Multiple choice Questions Digital Logic Design

1. How many bits must each word have in one-to-four line de-multiplexer to be implemented using a memory?
   
   A. 8 bit  
   B. 4 bits  
   C. 2 bits  
   D. 1 bits
   
   □ Answer - Click Here:
   
   D

2. The total amount of memory is depends upon ____________
   
   A. The organization of memory  
   B. The size of the address bus of the microprocessor  
   C. The size of the decoding unit  
   D. The structure of memory
   
   □ Answer - Click Here:
   
   B

3. ____________ can be determined the Instability condition.
   
   A. table  
   B. logic diagram  
   C. map  
   D. graph
   
   □ Answer - Click Here:
   
   B

4. If we add an inverter at the output of AND gate, what function is produced?
   
   A. NAND  
   B. XOR  
   C. OR  
   D. NOR
   
   □ Answer - Click Here:
   
   A

5. Which is also known as coincidence detector?
   
   A. OR gate  
   B. NOT gate  
   C. AND gate
   
   □ Answer - Click Here:
6. Transition table include ________________
A. squares
B. oval
C. rectangles
D. circles

☐ Answer - Click Here:
C

7. For every possible combination of logical states in the inputs, which table shows the logical state of a digital circuit output?
A. Function table
B. ASCII table
C. Truth table
D. Routing table

☐ Answer - Click Here:
C

8. Stack is an acronym for ________________
A. Flash Memory
B. LIFO memory
C. FIFO memory
D. Burst Flash Memory

☐ Answer - Click Here:
B

9. When an Asynchronous sequential circuit changes two or more binary states variables a Condition occurs called ________________
A. Race condition
B. deadlock condition
C. Running condition
D. None of these

☐ Answer - Click Here:
A

10. A positive OR gate is also a negative
A. NAND gate
B. OR gate
C. NOR gate
D. AND gate
11. Sum of two octal numbers “71” and “36” = ________________
   A. 123
   B. 127
   C. 213
   D. 345

12. Time delay device is memory element of______________
   A. asynchronous circuits
   B. synchronous circuits
   C. clocked flip-flops
   D. Unlocked flip-flops

SET 2: DLD MCQs

1. Boolean algebra is also called
   A. arithmetic algebra
   B. switching algebra
   C. Both A & B
   D. linear algebra
   E. algebra
   F. None of these

2. Boolean function must be brought into_______ To perform product of max terms
   A. OR terms
   B. AND terms
   C. Both A & B
   D. NOT terms
   E. NAND terms
   F. None of these

3. The binary number 10101 is equivalent to the decimal number ____________
   A. 12
   B. 19
   C. Both A & B
   D. 27
   E. 21
   F. None of these
4. The universal gate is .................
   A. OR gate
   B. NAND gate
   C. Both A & B
   D. AND gate
   E. None of the above
   F. None of these

   Answer - Click Here:
   B

5. According to boolean algebra absorption law, which of the following is correct?
   A. \((x+y)=xy\)
   B. \(x+xy=x\)
   C. Both A & B
   D. \(xy+y=x\)
   E. \(x+y=y\)
   F. None of these

   Answer - Click Here:
   D

6. A Boolean function may be transformed into
   A. logical graph
   B. logical diagram
   C. Both A & B
   D. map
   E. matrix
   F. None of these

   Answer - Click Here:
   B

7. The inverter is .............
   A. OR gate
   B. NOT gate
   C. Both A & B
   D. AND gate
   E. None of the above

   Answer - Click Here:
   B

8. The resulting circuit of a NAND gate are connected together is________
   A. AND gate
   B. OR gate
   C. Both A & B
   D. NOT gate
   E. None of the above

   Answer - Click Here:
   D
9. $x^y = y^x$ is the
   A. inverse property
   B. commutative law
   C. Both A & B
   D. associative law
   E. identity element
   F. None of these

   □ Answer - Click Here:

   \[ E \]

10. Minterms are also called
    A. standard product
    B. standard sum
    C. Both A & B
    D. standard division
    E. standard subtraction
    F. None of these

   □ Answer - Click Here:

   \[ A \]

