

545. In which of the following term the performance of cache memory is measured?

- A. Chat ratio
B. Hit ratio
C. Copy ratio
D. Data ratio

546. RISC stands for -

- A. Reduce Instruction Set Computer
B. Risk Instruction Sequential Compilation
C. Risk Instruction Source Compiler
D. None of the above

547. Which of the following is an essential data transfer technique?

- A. MMA
B. DMA
C. CAD
D. CAM

548. Which of the following is page fault?

- A. Page fault occurs when a program accesses a page of another program
B. Page fault occurs when a program accesses a page in main memory

C. Page fault occurs when there is an error in particular page

D. Page fault occurs when a program accesses a page which is not present in main memory

549. What does DRAM stand for?

- A. Dynamic Read Access Memory
B. Digital Random-Access Memory
C. Dynamic Random-Access Memory
D. Dynamic Read Allocation Memory

550. Which of the following is known as the step by step procedure to solve a problem?

- A. Graph
B. Table
C. Algorithm
D. None of the above

ANSWER SHEET

| 1.B | 2.B | 3.D | 4.D | 5.D | 6.C | 7.A | 8.B | 9.C | 10.D |
|------|------|------|------|------|------|------|------|------|-------|
| 11.D | 12.D | 13.C | 14.D | 15.B | 16.A | 17.D | 18.D | 19.B | 20.B |
| 21.C | 22.C | 23.C | 24.D | 25.D | 26.B | 27.C | 28.D | 29.A | 30.B |
| 31.B | 32.B | 33.C | 34.B | 35.B | 36.B | 37.C | 38.D | 39.B | 40.D |
| 41.C | 42.C | 43.B | 44.C | 45.B | 46.D | 47.C | 48.B | 49.B | 50.D |
| 51.C | 52.C | 53.D | 54.D | 55.B | 56.D | 57.D | 58.B | 59.B | 60.C |
| 61.B | 62.C | 63.C | 64.D | 65.B | 66.B | 67.D | 68.D | 69.B | 70.A |
| 71.D | 72.C | 73.A | 74.B | 75.C | 76.A | 77.D | 78.B | 79.D | 80.A |
| 81.C | 82.A | 83.C | 84.D | 85.A | 86.D | 87.D | 88.D | 89.D | 90.D |
| 91.A | 92.A | 93.D | 94.D | 95.A | 96.D | 97.B | 98.C | 99.B | 100.A |

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| 101.D | 102.D | 103.A | 104.C | 105.B | 106.B | 107.B | 108.C | 109.B | 110.A |
| 111.B | 112.D | 113.B | 114.C | 115.D | 116.B | 117.B | 118.D | 119.A | 120.D |
| 121.B | 122.D | 123.B | 124.D | 125.C | 126.D | 127.D | 128.C | 129.D | 130.C |
| 131.C | 132.B | 133.B | 134.C | 135.A | 136.B | 137.A | 138.C | 139.B | 140.C |
| 141.C | 142.C | 143.C | 144.D | 145.C | 146.D | 147.A | 148.A | 149.C | 150.C |
| 151.A | 152.D | 153.B | 154.D | 155.B | 156.D | 157.B | 158.D | 159.C | 160.D |
| 161.C | 162.A | 163.D | 164.C | 165.D | 166.C | 167.B | 168.A | 169.D | 170.C |
| 171.D | 172.D | 173.B | 174.B | 175.D | 176.D | 177.D | 178.D | 179.D | 180.D |
| 181.D | 182.B | 183.C | 184.C | 185.D | 186.A | 187.D | 188.B | 189.B | 190.D |
| 191.B | 192.D | 193.B | 194.D | 195.D | 196.B | 197.B | 198.D | 199.D | 200.D |
| 201.D | 202.A | 203.C | 204.B | 205.D | 206.A | 207.D | 208.A | 209.B | 210.D |
| 211.D | 212.C | 213.C | 214.C | 215.B | 216.B | 217.A | 218.B | 219.A | 220.D |
| 221.C | 222.B | 223.A | 224.D | 225.C | 226.D | 227.B | 228.D | 229.B | 230.D |
| 231.D | 232.A | 233.D | 234.C | 235.B | 236.B | 237.C | 238.A | 239.A | 240.C |
| 241.C | 242.C | 243.A | 244.A | 245.C | 246.C | 247.B | 248.C | 249.C | 250.A |
| 251.A | 252.A | 253.C | 254.C | 255.C | 256.A | 257.A | 258.D | 259.C | 260.C |
| 261.A | 262.D | 263.C | 264.B | 265.C | 266.D | 267.B | 268.D | 269.A | 270.C |
| 271.D | 272.C | 273.B | 274.A | 275.A | 276.C | 277.C | 278.A | 279.C | 280.A |
| 281.C | 282.A | 283.A | 284.C | 285.C | 286.C | 287.D | 288.C | 289.B | 290.C |
| 291.D | 292.C | 293.D | 294.B | 295.C | 296.C | 297.B | 298.D | 299.A | 300.D |
| 301.D | 302.C | 303.C | 304.D | 305.D | 306.D | 307.C | 308.D | 309.C | 310.A |
| 311.A | 312.C | 313.B | 314.C | 315.B | 316.D | 317.D | 318.C | 319.A | 320.B |
| 321.B | 322.C | 323.D | 324.A | 325.B | 326.D | 327.C | 328.A | 329.A | 330.A |
| 331.D | 332.C | 333.A | 334.B | 335.C | 336.B | 337.D | 338.B | 339.D | 340.B |
| 341.D | 342.C | 343.C | 344.D | 345.A | 346.B | 347.C | 348.D | 349.C | 350.D |
| 351.A | 352.A | 353.C | 354.C | 355.D | 356.D | 357.C | 358.C | 359.B | 360.C |

