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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | For two variables, n=2 , the number of possible Boolean functions is   |  |  | | --- | --- | | (a) | 4 | | (b) | 8 | | (c) | 16 | | (d) | 12 | | (e) | 2. | |
| 2. | The one major advantage of CMOS is its,   |  |  | | --- | --- | | (a) | Low propagation delay | | (b) | High propagation delay | | (c) | Very low propagation delay | | (d) | Very high propagation delay | | (e) | No delay. | |
| 3. | 64K memory contains how many words of 8 bits each?   |  |  | | --- | --- | | (a) | 65,536 | | (b) | 64,536 | | (c) | 65,436 | | (d) | 65,546 | | (e) | 65,556. | |
| 4. | The simplest way to determine cache locations in which to store memory blocks is the,   |  |  | | --- | --- | | (a) | Associative Mapping technique | | (b) | Direct Mapping technique | | (c) | Set-Associative Mapping technique | | (d) | Indirect Mapping technique | | (e) | Paging technique. | |
| 5. | The sum of -6 and -13 using 2’s complement addition is,   |  |  | | --- | --- | | (a) | 11100011 | | (b) | 11110011 | | (c) | 11001100 | | (d) | 11101101 | | (e) | 11100001. | |
| 6. | Which one of the following CPU registers holds the address of the instructions (instructions in the program stored in memory) to be executed next?   |  |  | | --- | --- | | (a) | MAR (Memory address register) | | (b) | MBR (Memory Buffer Register) | | (c) | AC (Accumulator) | | (d) | IR (Instruction Register) | | (e) | PC (Program Counter). | |
| 7. | What are the major components of a CPU?   |  |  | | --- | --- | | (a) | Control Unit, Register Set, Arithmetic Logic Unit | | (b) | Control Unit, Memory Unit, Arithmetic Logic Unit | | (c) | Memory Unit, Arithmetic Logic Unit, Auxiliary Memory | | (d) | Register Set, Control Unit, Memory Unit | | (e) | Register Set, Control Unit, Auxiliary Memory. | |
| 8. | Given the characteristic table of a JK flip-flop, find the missing output value.  J        K       Q(t+1)  0       0        Q(t)  0       1        0  1       0        1  1       1        ---   |  |  | | --- | --- | | (a) | Q(t) | | (b) | Q’(t+1) | | (c) | 1 | | (d) | Q’(t) | | (e) | Q(t+1). | |
| 9. | What is Q, when S = 1 and R = 1 for SR flip-flop?   |  |  | | --- | --- | | (a) | No Change | | (b) | Clear to 0 | | (c) | Set to 1 | | (d) | Complement of previous output | | (e) | Indeterminate. | |
| 10. | What does T stands for in T flip-flop?   |  |  | | --- | --- | | (a) | Top | | (b) | Type | | (c) | Toggle | | (d) | Tickle | | (e) | Tip. | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11. | In which type of flip-flop the indeterminate condition of the SR flip-flop (when S=R=1) is eliminated?   |  |  | | --- | --- | | (a) | Edge-triggered flip-flop | | (b) | JK flip-flop | | (c) | D flip-flop | | (d) | T flip-flop | | (e) | Master-slave flipflop. | |
| 12. | The bulk of the binary information in a digital computer is stored in memory, but all computations are done in   |  |  | | --- | --- | | (a) | Timing Control | | (b) | Memory Registers | | (c) | Processor Registers | | (d) | Program Control | | (e) | Secondary Memory. | |
| 13. | Information transfer from one register to another is designated in symbolic form by means of   |  |  | | --- | --- | | (a) | Control Function | | (b) | Op Code | | (c) | Registers | | (d) | Replacement Operator | | (e) | Arrow Operator. | |
| 14. | The registers found in the processor unit are   |  |  | | --- | --- | | (a) | Operational registers | | (b) | Memory registers | | (c) | Storage registers | | (d) | Binary registers | | (e) | Temporary registers. | |
| 15. | Techniques that automatically move program and data blocks into the physical main memory when they are required for execution are called   |  |  | | --- | --- | | (a) | Associative-Mapping techniques | | (b) | Main Memory techniques | | (c) | Virtual Memory techniques | | (d) | Cache Memory techniques | | (e) | Paging techniques. | |
| 16. | What digit is added to the Excess-3 code generation?   |  |  | | --- | --- | | (a) | 3 | | (b) | 4 | | (c) | 2 | | (d) | 1 | | (e) | 0. | |
| 17. | The processor, ---------- and I/O Devices are interconnected by means of a common bus.   |  |  | | --- | --- | | (a) | Cache Memory | | (b) | Auxiliary Memory | | (c) | Virtual Memory | | (d) | Main Memory | | (e) | Extended Memory. | |
| 18. | System Software usually includes a program called a --------, which helps the programmer find errors in a program.   |  |  | | --- | --- | | (a) | Write Buffer | | (b) | Read Buffer | | (c) | Debugger | | (d) | Both (a) and (c) above | | (e) | Both (b) and (c) above. | |
| 19. | To convert octal code to binary code which of the following digital functions should be used?   |  |  | | --- | --- | | (a) | Decoder | | (b) | Encoder | | (c) | Multiplexer | | (d) | Demultiplexer | | (e) | Binary adder. | |
| 20. | A full-adder is simply a connection of two half-adders joined by   |  |  | | --- | --- | | (a) | AND gate | | (b) | OR gate | | (c) | NAND gate | | (d) | NOR gate | | (e) | XOR gate. | |
| 21. | A combinational circuit that converts binary information from n input lines to a maximum of  unique output lines is,   |  |  | | --- | --- | | (a) | Decoder | | (b) | Encoder | | (c) | Full-adder | | (d) | Full-subtractor | | (e) | Half-subtractor. | |
| 22. | The correspondence between the main memory blocks and those in the cache is specified by   |  |  | | --- | --- | | (a) | Mapping function | | (b) | Replacement algorithm | | (c) | Hit rate | | (d) | Miss penalty | | (e) | Segment function. | |
| 23. | The CPU nearly delays its operation for one memory cycle, to allow direct memory I/O transfer. This process is called,   |  |  | | --- | --- | | (a) | Burst transfer | | (b) | Cycle waiting | | (c) | Cycle stealing | | (d) | Cycle interrupting | | (e) | Cycle execution. | |
| 24. | The control condition is terminated with   |  |  | | --- | --- | | (a) | Comma | | (b) | Semicolon | | (c) | Colon | | (d) | Hash | | (e) | Dot. | |  |  | |
