Q: What is computer organization?

Answer: Computer organization refers to the way in which a computer system is designed and configured, including the arrangement and interconnection of hardware components and the implementation of software programs.

Q: What is the difference between computer architecture and computer organization?

Answer: Computer architecture refers to the conceptual design of a computer system, including its instruction set, processing unit, and memory organization, while computer organization refers to the physical implementation of the computer system, including the arrangement and interconnection of hardware components.

Q: What is the role of an operating system in computer organization?

Answer: The operating system is responsible for managing the computer's resources, including memory, processors, and input/output devices, and for providing a platform for software applications to run on.

Q: How does cache memory work?

Answer: Cache memory is a type of high-speed memory that is used to improve the performance of a computer system. When the CPU needs to access data, it first checks the cache memory to see if the data is already there. If the data is in the cache memory, it can be accessed quickly, which can significantly reduce the time it takes for the CPU to access the data.

Q: What is pipelining in computer organization?

Answer: Pipelining is a technique used in computer organization to improve the performance of a CPU. It involves breaking down an instruction into smaller, simpler steps, and then processing each step independently. This allows the CPU to start processing the next instruction before the current instruction has been fully completed.

Q: What is the difference between Von Neumann and Harvard architecture?

Answer: Von Neumann architecture is a type of computer organization in which the data memory and the program memory are combined into a single memory unit, while Harvard architecture uses separate memory units for data and program storage. This allows the CPU to access both data and instructions simultaneously, which can improve performance.

Q: What is virtual memory?

Answer: Virtual memory is a memory management technique used in computer organization that allows a computer system to use more memory than is physically available. This is accomplished by temporarily transferring data from the computer's main memory to disk storage. When the data is needed again, it is transferred back to the main memory.

Q: What is the role of the CPU in computer organization?

Answer: The CPU, or central processing unit, is the primary component of a computer system that performs the majority of the processing tasks. It retrieves instructions from memory, decodes them, and executes them. The CPU also manages the flow of data within the system, controlling the transfer of data between different components.

Q: What is the difference between RAM and ROM?

Answer: RAM, or random access memory, is a type of volatile memory that stores data and instructions that are currently being used by the computer. ROM, or read-only memory, is a type of non-volatile memory that stores data and instructions that are permanently programmed into the computer's hardware.

Q: How does DMA work?

Answer: DMA, or direct memory access, is a technique used in computer organization to transfer data between memory and peripheral devices without involving the CPU. DMA works by allowing a peripheral device to transfer data directly to or from memory, bypassing the CPU and freeing up processing resources for other tasks.

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19. Write a short note on design of arithmetic unit ?

20. Write a short note on Array processors ?

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22. What is the format of Micro Instruction in Computer Architecture explain ?

23. What is the layout of pipelined instruction in Computer Architecture ?

24. Explain the following interfaces in Detail:PCI Bus, SCSI Bus, USB Bus

25. What is Memory Organization ? Discuss different types of Memory Organization in Computer System.

26. Write short note on improving cache performance methods in detail ?

27. What is Multiprocessor ? Explain inter process communication in detail ?

28. Briefly explain the concept of pipelining in detail ?

29. Discuss the following in detail: RISC architecture, Vector processing ?

30. Define the instruction format ? Explain I/O System in detail ?

31. Explain the design of arithmetic and logic unit by taking on example ?

32. Explain how addition and subtraction are performed in fixed point number ?

33. Explain different modes of data transfer between the central computer and I/O device ?

34. Differentiate between Serial and parallel data transfer ?

35. Explain signed magnitude, signed l's complement and signed 2's complement representation of numbers. Find the range of numbers in all three representations for 8 bit register.

36. If cache access time is lOOns, main memory access time is 1000 ns and the hit ratio is 0.9. Find the average access time and also define hit ratio.

37. Explain hardwired microprogrammed control unit ? What is address sequencer circuit ?

38. Explain how a stack organized computer executes instructions? What is Stack?

39. Draw and explain the memory hierarchy in a digital computer. What are advantages of cache memory over main memory?

40. What is Associative memory? Explain the concept of address space and memory space in Virtual memory.

41. What is Paging? Explain how paging can be implemented in CPU to access virtual memory.

42. Explain SIMD array processor along with its architectural diagram ?

43. Write short notes on

44. Draw the functional and structural views of a computer system and explain in detail ?

45. Explain general register organization.

46. Compare and contrast DMA and I/O processors ?

47. Define the following: a) Flynn's taxonomy b) Replacement algorithm

48. Explain the various pipeline vector processing methods ?

49. Describe the language features for parallelism ?

50. What are different addressing modes? Explain them.

51. Explain any page replacement algorithm with the help of example ?

52. What is mapping? Name all the types of cache mapping and explain anyone in detail.

53. Explain arithmetic pipeline ?

54. Write short notes on, a) SIMD, b) Matrix multiplication c) Instruction format

55. Differentiate: a) Maskable and non-maskable interrupt b) RISC and CISC

56. Computer Organization Previous Years Solved Questions

57. Booths algorithm to muliyiply +5 and -15