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| 361.D | 362.B | 363.B | 364.D | 365.D | 366.B | 367.B | 368.C | 369.B | 370.D |
| 371.C | 372.A | 373.B | 374.A | 375.D | 376.D | 377.A | 378.B | 379.D | 380.D |
| 381.C | 382.B | 383.D | 384.A | 385.D | 386.B | 387.B | 388.D | 389.D | 390.A |
| 391.A | 392.C | 393.A | 394.B | 395.B | 396.C | 397.C | 398.D | 399.B | 400.C |
| 401.C | 402.B | 403.C | 404.B | 405.C | 406.B | 407.C | 408.A | 409.B | 410.B |
| 411.B | 412.D | 413.A | 414.C | 415.D | 416.D | 417.D | 418.B | 419.A | 420.B |
| 421.C | 422.C | 423.D | 424.D | 425.D | 426.C | 427.C | 428.B | 429.D | 430.B |
| 431.C | 432.D | 433.D | 434.C | 435.B | 436.D | 437.B | 438.A | 439.D | 440.C |
| 441.B | 442.A | 443.C | 444.C | 445.D | 446.B | 447.B | 448.C | 449.A | 450.A |
| 451.B | 452.B | 453.D | 454.A | 455.A | 456.C | 457.D | 458.B | 459.B | 460.C |
| 461.C | 462.D | 463.C | 464.D | 465.D | 466.C | 467.A | 468.B | 469.A | 470.C |
| 471.C | 472.B | 473.D | 474.C | 475.A | 476.B | 477.D | 478.A | 479.C | 480.D |
| 481.A | 482.C | 483.A | 484.C | 485.C | 486.A | 487.A | 488.A | 489.A | 490.B |
| 491.A | 492.B | 493.A | 494.C | 495.D | 496.C | 497.D | 498.B | 499.A | 500.D |

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| 501 C | In 1945, Von-Neumann proposed his computer architecture design, and later it was known as the Von-Neumann Architecture. It consisted of a Control Unit, Arithmetic, and Logical Memory Unit (ALU), Registers, and Inputs/Outputs. |
| 502 C | RAM, stands for Random Access Memory. It is a hardware device generally located on the motherboard of a computer and acts as an internal memory of the CPU. It is the read and writes memory of a computer, which means the information can be written to it as well as read from it. |
| 503 A | The CPU is not considered as a peripheral device as it is the primary component of the computer, and a computer system cannot work without a CPU. Peripheral devices are not the essential parts of the computer and can be defined as an auxiliary device that connects to and works with the computer such as a mouse, keyboard, etc. |
| 504 A | Register memory is the smallest and fastest memory in a computer. It is not a part of the main memory and is located in the CPU in the form of registers, which are the smallest data holding elements. |