11. OR gate and _________ will form The NOR gate?
    A. NAND gate
    B. AND gate
    C. Both A & B
    D. NOT gate
    E. None of the above

   □ Answer - Click Here:

   \[ D \]

12. The NAND gate is AND gate followed by ____________
    A. OR gate
    B. NOT gate
    C. Both A & B
    D. AND gate
    E. None of the above

   □ Answer - Click Here:

   \[ B \]

13. Max terms are also called
    A. standard product
    B. standard sum
    C. Both A & B
    D. standard division
    E. standard subtraction
    F. None of these

   □ Answer - Click Here:

   \[ B \]
14. In **Boolean algebra** Multiplicative inverse is

A. 1  
B. 0  
C. Both A & B  
D. 1/a  
E. a  
F. None of these

☐ **Answer - Click Here:**

E

15. By the repeated use of ............... Digital circuit can be made

A. NOT gates  
B. OR gates  
C. Both A & B  
D. NAND gates  
E. None of the above

☐ **Answer - Click Here:**

D

16. The only function of NOT gate is ............... of the following

A. Invert input signal  
B. Stop signal  
C. both A & B  
D. Act as a universal gate  
E. None of the above

☐ **Answer - Click Here:**

A

17. Boolean algebra is defined as a set of

A. two values  
B. three values  
C. Both A & B  
D. four values  
E. five values  
F. None of these

☐ **Answer - Click Here:**

A

18. First operator precedence for evaluating Boolean expressions is

A. AND  
B. parenthesis  
C. Both A & B  
D. OR  
E. NOT  
F. None of these

☐ **Answer - Click Here:**

B
19. The output is ............... When an input signal 1 is applied to a NOT gate
   A. 1
   B. 0
   C. Both A & B
   D. Either 0 & 1
   E. None of the above
   □ Answer - Click Here:

   B

20. The bar sign (-) indicates ................., In Boolean algebra?
   A. AND operation
   B. OR operation
   C. Both A & B
   D. NOT operation
   E. None of the above
   □ Answer - Click Here:

   D

21. The value of n is ....... when the resolution of an n bit DAC with a maximum input of 5 V is 5 mV.
   A. 9
   B. 8
   C. Both A & B
   D. 10
   E. 11
   F. None of these
   □ Answer - Click Here:

   D

22. 2's complement of binary number 0101 is ........
   A. 1111
   B. 1011
   C. Both A & B
   D. 1101
   E. 1110
   F. None of these
   □ Answer - Click Here:

   B

23. An OR gate has 4 inputs. The output is ....... When one input is high and the other three are low.
   A. High
   B. Low
   C. Both A & B
   D. alternately high and low
   E. may be high or low depending on the relative magnitude of inputs
   F. None of these
   □ Answer - Click Here:

   A
24. To convert BCD to seven segments ................. device is used.
   A. Decoder
   B. Encoder
   C. Both A & B
   D. Multiplexer
   E. None of these

☐ Answer - Click Here:

A

25. Decimal number 10 is equal to binary number ............
   A. 1010
   B. 1110
   C. Both A & B
   D. 1001
   E. 1000
   F. None of these

☐ Answer - Click Here:

A

26. In 2's complement representation the number 11100101 represents the decimal number ..............
   A. -31
   B. +37
   C. Both A & B
   D. +27
   E. -27
   F. None of these

☐ Answer - Click Here:

E

27. BCD input 1000 is fed to a 7 segment display through a BCD to 7 segment decoder/driver. The segments which will lit up are ............
   A. a, b, c
   B. a, b, d
   C. Both A & B
   D. all
   E. a, b, g, c, d
   F. None of these

☐ Answer - Click Here:

D

28. A decade counter skips ............
   A. binary states 0000 to 0011
   B. binary states 1000 to 1111
   C. Both A & B
   D. binary states 1010 to 1111
   E. binary states 1111 to higher
   F. None of these

☐ Answer - Click Here:
29. Number of States A ring counter with 5 flip flops will have?

A. 10
B. 5
C. Both A & B
D. 32
E. Infinite
F. None of these

☐ Answer - Click Here:

B

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