| 25. | What are the missing values in the truth table of a half-adder given below?  x       y       C      S  0       0       --       --  0       1       0       1  1       0       0       1  1       1       1       0   |  |  | | --- | --- | | (a) | x | | (b) | y | | (c) | 0 | | (d) | 1 | | (e) | Indeterminate. | |
| 26. | What are the building blocks of combinational circuits?   |  |  | | --- | --- | | (a) | Flip-flops | | (b) | Logical gates | | (c) | Latches | | (d) | Registers | | (e) | Decoders. | |
| 27. | x + xy = x is called,   |  |  | | --- | --- | | (a) | Commutative Law | | (b) | Associative Law | | (c) | Distributive Law | | (d) | Absorption Law | | (e) | Identity Law. | |
| 28. | What is BCO equivalent of 011111000?   |  |  | | --- | --- | | (a) | 370 | | (b) | 307 | | (c) | 703 | | (d) | 730 | | (e) | None of the above. | |
| 29. | Boolean functions expressed as a --------- of minterms or ---------- of maxterms are said to be in a canonical form.   |  |  | | --- | --- | | (a) | Product, Sum | | (b) | Sum, Product | | (c) | Subtract, Divide | | (d) | Divide, Subtract | | (e) | Product, Divide. | |
| 30. | Which of the following modes are used to handle data transfer to and from peripherals?   |  |  | | --- | --- | | (a) | Programmed I/O | | (b) | Interrupted-initiated I/O | | (c) | Direct memory access | | (d) | Programmed I/O, Interrupted-initiated I/O, Direct memory access | | (e) | Programmed I/O, Direct memory access. | |
| 31. | The gray code of a given binary number 1001 is   |  |  | | --- | --- | | (a) | 1110 | | (b) | 0110 | | (c) | 1101 | | (d) | 1111 | | (e) | 0000. | |
| 32. | Which of the following representation requires the least number of bits to store the number +255?   |  |  | | --- | --- | | (a) | BCD | | (b) | 2’s complement | | (c) | 1’s complement | | (d) | Unsigned binary | | (e) | Signed binary. | |
| 33. | For two variables, n=2 , the number of possible Boolean functions is   |  |  | | --- | --- | | (a) | 4 | | (b) | 8 | | (c) | 16 | | (d) | 12 | | (e) | 2. | |
| 34. | The one major advantage of CMOS is its,   |  |  | | --- | --- | | (a) | Low propagation delay | | (b) | High propagation delay | | (c) | Very low propagation delay | | (d) | Very high propagation delay | | (e) | Super High propagation delay. | |
| 35. | 64K memory contains how many words of 8 bits each?   |  |  | | --- | --- | | (a) | 65,536 | | (b) | 64,536 | | (c) | 65,436 | | (d) | 65,546 | | (e) | 65,556. | |
| 36. | The simplest way to determine cache locations in which to store memory blocks is the,   |  |  | | --- | --- | | (a) | Associative Mapping technique | | (b) | Direct Mapping technique | | (c) | Set-Associative Mapping technique | | (d) | Indirect Mapping technique | | (e) | Indirect associative mapping technique. | |
| 37. | The sum of -6 and -13 using 2’s complement addition is,   |  |  | | --- | --- | | (a) | 11100011 | | (b) | 11110011 | | (c) | 11001100 | | (d) | 11101101 | | (e) | 11100001. | |
| 38. | Which one of the following CPU registers holds the address of the instructions (instructions in the program stored in memory) to be executed next?   |  |  | | --- | --- | | (a) | MAR (Memory address register) | | (b) | MBR (Memory Buffer Register) | | (c) | AC (Accumulator) | | (d) | IR (Instruction Register) | | (e) | PC (Program Counter). | |
| 39. | What are the major components of a CPU?   |  |  | | --- | --- | | (a) | Control Unit, Register Set, Arithmetic Logic Unit | | (b) | Control Unit, Memory Unit, Arithmetic Logic Unit | | (c) | Memory Unit, Arithmetic Logic Unit, Auxiliary Memory | | (d) | Register Set, Control Unit, Memory Unit | | (e) | Register Set, Control Unit, Auxiliary Memory. | |
| 40. | Given the characteristic table of a JK flip-flop, find the missing output value.  J                    K                    Q(t+1)  0                   0                    Q(t)  0                   1                    0  1                   0                    1  1                   1                    ---   |  |  | | --- | --- | | (a) | Q(t) | | (b) | Q’(t+1) | | (c) | 1 | | (d) | Q’(t) | | (e) | Q(t+1). | |
| 41. | What is Q, when S = 1 and R = 1 for SR flip-flop?   |  |  | | --- | --- | | (a) | No Change | | (b) | Clear to 0 | | (c) | Set to 1 | | (d) | Complement of previous output | | (e) | Indeterminate. | |
| 42. | What does T stands for in T flip-flop?   |  |  | | --- | --- | | (a) | Top | | (b) | Type | | (c) | Toggle | | (d) | Tickle | | (e) | Bottom. | |
| 43. | In which type of flip-flop the indeterminate condition of the SR flip-flop (when S=R=1) is eliminated?   |  |  | | --- | --- | | (a) | Edge-triggered flip-flop | | (b) | JK flip-flop | | (c) | D flip-flop | | (d) | T flip-flop | | (e) | KJ flip-flop. | |
| 44. | The bulk of the binary information in a digital computer is stored in memory, but all computations are done in   |  |  | | --- | --- | | (a) | Timing Control | | (b) | Memory Registers | | (c) | Processor Registers | | (d) | Program Control | | (e) | Processor Control. | |
| 45. | Information transfer from one register to another is designated in symbolic form by means of a   |  |  | | --- | --- | | (a) | Control Function | | (b) | Op Code | | (c) | Registers | | (d) | Replacement Operator | | (e) | Flip-flops. | |
| 46. | The registers found in the processor unit are   |  |  | | --- | --- | | (a) | Operational registers | | (b) | Memory registers | | (c) | Storage registers | | (d) | Binary registers | | (e) | Control registers. | |
| 47. | Techniques that automatically move program and data blocks into the physical main memory when they are required for execution are called   |  |  | | --- | --- | | (a) | Associative-Mapping techniques | | (b) | Main Memory techniques | | (c) | Virtual Memory techniques | | (d) | Cache Memory techniques | | (e) | Primary Memory techniques. | |
| 48. | Given below are the octal numbers and their Binary Coded Decimal (BCD) equivalents, which are not in order. Match the following octal numbers with their respective BCD equivalents and select the correct sequence.  Octal number                BCD equivalent  10                                    i.        111111    9                                    ii.       110010  20                                    iii.      001001  50                                    iv.      010100  77                                    v.       001010   |  |  | | --- | --- | | (a) | iii, ii, i, iv, v | | (b) | v, iv, ii, iii, i | | (c) | v, iv, i, iii, ii | | (d) | i, ii, iv, v, iii | | (e) | v, iv, iii, ii, i. | |
