1. Any signed negative binary number is recognised by its _____

a) MSB Correect

b) LSB

c) Byte

d) Nibble

2. The parameter through which 16 distinct values can be represented is known as _____

a) Bit

b) Byte

c) Word Correct

d) Nibble

3. If the decimal number is a fraction then its binary equivalent is obtained by _____ the number continuously by 2.

a) Dividing

b) Multiplying Correct

c) Adding

d) Subtracting

5. The decimal equivalent of the binary number (1011.011)2 is _____

a) (11.375)10 Correct

b) (10.123)10

c) (11.175)10

d) (9.23)10

6. An important drawback of binary system is _____

a) It requires very large string of 1's and 0's to represent a decimal number Correct

b) It requires sparingly small string of 1's and 0's to represent a decimal number

c) It requires large string of 1's and small string of 0's to represent a decimal number

d) It requires small string of 1's and large string of 0's to represent a decimal number

8. The largest two digit hexadecimal number is _____

a) (FE)16

b) (FD)16

c) (FF)16 Correct

d) (EF)16

12. 2's complement of 11001011 is _____

a) 01010111

b) 11010100

c) 00110101 Correct

d) 11100010

41. What could be the maximum value of a single digit in an octal number system?

a) 8

b) 7 Correct

c) 6

d) 5

50. Express the decimal format of the signed binary number (10010)2 .

a) 2

b) 12

c) -12

d) -2 Correct

52. ABC is a valid hexadecimal number.

a) True Correct

b) False

63. Which of the following is not a type of computer code?

a) EBCDIC

b) BCD

c) ASCII

d) EDIC Correct

68. The 9's complement of 45 is _____

a) 45

b) 54 Correct

c) 64

d) 46

Answer: b

Explanation: The 9's complement of a number is obtained by subtracting each digit from 9. Here, 99-45=54. Therefore, the 9's complement is 54.

69. The 10's complement of 455 is _____

a) 543

b) 544

c) 545

d) 546

Answer: c

Explanation: To obtain the 10's complement, we first obtain the 9's complement and then add 1 to it.

999-455=544 (9's)

544+1=545(10's).

73. The two types of ASCII are _____ and _____

a) ASCII-4 and ASCII-8

b) ASCII-8 and ASCII-16

c) ASCII-7 and ASCII-8 Correct

d) ASCII-4 and ASCII-16

75. The first 128 characters are the same in both the types of ASCII i.e. ASCII-7 and ASCII-8.

a) True Correct

b) False

76. The number of characters that can be represented in ASCII-8 are _____

a) 128

b) 256 Correct

c) 32

d) 64

77. The zone of alphabetic characters from A to O in ASCII is _____

a) 1000

b) 0100

c) 0010

d) 0001

Answer: b

83. How many AND gates are required to realize Y = CD + EF + G?

a) 4

b) 5

c) 3

d) 2 Correct

71. What does ASCII stand for?

a) American Standard Code for Information Interchange Correct

b) American Scientific Code for Information Interchange

c) American Scientific Code for Interchanging Information

d) American Standard Code for Interchanging Information

84. The NOR gate output will be high if the two inputs are _____

a) 00 Correct

b) 01

c) 10

d) 11

85. How many two-input AND and OR gates are required to realize Y = CD+EF+G?

a) 2, 2 Correct

b) 2, 3

c) 3, 3

d) 3, 2

86. A universal logic gate is one which can be used to generate any logic function. Which of the following is a universal logic gate?

a) OR

b) AND

c) XOR

d) NAND

Answer: d

Explanation: An Universal Logic Gate is one which can generate any logic function and also the three basic gates: AND, OR and NOT. Thus, NOR and NAND can generate any logic function and are thus Universal Logic Gates.

