

# Exam: End-Sem\_Exam\_DEC-2020\_CS3CO29\_Digital Electronics

Digital Electronics (T)  
0/60

1.

Not Answered

Which of the following best describes the action of pulse-triggered FF's?

A.	The clock and the S-R inputs must be pulse shaped.
<input checked="" type="radio"/> B.	The data is entered on the leading edge of the clock, and transferred out on the trailing edge of the clock.
C.	A pulse on the clock transfers data from input to output.
D.	The synchronous inputs must be pulsed.

2.

Not Answered

The output is false only if all the inputs are true, which gate is this?

A.	NOR
<input checked="" type="radio"/> B.	NAND
C.	EXOR
D.	EXNOR

3.

Not Answered

Which logic family has highest fan out?

A.	DTL
B.	TTL
C.	ECL
<input checked="" type="radio"/> D.	CMOS

4.

Not Answered

Which of the following 4-bit combinations is/are invalid in the BCD code?

<input checked="" type="radio"/> A.	1010
B.	10
C.	101
D.	1000

5.

Not Answered

Data inputs of a memory is also known as

A.	Data entries
B.	Data lines
C.	Data ports
<input checked="" type="radio"/> D.	Data buses

6.

Not Answered

How many different states does a 3-bit asynchronous counter have?

A.	2
B.	4
<input checked="" type="radio"/> C.	8
D.	16

7.

Not Answered

Without any additional circuitry an 8:1 MUX can be used to obtain \_\_\_\_\_

A.	Some but not all Boolean functions of 3 variables
B.	All function of 3 variables but none of 4 variables
C.	All functions of 3 variables and some but not all of 4 variables

☒ D. All functions of 4 variables

8.

Not Answered

One of the major drawbacks to the use of asynchronous counters is

- |                                     |   |
|-------------------------------------|---|
| A.                                  | low-frequency applications are limited because of internal propagation delays   |
| B.                                  | high-frequency applications are limited because of internal propagation delays  |
| C.                                  | asynchronous counters do not have major drawbacks and are suitable for use in high- and low-frequency counting applications |
| <input checked="" type="radio"/> D. | asynchronous counters do not have propagation delays and this limits their use in high-frequency applications               |

9.

Not Answered

If both inputs of an S-R flip-flop are low, what will happen when the clock goes HIGH?

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| A.                                  | An invalid state will exist.        |
| <input checked="" type="radio"/> B. | No change will occur in the output. |
| C.                                  | The output will toggle.             |
| D.                                  | The output will reset.              |

10.

Not Answered

The terminal count of a modulus-11 binary counter is

- |                                     |      |
|-------------------------------------|------|
| A.                                  | 1010 |
| B.                                  | 1000 |
| C.                                  | 1001 |
| <input checked="" type="radio"/> D. | 1100 |

11.

Not Answered

For a function with large number of variable, which minimization technique is better

A.	K-Map
B.	Boolean algebra
<input checked="" type="radio"/> C.	Tabulation Method
D.	Venn diagram

**12.**

Not Answered

The result of addition of two BCD numbers 1001 and 0101 will be

A.	11100
B.	1111
C.	1110
<input checked="" type="radio"/> D.	10100

**13.**

Not Answered

The excess-3 code for 5786 is given by

<input checked="" type="radio"/> A.	1000101010111000
B.	1000101000111001
C.	1100101000111010
D.	1000101110111000

**14.**

Not Answered

Which one of the following has capability to store data in extreme high densities ?

A.	Register
B.	Capacitor

C.	Flip-Flops
<input checked="" type="radio"/> D.	Semiconductor

**15.**

Not Answered

Which logic family has highest noise margin?

<input checked="" type="radio"/> A.	CMOS
B.	DTL
C.	ECL
D.	TTL

**16.**

Not Answered

The full form of VLSI is

<input checked="" type="radio"/> A.	Very Large Scale Integration
B.	Very Long Scale Integration
C.	Very Long Signal Integration
D.	Very Large Signal Integration

**17.**

Not Answered

If a function  $F(A,B)$  consists of all four minterms then its simplified expression is

A.	A
B.	B
C.	0
<input checked="" type="radio"/> D.	1

**18.**

Not Answered

The basic element of semiconductor memory is

<input checked="" type="radio"/> A.	memory cell
B.	Registers
C.	Flip-Flops
D.	Counters

19.

Not Answered

In standard TTL the 'totem pole stage refers to

A.	The multi-emitter input stage
B.	The phase splitter
<input checked="" type="radio"/> C.	The output buffer
D.	Open collector output stage

20.

Not Answered

how many 2:4 decoder used to represent 4:16

A.	2
B.	1
<input checked="" type="radio"/> C.	4
D.	3

21.