| 49. | The processor, \_\_\_\_\_\_\_\_\_ and I/O Devices are interconnected by means of a common bus.   |  |  | | --- | --- | | (a) | Cache Memory | | (b) | Auxiliary Memory | | (c) | Virtual Memory | | (d) | Main Memory | | (e) | Primary Memory. | |
| 50. | System Software usually includes a program called a \_\_\_\_\_\_\_ , which helps the programmer to find errors in a program.   |  |  | | --- | --- | | (a) | Write Buffer | | (b) | Read Buffer | | (c) | Debugger | | (d) | Both (a) and (c) above | | (e) | Both (b) and (c) above. | |
| 51. | To convert octal code to binary code which of the following digital functions should be used?   |  |  | | --- | --- | | (a) | Decoder | | (b) | Encoder | | (c) | Multiplexer | | (d) | Demultiplexer | | (e) | Half adder. | |
| 52. | A full-adder is simply a connection of two half-adders joined by a,   |  |  | | --- | --- | | (a) | AND gate | | (b) | OR gate | | (c) | NAND gate | | (d) | NOR gate | | (e) | XOR gate. | |
| 53. | The correspondence between the main memory blocks and those in the cache is specified by a   |  |  | | --- | --- | | (a) | Miss penalty | | (b) | Replacement algorithms | | (c) | Hit rate | | (d) | Page fault | | (e) | Mapping functions. | |
| 54. | The number of 256\*4 RAM chips required to construct 2KB CACHE is   |  |  | | --- | --- | | (a) | 8 | | (b) | 2 | | (c) | 4 | | (d) | 16 | | (e) | 32. | |
| 55. | The set of physical addresses is called   |  |  | | --- | --- | | (a) | Disk Space | | (b) | Address Space | | (c) | Pages | | (d) | Frames | | (e) | Location. | |
| 56. | What is the name of device that is allowed to initiate data transfer on the bus?   |  |  | | --- | --- | | (a) | Bus Master | | (b) | Bus Arbitration | | (c) | Bus Cycle | | (d) | Bus Request | | (e) | Parallel Bus. | |
| 57. | The DMA transfer technique where transfer of one word data at a time is called   |  |  | | --- | --- | | (a) | Cycle stealing | | (b) | Memory stealing | | (c) | Hand-shaking | | (d) | Inter-leaving | | (e) | Bus stealing. | |
| 58. | What interface is used to connect the processor to I/O devices that require transmission of data one bit at a time?   |  |  | | --- | --- | | (a) | Parallel | | (b) | Serial | | (c) | Output | | (d) | Input | | (e) | Bus. | |
| 59. | What are the building blocks of combinational circuits?   |  |  | | --- | --- | | (a) | Flip-flops | | (b) | Logic gates | | (c) | Latches | | (d) | Registers | | (e) | Inputs. | |
| 60. | The transfer of new information into the register is called   |  |  | | --- | --- | | (a) | Execution | | (b) | Loading | | (c) | Shifting | | (d) | Configuring | | (e) | Uploading. | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 61. | **Convert decimal value** (888)10 **to base-5.**   |  |  | | --- | --- | | (a) | (444)5 | | (b) | (12023)5 | | (c) | (131313)5 | | (d) | (12021)5 | | (e) | (31320)5. | |
| **62.** | Consider the following logic function f(ABC).  f(A,B,C) =  ( A + B + C’) . (A + B’+ C’)  Which of the following would be the result if the above logic function is to be simplified using k-maps?   |  |  | | --- | --- | | (a) | C’ + A | | (b) | C + C’A’ | | (c) | C.A’ | | (d) | C’.A | | (e) | C’.A’ + B. | |
| **63.** | What is the equivalent in hexadecimal for the decimal number 973?   |  |  | | --- | --- | | (a) | 4BC | | (b) | CB4 | | (c) | 6D | | (d) | 3CD | | (e) | 4CD. | |
| **64.** | What is the word size of a 8086 processor?   |  |  | | --- | --- | | (a) | 8 bits | | (b) | 16 bits | | (c) | 32 bits | | (d) | 64 bits | | (e) | 128 bits. | |
| **65.** | What kind of Information is stored inside the computer?   |  |  | | --- | --- | | (a) | Binary form | | (b) | ASCII code form | | (c) | Decimal form | | (d) | Alpha numeric | | (e) | Numeric form. | |
| **66.** | What is a parity bit?   |  |  | | --- | --- | | (a) | It is used to indicate uppercase letters | | (b) | It is used to detect errors | | (c) | It is the first bit in a byte | | (d) | It is the last bit in a byte | | (e) | It is used to indicate lowercase letters. | |
| **67.** | What is the minimum number of bits required to store the Hexadecimal number FF?   |  |  | | --- | --- | | (a) | 2 | | (b) | 4 | | (c) | 8 | | (d) | 16 | | (e) | 32. | |
| **68.** | What is the purpose of the floating point unit(FPU)?   |  |  | | --- | --- | | (a) | Makes integer arithmetic faster | | (b) | Makes pipelining efficient | | (c) | Increases RAM capacity | | (d) | Makes some arithmetic calculations faster | | (e) | Decreases RAM capacity. | |
| **69.** | Which of the following is **not** a type of processor?   |  |  | | --- | --- | | (a) | PowerPC 601 | | (b) | Motorola 8086 | | (c) | Motorola 68000 | | (d) | Intel Pentium | | (e) | Z80. | |
| **70.** | Cycle stealing is/are used in which concept?   |  |  | | --- | --- | | (a) | Programmed I/O | | (b) | DMA | | (c) | Interrupts | | (d) | Memory mapped I/O | | (e) | All of the above. | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 71. | **What is an optical storage?**   |  |  | | --- | --- | | (a) | Has faster access time than disk storage | | (b) | Smaller capacity than CD-ROM | | (c) | Greater capacity than DAT storage | | (d) | Smaller capacity than DAT storage | | (e) | Greater capacity than CD-ROM. | |
| **72.** | What is the purpose of RAID system?   |  |  | | --- | --- | | (a) | It increases the processor speed | | (b) | It increases the disk storage capacity | | (c) | It increases the disk storage capacity and availability | | (d) | It increases operating system efficiency | | (e) | It decreases operating system efficiency. | |
| **73.** | What is the purpose of Stack Pointer (SP) register?   |  |  | | --- | --- | | (a) | It is used for accessing strings | | (b) | It is used for accessing memory | | (c) | It is used for accessing stack | | (d) | It is used for accessing data segment | | (e) | It is used for accessing code segment. | |
