NO : 46.

Question : AB + A B =

A: B

B: A

C: 1

D: 0

Answer: B

explanation: AB + A B = A(B + B) = A . 1 = A.

NO : 47.

Question : In a BCD to 7 segment decoder the minimum and maximum number of outputs active at any time is

A: 2 and 7

B: 3 and 7

C: 1 and 6

D: 3 and 6

Answer: A

explanation: Minimum number of outputs when input is decimal 1 and maximum number of outputs when input is decimal 8.

NO : 48.

Question : A three state switch has three outputs. These are

A: low, low and high

B: low, high, high

C: low. floating, low

D: low, high, floating

Answer: D

explanation: Third state is floating.

NO : 49.

Question : Maxterm designation for A + B + C is

A: M0

B: M1

C: M3

D: M4

Answer: A

explanation: A + B + C = 000 = M 0 .

NO : 50.

Question : 1's complement of 11100110 is

A: 00011001

B: 10000001

C: 00011010

D: 00000000

Answer: A

explanation: Replace 1 by 0 and 0 by 1.

NO : 1.

Question : The resolution of an n bit DAC with a maximum input of 5 V is 5 mV. The value of n is

A: 8

B: 9

C: 10

D: 11

Answer: C

explanation: 1000 = 5 or N = 10.

NO : 2.

Question : 2's complement of binary number 0101 is

A: 1011

B: 1111

C: 1101

D: 1110

Answer: A

explanation: 1's complement of 0101 is 1010 and 2's complement is 1010+1 = 1011.

NO : 3.

Question : An OR gate has 4 inputs. One input is high and the other three are low. The output

A: is low

B: is high

C: is alternately high and low

D: may be high or low depending on relative magnitude of inputs

Answer: B

explanation: In OR any input high means high output.

NO : 4.

Question : Decimal number 10 is equal to binary number

A: 1110

B: 1010

C: 1001

D: 1000

Answer: B

explanation: 1010 = 8 + 2 = 10 in decimal.

NO : 5.

Question : Both OR and AND gates can have only two inputs.

A: True

B: False

Answer: B

explanation: Any number of inputs are possible.

NO : 6.

Question : A device which converts BCD to seven segment is called

A: encoder

B: decoder

C: multiplexer

D: none of these

Answer: B

explanation: Decoder converts binary/BCD to alphanumeric.

NO : 7.

Question : In 2's complement representation the number 11100101 represents the decimal number

A: +37

B: -31

C: +27

D: -27

Answer: D

explanation: A = 11100101. Therefore A = 00011010 and A' = A + 1 = 00011011 = 16 + 8 + 2 + 1 = 27. Therefore A = -27.

NO : 8.

Question : A decade counter skips

A: binary states 1000 to 1111

B: binary states 0000 to 0011

C: binary states 1010 to 1111

D: binary states 1111 to higher

Answer: C

explanation: A decade counter counts from 0 to 9. It has 4 flip-flops. The states skipped are 10 to 15 or 1010 to 1111.

NO : 9.

Question : 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, d

B: a, b, c

C: all

D: a, b, g, c, d

Answer: C

explanation: 1000 equals decimal 8 Therefore all segments will lit up.

NO : 10.

Question : A ring counter with 5 flip flops will have
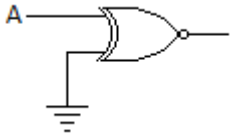
A: 5 states

B: 10 states

C: 32 states

D: infinite states

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : For the gate in the given figure the output will be

A: 0

B: 1

C: A

D: A

Answer: D

explanation: If A = 0, Y = 1 and A = 1, Y = 0 Therefore Y = A .

NO : 12.