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| 505 D | Android is a software package and Linux-based operating system for mobile devices such as tablet computers and smartphones. |
| 506 C | The BCD stands for Binary Coded Decimal Number. |
| 507 A | Cache memory is a high-speed memory, which is small in size but faster than the main memory (RAM). The CPU can access it more quickly than the primary memory. So, it is used to synchronize with a high-speed CPU and to improve its performance. |
| 508 C | Address Bus carries the address of data (but not the data) between the processor and the memory. Address bus is 16-bit which can address up to 64 kb. Address bus is unidirectional. |
| 509 A | Flip-flop is a digital memory circuit, and with the help of the flip-flop, we can store one bit of information. The fundamental blocks of various sequential circuits are flip-flops. Flip-flop is also called a bistable multivibrator or one-bit or binary. |
| 510 B | Computer Architecture is concerned with the way hardware components are connected together, to form a computer system. It acts as the interface between hardware and software. |
| 511 C | |
| 512 B | Physical address space in a system can be defined as the size of the main memory. It is really important to compare the process size with the physical address space. The process size must be less than the physical address space. |
| 513 B | 2's complement is used for representing signed numbers and performing arithmetic operations such as subtraction, addition, etc. |
| 514 C | A system bus is a single bus that connects the major components of the computer system. |
| 515 B | The main memory acts as the central storage unit in a computer system. Main memory is the memory unit that directly communicates with the CPU. It is a relatively large and fast memory that is used to store programs and data during runtime operations. |
| 516 A | which contain '0' or '1'. A byte is represented as upper-case 'B' whereas a bit is represented by small-case "b". |
| 517 C | A Byte is a unit of data measurement which mainly consists of eight bits. A byte is a series of binary digits, |
| 518 C | The Memory Address Register (MAR) contains 12 bits that hold the address for the memory location. The MAR holds the address of the main memory to or from which data is to be transferred. |
| 519 C | In a computer, the data is stored in binary form that is in the form of binary digit 0, and 1. 0 means OFF, and 1 means ON. A binary number is a base 2 number because it is either 0 or 1. Any combination of 0 and 1 is a binary number such as 1001, 101, 11111, 101010, etc. |

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| 519 B | A De-multiplexer performs the reverse operation of a Multiplexer. A De-multiplexer has a single input, 'n' selection lines, and a maximum of 2^n outputs. |
| 520 C | A group of bits that tells the computer to perform a particular operation is called an Instruction Code. Instruction Code instructs the computer to perform operations such as subtractions, additions, complements, etc. |
| 521 C | RAM stands for Random Access Memory. Data or applications currently being used on a device are stored in RAM from the hard drives because data from the RAM are loaded much faster than the hard drives. RAM is a volatile memory, which means it does not store data or instructions permanently. |
| 522 D | The instruction Register (IR) holds the instruction code. The instructions read from memory are placed in the Instruction Register (IR). |
| 523 B | MIMD stands for 'Multiple Instruction and Multiple Data Stream'. In this organization, all processors in a parallel computer can execute different instructions and operate on various data at the same time. |
| 524 C | The status bit is also called as a Flag bit. |
| 525 C | The Program counter monitors the execution of instructions. It keeps track on which instruction is being executed and what the next instruction will be. The Program Counter (PC) also contains 12 bits that hold the address of the next instruction to be read from memory after the current instruction is executed. |
| 526 A | The program counter is also called an instruction pointer or instruction address register. The program counter contains the memory address of the location of the next instruction. |
| 527 B | The bus topology is designed in such a way that all the stations are connected through a single cable known as a backbone cable. The bus topology is mainly used in 802.3 (ethernet) and 802.4 standard networks. |
| 528 B | The data and the information stored in the storage are permanent. It holds the high-capacity data which are not held in the computer memory. In computer systems, memory is a RAM, which stores the data and information temporarily. RAM contains everything which is currently running on our computer. |
| 529 B | A group of four bits (half of the byte) is called a nibble, and a group of eight bits (11001010) is called a byte. A nibble is a data unit that comes before the Byte, and a kilobyte comes after it. The smallest unit of storage consisting of either 0 or 1 is called a bit. The arrangement of such 4 bits is known as a nibble. |
| 530 A | A KB is the unit symbol for the 'Kilobyte'. In SI (International System of units), the prefix kilo in Kilobyte means 1000. So, one kilobyte is 1000 bytes. In Decimal (i.e., with base 10), 1 kilobyte is equal to 1000 bytes, and in binary (with base 2), 1 kilobyte is equivalent to 1024 bytes. A kilobyte is that unit, which is larger than a byte (B) and smaller than the unit megabyte (MB). |