| **74.** | Which of the following statements is **wrong**   |  |  | | --- | --- | | (a) | Combinational circuits has memory | | (b) | Sequential circuits has memory | | (c) | Sequential circuits is a function of time | | (d) | Combinational circuits does not require feed back paths | | (e) | Sequential circuits require feed back paths. | |
| **75.** | Which of the following is **not** involved in memory write operation?   |  |  | | --- | --- | | (a) | MAR | | (b) | PC | | (c) | IR | | (d) | MDR | | (e) | Data Bus. | |
| **76.** | Which of the following is responsible for coordinating various operations using timing signals?   |  |  | | --- | --- | | (a) | Arithmetic-logic unit | | (b) | Control unit | | (c) | Memory unit | | (d) | Input unit | | (e) | Output unit. | |
| **77.** | What is LRU algorithm?   |  |  | | --- | --- | | (a) | Pages out pages that have been used recently | | (b) | Pages out pages that have not been used recently | | (c) | Pages out pages that have been least used recently | | (d) | Pages out the first page in given data | | (e) | Pages out the last page in given data. | |
| **78.** | Which of the following is **true** about ROM?   |  |  | | --- | --- | | (a) | ROM is faster to access than RAM | | (b) | ROM is non-volatile memory | | (c) | ROM stores more information than RAM | | (d) | ROM is used for cache memory | | (e) | ROM is temporary memory. | |
| **79.** | Cache memory enhances   |  |  | | --- | --- | | (a) | Memory capacity | | (b) | Memory access time | | (c) | Secondary storage capacity | | (d) | Secondary storage access time | | (e) | Data transfer time. | |
| **80.** | An OR gate generates a low output when   |  |  | | --- | --- | | (a) | Any one of its inputs is low | | (b) | Any one of its inputs is high | | (c) | All of its inputs are low | | (d) | Power fails | | (e) | Either of the inputs are high. | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 81. | **A machine cycle refers to**   |  |  | | --- | --- | | (a) | Fetching an instruction | | (b) | Clock speed | | (c) | Fetching, decoding and executing  an instruction | | (d) | Executing and instruction | | (e) | Decoding an instruction. | |
| **82.** | The System bus is made up of   |  |  | | --- | --- | | (a) | Control bus | | (b) | Address bus | | (c) | Both Control bus and Address bus | | (d) | Control bus, Data bus and Address bus | | (e) | Data bus. | |
| **83.** | The code used to boot up a computer is stored in   |  |  | | --- | --- | | (a) | RAM | | (b) | ROM | | (c) | PROM | | (d) | EPROM | | (e) | EEPROM. | |
| **84.** | In accessing a disk block the longest delay is due to   |  |  | | --- | --- | | (a) | Rotation time | | (b) | Seek time | | (c) | Transfer time | | (d) | Clock speed | | (e) | Access time. | |
| **85.** | Which of the following is/are **not** part(s) of the CPU?   |  |  | | --- | --- | | (a) | ALU | | (b) | The Control unit | | (c) | The Registers | | (d) | System bus | | (e) | All of the above. | |
| 86. | Memory mapped  I/O  involves transferring of   |  |  | | --- | --- | | (a) | Information between memory locations | | (b) | Information between registers and memory | | (c) | Information between CPU and I/O devices | | (d) | Information between CPU and  Memory | | (e) | Information between I/O devices and CPU. | |
| 87. | Name the type of memory that can be erased with the electric discharge?   |  |  | | --- | --- | | (a) | ROM | | (b) | EPROM | | (c) | RAM | | (d) | EEPROM | | (e) | PROM. | |
| 8. | What is the units for measuring the CPU performance?   |  |  | | --- | --- | | (a) | BPS | | (b) | MIPS | | (c) | MHz | | (d) | VLSI | | (e) | KHz. | |
| 89. | The read/write line belongs to   |  |  | | --- | --- | | (a) | The data bus | | (b) | The control bus | | (c) | The address bus | | (d) | CPU bus | | (e) | System bus. | |
| 90. | Busy waiting is a technique   |  |  | | --- | --- | | (a) | To allow the CPU wait for a busy device | | (b) | To allow a busy device wait for the CPU | | (c) | To keep an idle device busy | | (d) | To improve CPU performance | | (e) | To keep a device busy. | |
| 91. | Which of the following Addressing Modes specifies a register which contains the memory address of the operand?   |  |  | | --- | --- | | (a) | Indirect Addressing Mode | | (b) | Register Addressing Mode | | (c) | Register Indirect Addressing Mode | | (d) | Index Addressing  Mode | | (e) | Base Address Register Addressing Mode. | |
| 92. | Identify the term, which indicate a set of Logical Addresses.   |  |  | | --- | --- | | (a) | Memory space | | (b) | Disk space | | (c) | Address space | | (d) | Location | | (e) | Page frame. | |
| 93. | Which of the following is false related to Stack?   |  |  | | --- | --- | | (a) | Stack Pointer points to the top most element of the stack | | (b) | Only PUSH and POP operations are applicable | | (c) | Implements FIFO | | (d) | Useful for nested loops, subroutine calls etc | | (e) | Efficient for arithmetic expression evaluation. | |
| 94. | Which of the following is the method in which the unit receiving the data responds with another control signal?   |  |  | | --- | --- | | (a) | Timing sequence | | (b) | Synchronous | | (c) | Strobe | | (d) | Short message service | | (e) | Handshaking. | |
| 95. | What is the page replacement algorithm in which there is a replacement of a page, which will not be used for the longest period of time?   |  |  | | --- | --- | | (a) | MFU | | (b) | LRU | | (c) | OPT | | (d) | FIFO | | (e) | LFU. | |
| 96. | Of the following, what is an input device for which finger shows the cursor movement?   |  |  | | --- | --- | | (a) | Mouse | | (b) | Scanner | | (c) | Microphone | | (d) | Trackball | | (e) | Glide pad. | |
| 97. | Consider the following unsigned  decimal numbers:  i.       6543.  ii.      4444.  What is the result after subtracting (i) by taking the 10's complement of (ii)?   |  |  | | --- | --- | | (a) | 2098 | | (b) | 2099 | | (c) | 2096 | | (d) | 2097 | | (e) | 2095. | |
| 98. | What is the octal equivalent of given binary number? 011001   |  |  | | --- | --- | | (a) | 32 | | (b) | 31 | | (c) | 34 | | (d) | 33 | | (e) | 35. | |