Not Answered

If A, B are the inputs of a half adder then the carry is given by \_\_\_\_\_

<input checked="" type="radio"/> A.	A AND B
-------------------------------------	---------

B.	A OR B
C.	A XOR B
D.	A'B

**22.**

Not Answered

Which type of special IC's is programmed by user as per user requirement ?

A.	ASIC
<input checked="" type="radio"/> B.	PLD
C.	VLSI
D.	FPGA

**23.**

Not Answered

One that is not the outcome of magnitude comparator is \_\_\_\_\_

A.	$a > b$
<input checked="" type="radio"/> B.	$a - b$
C.	$a < b$
D.	$a = b$

**24.**

Not Answered

The number of Boolean functions which can be generated with four variables is

A.	4
B.	16
C.	256
<input checked="" type="radio"/> D.	65536

**25.**

Not Answered

A Memory which uses the Electrical altrable process is

<input checked="" type="radio"/> A.	EPROM
B.	EPRAM
C.	PRAM
D.	PROM

**26.**

Not Answered

Each cell of SRAM and DRAM are consist of which option respectively

<input checked="" type="radio"/> A.	Flip-Flop and MOSFET
B.	Diode and MOSFET
C.	Diode and BJT
D.	Flip-Flop and BJT

**27.**

Not Answered

The floating input in TTL logic written as

A.	0
<input checked="" type="radio"/> B.	1
C.	niether 0 nor 1
D.	10

**28.**

Not Answered

Which is the decimal equivalent of largest possible 16 bit binary number?



A.	65536
<input checked="" type="radio"/> B.	65535
C.	32768
D.	32767

**29.**

Not Answered

How many cells are there in a four variable K-Map?

A.	4
B.	8
<input checked="" type="radio"/> C.	16
D.	32

**30.**

Not Answered

The output of an exclusive-NOR gate is HIGH if \_\_\_\_\_.

<input checked="" type="radio"/> A.	The inputs are equal
B.	One input is HIGH, and the other input is LOW
C.	The inputs are unequal
D.	One input is LOW, and the other input is HIGH

**31.**

Not Answered

Find the value of x in  $(211)_x = (152)_8$ .

A.	5
B.	6
<input checked="" type="radio"/> C.	7

D.	4
----	---

**32.**

Not Answered

If enable input is high then the multiplexer is \_\_\_\_\_

- |                                     |                |
|-------------------------------------|----------------|
| A.                                  | Enable         |
| <input checked="" type="radio"/> B. | Disable        |
| C.                                  | Saturation     |
| D.                                  | High Impedance |

**33.**

Not Answered

By taking 1's complement again of the 1's complement of a binary number, we get

- |                                     |   |
|-------------------------------------|---|
| A.                                  | 2's complement                          |
| <input checked="" type="radio"/> B. | the original number                     |
| C.                                  | the signed magnitude form of the number |
| D.                                  | its gray equivalent                     |

**34.**

Not Answered

Which of these sets of logic gates are designated as universal gates?

- |                                     |              |
|-------------------------------------|--------------|
| A.                                  | OR, NOT, AND |
| B.                                  | XOR, NOR     |
| <input checked="" type="radio"/> C. | NOR, NAND    |
| D.                                  | NAND, XNOR   |

**35.**

Not Answered

An asynchronous 4-bit binary down counter changes from count 2 to count 3. How many transitional states are required?

A.	Three
B.	One
C.	Two
<input checked="" type="radio"/> D.	Fifteen

36.

Not Answered

The full name of EPROM Memory is

<input checked="" type="radio"/> A.	Erasable and Programmable Read Only Merory
B.	Empty and Programming Read Only Merory
C.	Erased and Programmed Read Only Merory
D.	Enabled and Programmed Read Only Merory

37.

Not Answered

The way to speed up DTL is to add as across intermediate resistor is

<input checked="" type="radio"/> A.	small "speed up" capaciior
B.	large "speed up" capaciior
C.	large "speed up" transistor
D.	small "speed up" transistor

38.

Not Answered

NAND gate is also known as

<input checked="" type="radio"/> A.	Bubbled OR
B.	Bubbled NOR

C.	Bubbled AND
D.	Bubbled NOT

**39.**

Not Answered

Solve by BCD adder (1000 0101)BCD + (0111 0110) BCD =()10

A.	85
B.	76
C.	162
<input checked="" type="radio"/> D.	161

**40.**

Not Answered

The binary equivalent of 3F2A is

A.	11011100101010
<input checked="" type="radio"/> B.	11111100101010
C.	11011000101010
D.	11011000100101

**41.**

Not Answered

Which statement BEST describes the operation of a negative-edge-triggered D flip-flop?

