication?

    (a) Serial communication involves transmitting data one bit at a time, while parallel communication involves transmitting data multiple bits at a time
    (b) Serial communication involves transmitting data multiple bits at a time, while parallel communication involves transmitting data one bit at a time
    (c) Serial communication is faster than parallel communication
    (d) Parallel communication is faster than serial communication

15. What is the purpose of the Universal Asynchronous Receiver-Transmitter (UART) in a computer system?

    (a) To manage the flow of data between devices
    (b) To provide input/output operations

(c) To perform arithmetic and logical operations

(d) To transmit and receive serial data

16. What is the difference between a synchronous serial communication and an asynchronous serial communication?

    (a) Synchronous serial communication uses a clock signal to synchronize data transfer, while asynchronous serial communication does not

    (b) Synchronous serial communication does not use a clock signal to synchronize data transfer, while asynchronous serial communication does

    (c) Synchronous serial communication is faster than asynchronous serial communication

    (d) Asynchronous serial communication is faster than synchronous serial communication

17. What is the purpose of the Peripheral Component Interconnect (PCI) bus in a computer system?

    (a) To manage the flow of data between devices

    (b) To provide input/output operations

    (c) To perform arithmetic and logical operations

    (d) To connect peripherals to the CPU

18. What is the difference between a PCI Express (PCIe) and a PCI-X?

    (a) PCIe is a serial bus, while PCI-X is a parallel bus

    (b) PCIe is a parallel bus, while PCI-X is a serial bus

    (c) PCIe is faster than PCI-X

    (d) PCI-X is faster than PCIe

19. What is the purpose of the Advanced Technology Attachment (ATA) interface in a computer system?

    (a) To manage the flow of data between devices

    (b) To provide input/output operations

    (c) To perform arithmetic and logical operations

    (d) To connect storage devices to the CPU

20. What is the difference between a Serial Advanced Technology Attachment (SATA) and a Parallel Advanced Technology Attachment (PATA)?

    (a) SATA is a serial bus, while PATA is a parallel bus

    (b) SATA is a parallel bus, while PATA is a serial bus

    (c) SATA is faster than PATA

(d) PATA is faster than SATA

21. What is the purpose of the Small Computer System Interface (SCSI) in a computer system?

    (a) To manage the flow of data between devices
    (b) To provide input/output operations
    (c) To perform arithmetic and logical operations
    (d) To connect peripherals to the CPU

22. What is the difference between a SCSI-1 and a SCSI-2?

    (a) SCSI-1 is a parallel bus, while SCSI-2 is a serial bus
    (b) SCSI-1 is a serial bus, while SCSI-2 is a parallel bus
    (c) SCSI-1 is faster than SCSI-2
    (d) SCSI-2 is faster than SCSI-1

23. What is the purpose of the Fibre Channel in a computer system?

    (a) To manage the flow of data between devices
    (b) To provide input/output operations
    (c) To perform arithmetic and logical operations
    (d) To connect storage devices to the CPU

24. What is the difference between a Fibre Channel Arbitrated Loop (FC-AL) and a Fibre Channel Switched Fabric (FC-SW)?

    (a) FC-AL is a parallel bus, while FC-SW is a serial bus
    (b) FC-AL is a serial bus, while FC-SW is a parallel bus
    (c) FC-AL is faster than FC-SW
    (d) FC-SW is faster than FC-AL

25. What is the purpose of the InfiniBand in a computer system?

    (a) To manage the flow of data between devices
    (b) To provide input/output operations
    (c) To perform arithmetic and logical operations
    (d) To connect peripherals to the CPU

2 Answers

1. C) To perform arithmetic and logical operations

2. D) Power bus

3. A) To store the current instruction being executed

4. A) Harvard architecture has a separate bus for instructions and data, while von Neumann architecture has a shared bus

5. A) To store the address of the current instruction being executed

6. A) Synchronous bus uses a clock signal to synchronize data transfer, while asynchronous bus does not

7. A) To translate virtual addresses to physical addresses

8. A) A cache hit occurs when the requested data is found in the cache, while a cache miss occurs when the requested data is not found in the cache

9. A) To handle interrupts generated by devices

10. A) Polling involves continuously checking the status of a device, while interrupt-driven I/O involves generating an interrupt when a device needs attention

11. D) To transfer data between devices without involving the CPU

12. A) Bus arbitration involves resolving conflicts between devices requesting access to the bus, while bus mastering involves controlling the flow of data on the bus

13. D) To control the flow of data between the CPU and devices

14. A) Serial communication involves transmitting data one bit at a time, while parallel communication involves transmitting data multiple bits at a time

15. D) To transmit and receive serial data

16. A) Synchronous serial communication uses a clock signal to synchronize data transfer, while asynchronous serial communication does not

17. D) To connect peripherals to the CPU

18. A) PCIe is a serial bus, while PCI-X is a parallel bus

19. D) To connect storage devices to the CPU

20. A) SATA is a serial bus, while PATA is a parallel bus

21. D) To connect peripherals to the CPU

22. B) SCSI-1 is a serial bus, while SCSI-2 is a parallel bus

23. D) To connect storage devices to the CPU

24. B) FC-AL is a serial bus, while FC-SW is a parallel bus

25. D) To connect peripherals to the CPU