| 99. | Which of the following describes the Mnemonic SPA?   |  |  | | --- | --- | | (a) | Skip If (Address Resister) Positive | | (b) | Skip If (Accumulator) Positive | | (c) | Skip If (Adder-Subtractor) Positive | | (d) | Skip If (Associative Mapping) Positive | | (e) | Skip If (Assembler) Positive. | |
| 100. | Which of the following is correct related to the circuit diagrams?   |  |  | | --- | --- | | (a) | Sequential circuit is an interconnection of only logic gates | | (b) | Sequential circuit is an interconnection of only flip flops | | (c) | Combinational circuit is an interconnection of  logic gates | | (d) | Combinational circuit is an interconnection of flip flops | | (e) | Part of a combinational circuit is a sequential circuit. | |
| 101. | Of the following, identify the memory usually written by the manufacturer.   |  |  | | --- | --- | | (a) | RAM | | (b) | DRAM | | (c) | SRAM | | (d) | ROM | | (e) | Cache Memory. | |
| 102. | What does D stands for in D-flip flop?   |  |  | | --- | --- | | (a) | Direct | | (b) | Don’t care | | (c) | Double | | (d) | Delay | | (e) | Data. | |
| 103. | Consider that the program is executed from main memory until it attempts to reference a page that is still in auxiliary memory. Identify this condition.   |  |  | | --- | --- | | (a) | Page Found | | (b) | Page Fault | | (c) | Page Hit | | (d) | Page Miss | | (e) | Page Replace. | |
| 104. | DMA stands for   |  |  | | --- | --- | | (a) | Direct Memory Address | | (b) | Direct Main Address | | (c) | Direct Memory Access | | (d) | Direct Main Access | | (e) | Device Memory Access. | |
| 105. | What is the symbol to represent a state in the state diagram? |
| 106. | Consider DR ← M [AR], Identify the operation.   |  |  | | --- | --- | | (a) | Arithmetic Operation | | (b) | Shift Operation | | (c) | Memory Write | | (d) | Memory Read | | (e) | Memory Cycle. | |
| 107. | A computer has memory of 256k words of 32 bits each, how many bits are required to specify the address part?   |  |  | | --- | --- | | (a) | 16 bits | | (b) | 12 bits | | (c) | 8 bits | | (d) | 18 bits | | (e) | 10 bits. | |
| 108. | Which one of the following can be called as a peripheral?   |  |  | | --- | --- | | (a) | Control Unit | | (b) | Arithmetic Unit | | (c) | Speakers | | (d) | Logic Unit | | (e) | Main Memory. | |
| 109. | is a symbol for   |  |  | | --- | --- | | (a) | OR | | (b) | XOR | | (c) | AND | | (d) | NAND | | (e) | NOR. | |
| 110. | What is the operation sets to 1 the bits in one register where there are corresponding 1’s in the second register?   |  |  | | --- | --- | | (a) | Selective Complement | | (b) | Selective Clear | | (c) | Selective Set | | (d) | Mask | | (e) | Insert. | |
| 111. | What is represented by D7I'T in the instruction cycle?   |  |  | | --- | --- | | (a) | Register – Reference Instructions | | (b) | Program Interrupt | | (c) | Input-Output Instructions | | (d) | Branch Instruction | | (e) | Memory Reference Instructions. | |
| 112. | What is the (r-1)’s complement of 345 in octal number system?   |  |  | | --- | --- | | (a) | 342 | | (b) | 234 | | (c) | 243 | | (d) | 432 | | (e) | 423. | |
| 113. | What is described by the Mnemonic SHRA?   |  |  | | --- | --- | | (a) | Arithmetic shift left | | (b) | Logical shift right | | (c) | Logical shift left | | (d) | Circular shift right | | (e) | Arithmetic shift right. | |
| 114. | Which of the following terms describe that the information which will be used in near future is likely to be in use already?   |  |  | | --- | --- | | (a) | Spatial Locality | | (b) | Locality | | (c) | Hit ratio | | (d) | Temporal Locality | | (e) | Effective access time. | |
| 115. | CISC stands for   |  |  | | --- | --- | | (a) | Control Instruction Set Completeness | | (b) | Complex Instruction Set Conversion |  |  |  | | --- | --- | | (c) | Complex Instruction Set Computer | | (d) | Control Instruction Set Computer | | (e) | Complex Instruction Set Control. | |
| 116. | What are the three state gates in a digital circuit?   |  |  | | --- | --- | | (a) | Logic 0, Logic 1 Complement, High Impedance | | (b) | Logic 0 Complement,  Logic 1, High Impedance | | (c) | Logic 0 Complement, Logic 1 Complement, High Impedance | | (d) | Logic 0, Logic 1, Low Impedance | | (e) | Logic 0, Logic 1, High Impedance. | |
| 117. | What is the table that lists the required inputs for a given change of state?   |  |  | | --- | --- | | (a) | Characteristic table | | (b) | Truth table | | (c) | Null table | | (d) | Excitation table | | (e) | Binary table. | |
| 118. | Microphone is a/an   |  |  | | --- | --- | | (a) | Output device | | (b) | Storage device | | (c) | Input device | | (d) | Processing device | | (e) | Printing device. | |
| 119. | Of the following phases, identify the phase in which the programs must reside in the main memory.   |  |  | | --- | --- | | (a) | Deletion | | (b) | Execution | | (c) | Printing | | (d) | Reading | | (e) | Insertion. | |
| 120. | (x')'=\_\_\_\_\_   |  |  | | --- | --- | | (a) | x2 | | (b) | 0 | | (c) | 1 | | (d) | x | | (e) | x'. | |
| 121. | Of the following, what is a input device for which finger shows the cursor movement.   |  |  | | --- | --- | | (a) | Mouse | | (b) | Scanner | | (c) | Trackball | | (d) | Glide pad | | (e) | Microphone. | |
| 122. | Which of the following describes the Mnemonic SPA?   |  |  | | --- | --- | | (a) | Skip If (Accumulator) Positive | | (b) | Skip If (Adder-Subtractor) Positive | | (c) | Skip If (Associative Mapping) Positive | | (d) | Skip If (Assembler) Positive | | (e) | Skip If (Address Resister) Positive. | |
| 123. | Of the following, identify the memory usually written by the manufacturer.   |  |  | | --- | --- | | (a) | RAM | | (b) | ROM | | (c) | DRAM | | (d) | SRAM | | (e) | Cache Memory. | |
| 124. | Consider that the program is executed from main memory until it attempts to reference a page that is still in auxiliary memory. Identify this condition.   |  |  | | --- | --- | | (a) | Page Found | | (b) | Page Fault | | (c) | Page Hit | | (d) | Page Miss | | (e) | Page Replace. | |
| 125. | What is the symbol to represent a state in the state diagram? |