<input checked="" type="radio"/> A.	The logic level at the D input is transferred to Q on NGT of CLK
B.	The Q output is ALWAYS identical to the CLK input if the D input is HIGH.
C.	The Q output is ALWAYS identical to the D input when CLK = PGT.
D.	The Q output is ALWAYS identical to the D input.

**42.**

Not Answered

How many maxterms are possible with three variables

A.	5
B.	6
C.	7
<input checked="" type="radio"/> D.	8

**43.**

Not Answered

In FPGA the vertical and horizontal directions are separated by

A.	A line
<input checked="" type="radio"/> B.	A channel
C.	A strobe
D.	A Flip-Flop

**44.**

Not Answered

Which of the following control signals are selected for read and write operations in a RAM ?

A.	Data buffer
B.	Chip select
<input checked="" type="radio"/> C.	Read and Write
D.	Memory

**45.**

Not Answered

Which option is correct regarding DRAM

A.	Dynamic Read Access Memory and data stored in form of inductor charged
B.	Dynamic Random Access Memory and data stored in form of capacitor discharged

- |                                     |   |
|-------------------------------------|---|
| <input checked="" type="radio"/> C. | Dynamic Random Access Memory and data stored in form of capacitor charged |
| D.                                  | Data Read Access Memory and data stored in form of capacitor discharged   |

**46.**

Not Answered

For BCD to 7 segment display how many digits represented in output

- |                                     |    |
|-------------------------------------|----|
| <input checked="" type="radio"/> A. | 10 |
| B.                                  | 7  |
| C.                                  | 15 |
| D.                                  | 9  |

**47.**

Not Answered

As a general rule for stable flip-flop triggering, the clock pulse rise and fall times must be

- |                                     |  |
|-------------------------------------|--|
| A.                                  | very long.   |
| <input checked="" type="radio"/> B. | very short.  |
| C.                                  | at a maximum value to enable the input control signals to stabilize.               |
| D.                                  | of no consequence as long as the levels are within the determinate range of value. |

**48.**

Not Answered

CMOS circuits consume power

- |                                     |               |
|-------------------------------------|---------------|
| A.                                  | Equal to TTL  |
| <input checked="" type="radio"/> B. | Less than TTL |
| C.                                  | Twice of TTL  |
| D.                                  | Thrice of TTL |

**49.**

Not Answered

The full form of CTDL is

<input checked="" type="radio"/> A.	Complemented Transistor Diode Logic
B.	Complemented Transistor Direct Logic
C.	Complementary Transistor Direct Logic
D.	Complementary Transistor Diode Logic

50.

Not Answered

The gray code is a

A.	reflective code
B.	sequential code
C.	alpha-numeric code
<input checked="" type="radio"/> D.	unit distance code

51.

Not Answered

Cache memory acts between

<input checked="" type="radio"/> A.	CPU and RAM
B.	RAM and ROM
C.	CPU and Hard Disk
D.	None of these

52.

Not Answered

How many flip-flops are required to make a MOD-32 binary counter?

A.	3
----	---

B.	45
<input checked="" type="radio"/> C.	5
D.	6

**53.**

Not Answered

To detect a 1101 sequence by Finite sequence machine, how many states are made?

A.	2
B.	3
<input checked="" type="radio"/> C.	4
D.	5
E.	1

**54.**

Not Answered

MOSFET is also known as

A.	UJT
B.	BJT
C.	CMOS
<input checked="" type="radio"/> D.	IGFET

**55.**

Not Answered

Which type of output current flow towards or into the output terminal in a logic circuit

A.	sourcing current
B.	Conventional current
<input checked="" type="radio"/> C.	sinking current
D.	draining current



56.

Not Answered

IN RTL NOR gate, the output is at logic 1 only when all the inputs are at

<input checked="" type="radio"/> A.	logic 0
B.	logic 1
C.	10 V
D.	Floating

57.

Not Answered

Edge-triggered flip-flops must have

A.	very fast response times.
B.	at least two inputs to handle rising and falling edges.
<input checked="" type="radio"/> C.	a pulse transition detector.
D.	active-LOW inputs and complemented outputs.

58.

Not Answered

A main advantage of TTL with totem-pole output as compared to other TTL types are

A.	Higher FIFO
<input checked="" type="radio"/> B.	Fast switching and low power dissipation
C.	Higher noise margin and low cost
D.	slow switching and high power consumption

59.

Not Answered

For a multistage counter to be truly synchronous, if

<input checked="" type="radio"/> A.	Cp, the same clock input line
B.	CE, the same unlock input line

C.	the terminal count output
D.	both input lines

**60.**

Not Answered

As compared to TTL, ECL has

<input checked="" type="radio"/> A.	Lower propagation delay
B.	Lower power dissipation
C.	Higher propagation delay
D.	Higher noise margin