Question : In the expression A + BC, the total number of minterms will be
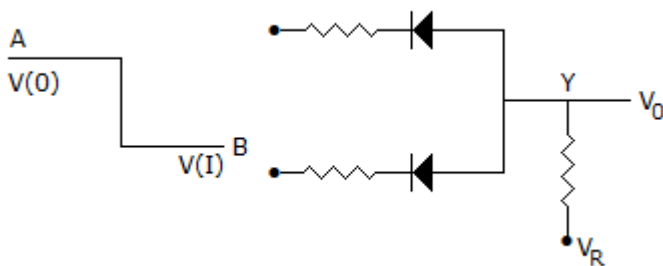
A: 2

B: 3

C: 4

D: 5

Answer: D

explanation: The min terms are A BC + ABC + A B C + A B C + AB C .

NO : 13.

Question : The circuit in the given figure is

A: positive logic OR gate

B: negative logic OR gate

C: negative logic AND gate

D: positive logic AND gate

Answer: B

explanation: Since V(1) is lower state than V(0) it is a negative logic circuit. Since diodes are in parallel, it is an OR gate.

NO : 14.

Question : Which of the following is non-saturating?

A: TTL

B: CMOS

C: ECL

D: Both (a) and (b)

Answer: C

explanation: Since it is non-saturating, ECL has low propagation delay.

NO : 15.

Question : The number of digits in octal system is

A: 8

B: 7

C: 9

D: 10

Answer: A

explanation: The octal system has 8 digits 0 to 7.

NO : 16.

Question : The access time of a word in 4 MB main memory is 100 ms. The access time of a word in a 32 kb data cache memory is 10 ns. The average data cache bit ratio is 0.95. The efficiency of memory access time is

A: 9.5 ns

B: 14.5 ns

C: 20 ns

D: 95 ns

Answer: B

explanation: Access time = 0.95 x 10 + 0.05 x 100.

NO : 17.

Question : The expression Y = p M (0, 1, 3, 4) is

A: POS

B: SOP

C: Hybrid

D: none of the above

Answer: A

explanation: This is product of sums expression.

NO : 18.

Question : An 8 bit DAC has a full scale output of 2 mA and full scale error of ± 0.5%. If input is 10000000 the range of outputs is

A: 994 to 1014 µA

B: 990 to 1020 µA

C: 800 to 1200 µA

D: none of the above

Answer: A

explanation: 10000000 = 128, 11111111 = 255 If there is no error, output = = 1004µA. Maximum error = Hence range of output 994 to 1014 µA.

NO : 19.

Question : Decimal 43 in hexadecimal and BCD number system is respectively.
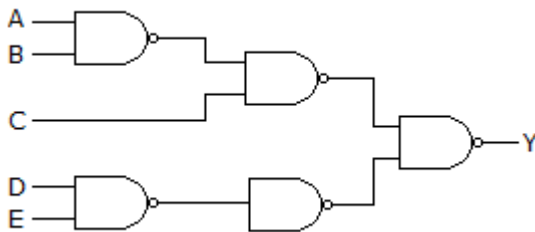
A: B2, 01000011

B: 2B, 01000011

C: 2B, 00110100

D: B2, 01000100

Answer: B

explanation: (43) 10 = (2B) 16 (43) 10 = (01000011) 2 .

NO : 20.

Question : The circuit of the given figure realizes the function

A: Y = (A + B) C + DE

B: Y = A + B + C + D + E

C: AB + C +DE

D: AB + C(D + E)

Answer: A

explanation: or Y = (A + B)C + DE .

NO : 21.

Question : An AND gate has two inputs A and B and one inhibit input 3, Output is 1 if

A: A = 1, B = 1, S = 1

B: A = 1, B = 1, S = 0

C: A = 1, B = 0, S = 1

D: A = 1, B = 0, S = 0

Answer: B

explanation: All AND inputs must be 1 and inhibit 0 for output to be 1.

NO : 22.

Question : The greatest negative number which can be stored is 8 bit computer using 2's complement arithmetic is

A: - 256

B: - 128

C: - 255

D: - 127

Answer: B

explanation: The largest negative number is 1000 0000 = -128.