| 126. | A computer has memory of 256k words of 32 bits each, how many bits are required to specify the address part?   |  |  | | --- | --- | | (a) | 16 bits | | (b) | 12 bits | | (c) | 8 bits | | (d) | 18 bits | | (e) | 10 bits. | |
| 127. | V is a symbol for   |  |  | | --- | --- | | (a) | OR | | (b) | XOR | | (c) | AND | | (d) | NAND | | (e) | NOR. | |
| 128. | What is represented by D7I’T in the instruction cycle?   |  |  | | --- | --- | | (a) | Input-Output Instructions | | (b) | Register–reference instructions | | (c) | Program interrupt | | (d) | Branch instruction | | (e) | Memory Reference Instructions. | |
| 129. | What is described by the Mnemonic SHRA?   |  |  | | --- | --- | | (a) | Arithmetic shift left | | (b) | Logical shift right | | (c) | Logical shift left | | (d) | Arithmetic shift right | | (e) | Circular shift right. | |
| 130. | CISC stands for:   |  |  | | --- | --- | | (a) | Control Instruction Set Completeness | | (b) | Complex Instruction Set Computer | | (c) | Complex Instruction Set Conversion | | (d) | Control Instruction Set Computer | | (e) | Complex Instruction Set Control. | |
| 131. | Of the following phases, Identify the phase in which the programs must reside in the main memory.   |  |  | | --- | --- | | (a) | Deletion | | (b) | Printing | | (c) | Execution | | (d) | Reading | | (e) | Insertion. | |
| 132. | What are the three state gates in a digital circuit?   |  |  | | --- | --- | | (a) | Logic 0, Logic 1 Complement, high impedance | | (b) | Logic 0 Complement, Logic 1, high impedance | | (c) | Logic 0 Complement, Logic 1 Complement, high impedance | | (d) | Logic 0, logic 1, Low impedance | | (e) | Logic 0, logic 1, high impedance. | |
| 133. | Which of the following is false related to Stack?   |  |  | | --- | --- | | (a) | Stack Pointer Points to the top most element of the stack | | (b) | Only PUSH and POP operations are applicable | | (c) | Implements FIFO | | (d) | Useful for nested loops, subroutine calls etc., | | (e) | Efficient for arithmetic expression evaluation. | |
| 134. | Which of the following is the method in which the unit receiving the data responds with another control signal?   |  |  | | --- | --- | | (a) | Timing Sequence | | (b) | Synchronous | | (c) | Strobe | | (d) | Short message service | | (e) | Handshaking. | |
| 135. | Consider the following unsigned  decimal numbers  i.       6543  ii.      4444  Subtract (i) by taking the 10's complement of (ii)   |  |  | | --- | --- | | (a) | 2098 | | (b) | 2099 | | (c) | 2096 | | (d) | 2097 | | (e) | 2095. | |
| 136. | (x’)’ =   |  |  | | --- | --- | | (a) | x2 | | (b) | 0 | | (c) | 1 | | (d) | x | | (e) | x’. | |
| 137. | Which of the following addressing modes specifies a register which contains the memory address of the operand?   |  |  | | --- | --- | | (a) | Indirect Addressing Mode | | (b) | Register Addressing Mode | | (c) | Register Indirect Addressing Mode | | (d) | Index Addressing  Mode | | (e) | Base Address Register Addressing Mode. | |
| 138. | What is the octal equivalent of given binary number?  011001   |  |  | | --- | --- | | (a) | 32 | | (b) | 31 | | (c) | 34 | | (d) | 33 | | (e) | 35. | |
| 139. | Which of the following is correct related to the circuit diagrams?   |  |  | | --- | --- | | (a) | Sequential circuit is an interconnection of only logic gates | | (b) | Sequential circuit is an interconnection of only flip flops | | (c) | Combinational circuit is an interconnection of  logic gates | | (d) | Combinational circuit is an interconnection of flip flops | | (e) | Part of a combinational circuit is a sequential circuit. | |
| 140. | What does D stands for in D-flip flop?   |  |  | | --- | --- | | (a) | Direct | | (b) | Don’t care | | (c) | Double | | (d) | Delay | | (e) | Data. | |
| 141. | Identify the term, which indicate a set of Logical Addresses.   |  |  | | --- | --- | | (a) | Memory space | | (b) | Disk space | | (c) | Address space | | (d) | Location | | (e) | Page Frame. | |
| 142. | DMA stands for:   |  |  | | --- | --- | | (a) | Direct Memory Address | | (b) | Direct Main Address | | (c) | Direct Memory Access | | (d) | Direct Main Access | | (e) | Device Memory Access. | |
| 143. | Consider DR ← M [AR], Identify the operation.   |  |  | | --- | --- | | (a) | Arithmetic Operation | | (b) | Shift Operation | | (c) | Memory Write | | (d) | Memory Read | | (e) | Memory Cycle. | |
| 144. | What is the (r-1)’s complement of 345 in octal number system?   |  |  | | --- | --- | | (a) | 342 | | (b) | 234 | | (c) | 243 | | (d) | 423 | | (e) | 432. | |
| 145. | Which of the following terms describe that the information which will be used in near future is likely to be in use already?   |  |  | | --- | --- | | (a) | Spatial Locality | | (b) | Locality | | (c) | Hit ratio | | (d) | Temporal Locality | | (e) | Effective access time. | |
| 146. | What is the table that lists the required inputs for a given change of state?   |  |  | | --- | --- | | (a) | Characteristic table | | (b) | Truth table | | (c) | Null table | | (d) | Excitation table | | (e) | Binary table. | |
| 147. | Microphone is a\an   |  |  | | --- | --- | | (a) | Output device | | (b) | Storage device | | (c) | Input device | | (d) | Processing device | | (e) | Printing device. | |
| 148. | What is the operation sets to 1 the bits in one register where there are corresponding 1’s in the second register?   |  |  | | --- | --- | | (a) | Selective Complement | | (b) | Selective Clear | | (c) | Selective Set | | (d) | Mask | | (e) | Insert. | |
| 149. | Which one of the following can be called as a peripheral?   |  |  | | --- | --- | | (a) | Control unit | | (b) | Speakers | | (c) | Arithmetic Unit | | (d) | Logic unit | | (e) | Main Memory. | |
| 150. | What is demonstrated in the given figure?   |  |  | | --- | --- | | (a) | MICR | | (b) | Bar Code Reader | | (c) | Joy Stick | | (d) | Track Ball | | (e) | Wand Reader. | |
| 151. | Which of the following binary number is equivalent to 20?   |  |  | | --- | --- | | (a) | 10100 | | (b) | 100 | | (c) | 000010 | | (d) | 11111 | | (e) | 10111. | |
| 152. | The Hexadecimal number system has a radix of   |  |  | | --- | --- | | (a) | 10 | | (b) | 2 | | (c) | 8 | | (d) | 16 | | (e) | 5. | |