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| 531 A | The operations performed on the data stored in registers are called Micro-operations. |
| 532 A | A bus consists of a set of common lines, one for each bit of register, through which binary information is transferred one at a time. Control signals determine which register is selected by the bus during a particular register transfer. |
| 533 d | The Half-Adder is a basic building block of adding two numbers as two inputs and produce out two outputs. The adder is used to perform OR operation of two single bit binary numbers. The augend and addend bits are two input states, and 'carry' and 'sum' are two output states of the half adder. |
| 534 A | to a maximum of 2^n different outputs. The binary information is passed in the form of N input lines. The output lines define the 2N-bit code for the binary information. The Decoder performs the reverse operation of the Encoder. |
| 535 A | A Decoder can be described as a combinational circuit that converts binary information from 'n' coded inputs |
| 536 D | The combinational circuits that change the binary information into N output lines are known as Encoders. The output lines define the N-bit code for the binary information. The Encoder performs the reverse operation of the Decoder. |
| 537 C | A multiplexer is a combinational circuit that has 2n input lines and a single output line. Simply, the multiplexer is a multi-input and single-output combinational circuit. The binary information is received from the input lines and directed to the output line. |
| 538 A | The NAND gate is a special type of logic gate in the digital logic circuit. The NAND gate is the universal gate. It means all the basic gates such as AND, OR, and NOT gate can be constructed using a NAND gate. The NAND gate is the combination of the NOT-AND gate. |
| 539 C | The motherboard is generally a thin circuit board that holds together almost all parts of a computer except input and output devices. Each motherboard has a chipset, which is the collection of controllers and chips. All crucial hardware like CPU, memory, hard drive, and ports for input and output devices are located on the motherboard. |
| 540 B | The accumulator is an 8-bit register associated with the ALU. The register 'A' is an accumulator in the 8085. It is used to hold one of the operands of an arithmetic and logical operation. The final result of an arithmetic or logical operation is also placed in the accumulator. |
| 541 A | |

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| 542 A | The CISC Stands for Complex Instruction Set Computer, developed by the Intel. It has a large collection of complex instructions that range from simple to very complex and specialized in the assembly language level, which takes a long time to execute the instructions. |
| 543 B | Control unit takes instructions from memory and then decodes and executes those instructions. It controls and coordinates the functioning of all parts of the computer. The Control Unit's main task is to maintain and regulate the flow of information across the processor. |
| 544 A | EEPROM stands for "Electrically Erasable and Programmable Read Only Memory". It is used to erase stored data using a high voltage electrical charge and re-programmed it. It is erased and reprogrammed electrically without using ultraviolet light. |
| 545 B | The performance of the cache memory is frequently measured in terms of a quantity called hit ratio. When the CPU refers to memory and finds the word in cache, it is said to produce a hit. The ratio of the number of hits divided by the total CPU references to memory (hits plus misses) is the hit ratio. |
| 546 A | RISC stands for Reduced Instruction Set Computer Processor, a microprocessor architecture with a simple collection and highly customized set of instructions. It is built to minimize the instruction execution time by optimizing and limiting the number of instructions. |
| 547 B | DMA stands for Direct Memory Access. In the DMA data transfer scheme, data is directly transferred from an I/O device to RAM or from RAM to an I/O device. |
| 548 D | If the referred page is not present in the main memory, then there will be a miss, and the concept is called Page miss or page fault. The CPU has to access the missed page from the secondary memory. If the number of page fault is very high, then the effective access time of the system will become very high. |
| 549 C | DRAM stands for "Dynamic Random-Access Memory". DRAM is a type of RAM that is used for the dynamic storage of data in RAM. In DRAM, each cell carries one-bit information. |
| 550 C | A finite set of instructions that specifies a sequence of operations is to be carried out to solve a specific problem or class of problems called an Algorithm. |

MCQS (SET-I)

1. What is the purpose of an instruction register (IR) in a computer system?

- A. To hold the address of the next instruction to be executed
- B. To hold the current instruction being executed
- C. To hold the data being processed by the ALU
- D. To hold the results of ALU operations

2. What is a control unit in a computer system responsible for?

- A. Performing arithmetic and logical operations
- B. Storing and retrieving data
- C. Coordinating the activities of other computer components
- D. Processing data into useful information

3. What type of computer organization uses a Harvard architecture?

- A. Von Neumann
- B. Harvard
- C. Princeton
- D. RISC

4. What is the purpose of a cache in a computer system?

- A. To store frequently used data for quick access
- B. To store data that is no longer needed
- C. To store the results of arithmetic operations
- D. To store the instructions being executed

5. What is an embedded system?

- A. A computer system designed for use in automobiles
- B. A computer system designed for use in space missions
- C. A computer system integrated into a device to perform specific tasks
- D. A computer system designed for use in scientific experiments

6. What is the purpose of a micro-controller in an embedded system?

- A. To control the flow of data in the system
- B. To perform arithmetic and logical operations
- C. To coordinate the activities of other embedded system components
- D. To process data into useful information

7. What is the difference between an embedded system and a general-purpose computer?

- A. An embedded system is designed for a specific task, while a general-purpose computer is not
- B. A general-purpose computer has a larger memory than an embedded system
- C. An embedded system has a faster processing speed than a general-purpose computer
- D. A general-purpose computer has more input/output devices than an embedded system