87. A full adder logic circuit will have _____

a) Two inputs and one output

b) Three inputs and three outputs

c) Two inputs and two outputs

d) Three inputs and two outputs Correct

90. The gates required to build a half adder are _____

a) EX-OR gate and NOR gate

b) EX-OR gate and OR gate

c) EX-OR gate and AND gate Correct

d) EX-NOR gate and AND gate

96. The AND function can be used to _____ and the OR function can be used to _____

a) Enable, disable

b) Disable, enable

c) Synchronize, energize

d) Detect, invert

Answer: a

Explanation: The AND gate and OR gate are used for enabling and disabling respectively because of their multiplicity and additivity property. The AND gate outputs 1 when all inputs are at logic 1, whereas the OR gate outputs 0 when all inputs are at logic 0.

104. Which memory device is generally made of semiconductors?

a) RAM Correct

b) Hard-disk

c) Floppy disk

d) Cd disk

105. The small extremely fast, RAM's are called as _____

a) Cache Correct

b) Heaps

c) Accumulators

d) Stacks

106. The ALU makes use of _____ to store the intermediate results.

a) Accumulators Correct

b) Registers

c) Heap

d) Stack

107. The control unit controls other units by generating _____

a) Control signals

b) Timing signals Correct

c) Transfer signals

d) Command Signals

113. _____ is generally used to increase the apparent size of physical memory.

a) Secondary memory

b) Virtual memory Correct

c) Hard-disk

d) Disks

115. The time delay between two successive initiations of memory operation _____

a) Memory access time

b) Memory search time

c) Memory cycle time

d) Instruction delay

Answer: c

Explanation: The time is taken to finish one task and to start another.

4.If A and B are the inputs of a half adder, the sum is given by _____

a) A AND B

b) A OR B

c) A XOR B

d) A EX-NOR B

Answer: c

11.What is a multiplexer?

a) It is a type of decoder which decodes several inputs and gives one output

b) A multiplexer is a device which converts many signals into one

c) It takes one input and results into many output

d) It is a type of encoder which decodes several inputs and gives one output

Answer: b

Explanation: A multiplexer (or MUX) is a device that selects one of several analog or digital input signals and forwards the selected input into a single line, depending on the active select lines.

14.Which is the major functioning responsibility of the multiplexing combinational circuit?

a) Decoding the binary information

b) Generation of all minterms in an output function with OR-gate

c) Generation of selected path between multiple sources and a single destination

d) Encoding of binary information

Answer: c

Explanation: The major functioning responsibility of the multiplexing combinational circuit is generation of selected path between multiple sources and a single destination because it makes the circuit too flexible. A multiplexer (or MUX) is a device that selects one of several analog or digital input signals and forwards the selected input into a single line, depending on the active select lines.

20.How many select lines would be required for an 8-line-to-1-line multiplexer?

a) 2

b) 4

c) 8

d) 3

Answer: d

Explanation: 2n input lines, n control lines and 1 output line available for MUX. Here, 8 input lines mean 23 inputs. So, 3 control lines are possible. Depending on the status of the select lines, the input is selected and fed to the output.

36.How many types of sequential circuits are?

a) 2

b) 3

c) 4

d) 5

Answer: a

Explanation: There are two type of sequential circuits viz., (i) synchronous or clocked and (ii) asynchronous or unclocked. Synchronous Sequential Circuits are triggered in the presence of a clock signal, whereas, Asynchronous Sequential Circuits function in the absence of a clock signal.

42.The register is a type of _____

a) Sequential circuit

b) Combinational circuit

c) CPU

d) Latches

Answer: a

Explanation: Register's output depends on the past and present states of the inputs. The device which follows these properties is termed as a sequential circuit. Whereas, combinational circuits only depend on the present values of inputs.

43.How many types of registers are?

a) 2

b) 3

c) 4

d) 5

Answer: c

Explanation: There are 4 types of shift registers, viz., Serial-In/Serial-Out, Serial-In/Parallel-Out, Parallel-In/Serial-Out and Parallel-In/Parallel-Out.

44.The main difference between a register and a counter is _____

a) A register has no specific sequence of states

b) A counter has no specific sequence of states

c) A register has capability to store one bit of information but counter has n-bit

d) A register counts data

Answer: a

Explanation: The main difference between a register and a counter is that a register has no specific sequence of states except in certain specialised applications.