| 153. | What is equivalent of -3510 in 8-bit 2’s complement representation?   |  |  | | --- | --- | | (a) | 01011101 | | (b) | 11011111 | | (c) | 11011101 | | (d) | 00101101 | | (e) | 11001101. | |
| 154. | The BCD equivalent of decimal number 32.94 is   |  |  | | --- | --- | | (a) | 0011 0010 . 1001 0100 | | (b) | 1011 0010 . 1001 0100 | | (c) | 0011 0010 . 1001 0010 | | (d) | 100010 . 1001 0100 | | (e) | 0010 0010 . 1001 0010. | |
| 155. | The code which can represent numbers, characters, and special characters are called   |  |  | | --- | --- | | (a) | Gray code | | (b) | BCD code | | (c) | EBCDIC code | | (d) | Alphanumeric code | | (e) | ASCII code. | |
| 156. | In a Hamming code for transmitting a data of 4-bit, how many parity bit(s) is/are used?   |  |  | | --- | --- | | (a) | One | | (b) | Two | | (c) | Three | | (d) | Four | | (e) | Zero. | |
| 157. | The Boolean expression F = AB’C’D + AB’CD’ + A’BCD can be written as   |  |  | | --- | --- | | (a) | F = ∑m (7, 8, 9) | | (b) | F = ∑m (7, 9, 10) | | (c) | F = ∑m (7, 8, 10) | | (d) | F = ∑m (7, 6, 10) | | (e) | F = ∑m (6, 9, 10). | |
| 158. | The Boolean expression F(A,B,C,D) =∑m(0, 3) is   |  |  | | --- | --- | | (a) | (A + B + C’ + D’) (A + B + C + D) | | (b) | (A + B’+ C’ + D’) (A’+ B’+ C’ + D’) | | (c) | (A’+ B’+ C’ + D’) (A’+ B’+ C  + D) | | (d) | (A + B’ + D’) (A’ + B + C + D’) | | (e) | (A + B + D’) (A’ + B’ + C + D’). | |
| 159. | In a Karnaugh map the adjacent minterms can be combined only if the configuration is   |  |  | | --- | --- | | (a) | 2 | | (b) | 4 | | (c) | 2 x n | | (d) | 2n | | (e) | 2n-1. | |
| 160. | For realizing the Boolean expression AC + AD + BC + BD how many  number of inputs are needed ?   |  |  | | --- | --- | | (a) | 8 | | (b) | 4 | | (c) | 12 | | (d) | 16 | | (e) | 2. | |
| 161. | Using Karnaugh map SOP form of the expression  (B + C + D) (B’ + C + D’) (A’ + B + C’ + D’) (A + B’ + E’) (A + B’ + D’) will be   |  |  | | --- | --- | | (a) | BCD + B’CD + A’BC’D’ + AB’E’ + AB’D’ | | (b) | B’C’D’ + BC’D + AB’CD + A’BE’ + A’BD | | (c) | B’C’D + A’B’C + ABC + BD’E’ + ACD’ + ABD’ | | (d) | B’C’D’ + BCD + AB’CD + A’BE + A’BD | | (e) | BCD + B’C’D + A’BCD’ + ABE + AB’D’. | |
| 162. | The number of input variables which a NOT gate can have is   |  |  | | --- | --- | | (a) | One | | (b) | Two | | (c) | Three | | (d) | Four | | (e) | Any number. | |
| 163. | The unique output for a NAND logic gate is a 0   |  |  | | --- | --- | | (a) | When all inputs are 0 | | (b) | When all the inputs are 1 | | (c) | When any one input is 0 | | (d) | When any one input is 1 | | (e) | All of the above. | |
| 164. | The states of a bus may be   |  |  | | --- | --- | | (a) | Logic 0, logic 1 and Low impedence | | (b) | Logic 0, logic –1 and high impedence | | (c) | Logic –2, logic –1 and high impedence | | (d) | Logic –1, logic 1 and high impedence | | (e) | Logic 0, logic 1 and high impedence. | |
| 165. | The binary pattern 101110 is an answer received after adding two numbers in a 6-bit two’s complement system. The answer in decimal system is   |  |  | | --- | --- | | (a) | – 45 | | (b) | – 44 | | (c) | – 18 | | (d) | – 13 | | (e) | + 45. | |
| 166. | A 4-bit ALU which is based on 1’complement arithmetic is used to do the following addition.                                          1101                                        +1011  The answer should be:   |  |  | | --- | --- | | (a) | Range overflow | | (b) | 16 | | (c) | –16 | | (d) | 8 | | (e) | 24. | |
| 167. | Using Boolean algebra the reduced expression for function AB’C + ABC can be realized by using how many number of gates?   |  |  | | --- | --- | | (a) | 7 | | (b) | 3 | | (c) | 2 | | (d) | 11 | | (e) | 8. | |
| 168. | RISC stands for   |  |  | | --- | --- | | (a) | Reduced Instruction Sign Computers | | (b) | Reduced Instruction Set Computers | | (c) | Reduced Instruction Set Carry | | (d) | Reduced Invalid Set Computers | | (e) | Reset Instruction Set Computers. | |
| 169. | A binary system based on Two’s complement arithmetic gives the answer 110010. The decimal equivalent(s) of this answer is   |  |  | | --- | --- | | (a) | 13 | | (b) | –13 | | (c) | –16 | | (d) | –18 | | (e) | –14. | |
| 170. | Which of the following statement is false?   |  |  | | --- | --- | | (a) | Combinational circuits has memory | | (b) | Sequential circuits has memory | | (c) | Sequential circuits is a function of time | | (d) | Combinational circuits does not require feed back paths | | (e) | Sequential circuits require feed back paths. | |
| 171. | Which of the following is responsible for coordinating various operations using timing signals?   |  |  | | --- | --- | | (a) | Arithmetic-logic unit | | (b) | Control unit | | (c) | Memory unit | | (d) | Input unit | | (e) | Output unit. | |
| 172. | What kind of Information is stored inside the computer?   |  |  | | --- | --- | | (a) | Binary form | | (b) | ASCII code form | | (c) | Decimal form | | (d) | Alpha numeric | | (e) | Numeric form. | |
| 173. | A parity bit   |  |  | | --- | --- | | (a) | Is used to indicate uppercase letters | | (b) | Is used to detect errors | | (c) | Is the first bit in a byte | | (d) | Is the last bit in a byte | | (e) | Is used to indicate lowercase letters. | |
| 174. | A four input multiplexer has inputs A, B, C and D and select lines S0 and S1.  Which of the following statement(s) where the output F is given by  Which of the above statements is/are true?   |  |  | | --- | --- | | (a) | Only (I) above | | (b) | Only (II) above | | (c) | Only (III) above | | (d) | Both (I) and (II) above | | (e) | Both (II) and (III) above. | |
| 175. | Consider the following Karnaugh map:  Which of the following is the most compact form of Boolean expression which corresponds to the map?   |  |  | | --- | --- | |  |  | |  | . | |
| 176. | What do you call the given statement as?  “The information which will be used in near future is likely to be in use already is”   |  |  | | --- | --- | | (a) | Spatial Locality | | (b) | Locality | | (c) | Hit ratio | | (d) | Temporal Locality | | (e) | Effective access time. | |
