**MCQ on DIGITAL SYSTEMS**

1.In the toggle mode, a JK flip-flop has

a. J = 0, K = 1

b. J = 1, K = 1

c. J = 0, K = 0

d. J = 1, K = 0

**Answer:** b

2.In Digital electronics (Boolean algebra), the OR operation is performed by which of the given properties

a. Distributive properties

b. Commutative properties

c. Associative properties

d. All of these

**Answer:** d

3. DeMorgan's Law states that

1. (A+B)' = A'\*B
2. (AB)' = A' + B'
3. (AB)' = A' + B
4. (AB)' = A + B

**Answer:** b

4.Which logic unit is the fastest of all the logic families?

1. DTL
2. TTL
3. ECL
4. CMOS

**Answer:** c

5. How many 4 – bit parallel binary adders will be required to construct a 4 – bit parallel multiplier?  
a) 1  
b) 2  
c) 4  
d) 8

Answer: c

6.  A register can be defined as

1. The group of transistors for storing n- a bit of information
2. The group of transistors for storing two bits of information
3. The group of flip-flops for storing n bit of information
4. The group of flip-flops for storing binary information.

**Answer:** d

7.The primary difference between a counter and a register is

1. A counter has the capability to store n bit of information whereas a register has one bit.
2. A register counts data.
3. A register has no specific sequence of states.
4. A counter has no particular sequence of states.

**Answer:** c

8.The overflow is a:

a. Hardware problem

b. User input problem

c. Input-Output problem

d. Software problem

**Answer:** (d)

9.What is the radix of the octal number system?

a. 2

b. 10

c. 8

d. 16

**Answer:** c

10.What is the actual meaning of the parallel load of a shift register?

1. All flip-flops are set with data.
2. It means a parallel shifting of data.
3. All flip-flops are present with data.
4. Each flip flop is loaded with data simultaneously.

**Answer:** c

11. The following hexadecimal number (1E.43)16 is equivalent to

a. (36.506)8

b. (36.206)8

c. (35.506)8

d. (35.206)8

Answer: b

12. How many bits are needed to store one BCD digit?

a. 2 bits

b. 4 bits

c. 3 bits

d. 1 bit

Answer: b

13.Which of these sets of logic gates are known as universal gates?

a. XOR, NAND, OR

b. OR, NOT, XOR

c. NOR, NAND, XNOR

d. NOR, NAND

Answer: d

14.What is the binary multiplication of 10100 \* 01011 =?

a. 011011000

b. 011001100

c. 011011100

d. 011100011

Answer: c

15. 2's complement of 1011011 is

a. 0100011

b. 0110101

c. 0100011

d. 0100101

Answer: d

16. A digital circuit that can store only one bit is a

a. Register

b. NOR gate

c. Flip-flop

d. XOR gate

Answer: c

17. One nibble is equal to how many bits

a. 4

b. 2

c. 16

d. 8

Answer: a

18. Which logic unit is the fastest of all the logic families?

a. DTL

b. TTL

c. ECL

d. CMOS

Answer: c

19. Why is a decoder used in digital electronics?

a. To convert non coded information into a binary coded form.

b. To convert coded information into a non-coded form.

c. It is used to divide address bus and data bus.

d. None of these

Answer: b

20. Positive integers must be represented by

a. Signed numbers

b. Unsigned numbers

c. Both option a and b

d. None of the above

Answer: c