| 177. | In which page replacement algorithm where there is a replacement of a page, which will not be used for the longest period of time?   |  |  | | --- | --- | | (a) | MFU | | (b) | LRU | | (c) | OPT | | (d) | FIFO | | (e) | LFU. | |
| 178. | Which of the following is supplied by one unit to indicate to other unit when the transfer has to occur?   |  |  | | --- | --- | | (a) | Strobe pulse | | (b) | Time slice | | (c) | Access right | | (d) | Logic gate | | (e) | Program. | |
| 179. | A Set of Logical Addresses as is called   |  |  | | --- | --- | | (a) | Memory space | | (b) | Disk space | | (c) | Address space | | (d) | Location | | (e) | Pages. | |
| 180. | Which of the following can be used for checking errors in transmission?   |  |  | | --- | --- | | (a) | Full duplex | | (b) | Half duplex | | (c) | CRC | | (d) | Full adder | | (e) | Binary adder. | |
| 181. | The computer architecture having stored program is \_\_\_\_\_.  (a)  Harvard                                                          (b)  Von-Neumann      (c)  Pascal  (d)  Ada                                                                  (e)  Cobol. |
| 182. | The key technology used in IV generation computers is \_\_\_\_\_\_\_.  (a)  MSI                                                                  (b)  SSI                                   (c)  LSI &VLSI  (d)  Transistors                                                      (e)  Vacuum Tubes. |
| 183. | x and y are two digit BCD numbers. It is known that x + y is equal to 82(BCD) and x - y is equal to 04(BCD). The value of x is \_\_\_\_\_\_\_.  (a)  01000011                      (b)  00001010                      (c)  00101011                       (d)  00100111      (e)  00110010. |
| 184. | The gray code of a given binary number 1001 is  (a)  1110                        (b)  0110                        (c)  1101                        (d)  1111                        (e)  0000. |
| 185. | When the addition of two +ve numbers results in a –ve value, then \_\_\_\_\_\_\_ flag will be set.  (a)  Over-flow               (b)  Carry                       (c)  Parity                       (d)  E                               (e)  Sign. |
| 186. | The digital circuit that generates the arithmetic sum of two binary numbers of any length is \_\_\_\_\_\_\_\_ .  (a)  Binary-Adder         (b)  Full-Adder              (c)  Half-Adder             (d)  Adder                      (e)  OR-gate. |
| 187. | Which of the following representation requires the least number of bits to store the number +255?  (a)  BCD                                                                 (b)  2’s complement                     (c)  1’s complement  (d)  Unsigned binary    (e)  Signed binary. |
| 188. | The number of select input lines in an 8-to-1 multiplexer is \_\_\_\_\_\_\_\_.  (a)  1                               (b)  8                               (c)  2                               (d)  4                               (e)  3. |
| 189. | If F= AB’ + C’D then F’= \_\_\_\_\_\_\_.  (a)  (A+B’)(C’+D)                                                 (b)  (A’B)+(CD’)                                                   (c)  (AB’)(CD’)  (d)  (A’+B)(C+D’)         (e)  (A’+B)+(C+D’). |
| 190. | Serial to parallel data conversion is done using  (a)  Accumulator                                                  (b)  Shift Register                                                  (c)  Counter  (d)  CPU                                                                 (e)  Control Unit. |
| 191. | What does D stand for in a D flip-flop?  (a)  Direct                       (b)  Don’t care              (c)  Data                         (d)  Device                     (e)  Disk. |
| 192. | Which of the following is not an advantage of asynchronous circuits?  (a)  Higher speed                                                  (b)  Low power consumption  (c)  Smaller design effort                                     (d)  No need to provide clock generation circuitry  (e)  Simple functions. |
| 193. | Carry in half-adder can be obtained using \_\_\_\_\_\_\_.  (a)  X-OR gate              (b)  AND gate                (c) OR gate                    (d)  X-NOR gate           (e)  Inverter. |
| 194. | CACHE memory is implemented using \_\_\_\_\_\_\_\_.  (a)  Dynamic RAM                                              (b)  Static RAM                                                    (c)  EA RAM  (d)  ED RAM                                                         (e)  EP RAM. |
| 195. | CISC stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  (a)    Control Instruction Set Completeness  (b)    Complex Instruction Set Conversion  (c)     Complex Instruction Set Computer  (d)    Control Instruction Set Conversion  (e)     Complex Instruction Set Control. |
| 196. | BUN instruction stands for\_\_\_\_\_\_\_  (a)  Branch conditionally                                    (b)  Branch unconditionally  (c)  Boot unconditionally                                    (d)  Begin unconditionally  (e)  Branch and save return address. |
| 197. | Information transfer from one register to another is designated in symbolic form by means of  \_\_\_\_\_\_\_\_\_.  (a)  Control functions                                          (b)  OP-Code                                                         (c)  Registers  (d)  Stack operation                                             (e)  Replacement operator. |
| 198. | DMA stands for\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  (a)    Direct Memory  Address                            (b)  Direct Main Address  (c)    Direct Memory Access                               (d)  Direct Main Access  (e)    Device Memory Access. |
| 199. | \_\_\_\_\_\_ is a symbol to denote a part of a register.  (a)  { }                                                                     (b)  ( )                              (c)  <>  (d)  🡪                 (e) |
| 200. | \_\_\_\_\_\_\_\_ structure is useful in the evaluation of postfix arithmetic expression.  (a)    Stack                     (b)  Queue                      (c)  Linked List             (d)  Graph                      (e)  Tree. |