NO : 23.

Question : A JK flip flop has t pd = 12 ns. The largest modulus of a ripple counter using these flip flops and operating at 10 MHz is

A: 16

B: 64

C: 128

D: 256

Answer: D

explanation: Number of flip-flops = = 8.333 say 8 Modulus = 2 8 = 256.

NO : 24.

Question : The basic storage element in a digital system is

A: flip flop

B: counter

C: multiplexer

D: encoder

Answer: A

explanation: Storing can be done only in memory and flip-flop is a memory element.

NO : 25.

Question : In a ripple counter,

A: whenever a flip flop sets to 1, the next higher FF toggles

B: whenever a flip flop sets to 0, the next higher FF remains unchanged

C: whenever a flip flop sets to 1, the next higher FF faces race condition

D: whenever a flip flop sets to 0, the next higher FF faces race condition

Answer: A

explanation: In a ripple counter the effect ripples through the counter.

NO : 26.

Question : A 12 bit ADC is used to convert analog voltage of 0 to 10 V into digital. The resolution is

A: 2.44 mV

B: 24.4 mV

C: 1.2 V

D: none of the above

Answer: A

explanation: .

NO : 27.

Question : For the truth table of the given figure Y =

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	0

A: A + B + C

B: A + BC

C: A

D: B

Answer: D

explanation: Y = A B C + A B C + A B C + A B C = A B (C + C) + A B (C + C) = A B + A B = B (A + A) = B .

NO : 28.

Question : A full adder can be made out of

A: two half adders

B: two half adders and a OR gate

C: two half adders and a NOT gate

D: three half adders

Answer: B

explanation:

NO : 29.

Question : If the functions w, x, y, z are as follows. w = R + P Q + R S , x = PQ R S + PQ R S + P Q R S Then

$$y = RS + \overline{PR + P\overline{Q} + \overline{P}\overline{Q}}$$

A: w = z x = z

B: w = z, x = y

C: w = y

D: w = y = z

Answer: A

explanation: Use k-map, then it will be easy.

NO : 30.

Question : The output of a half adder is

A: SUM

B: CARRY

C: SUM and CARRY

D: none of the above

Answer: C

explanation:

NO : 31.

Question : Minimum number of 2-input NAND gates required to implement the function F = (x + y) (Z + W) is

A: 3

B: 4

C: 5

D: 6

Answer: B

explanation: F = (x + y) (z + w) = xy .(z + w) = xy z + xy w = minimum no. of 2 input NAND gate.

NO : 32.

Question : Which device has one input and many outputs?

A: Multiplexer

B: Demultiplexer

C: Counter

D: Flip flop

Answer: B

explanation: Demultiplexer takes data from one line and directs it to any of its N output depending on the status of its select lines.

NO : 33.

Question : A carry look ahead adder is frequently used for addition because

A: it costs less

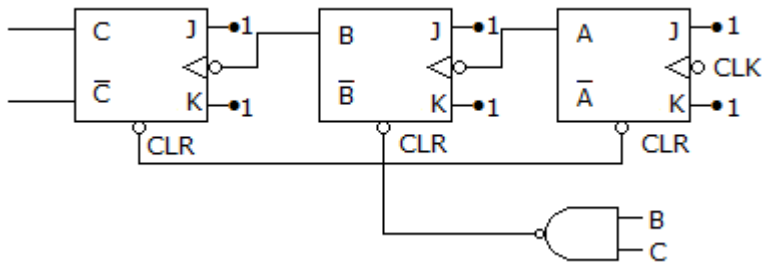B: it is faster

C: it is more accurate

D: is uses fewer gates

Answer: B

explanation: In look ahead carry adder the carry is directly derived from the gates when original inputs are being added. Hence the addition is fast. This process requires more gates and is costly.

NO : 34.

Question : The counter in the given figure is

A: Mod 3

B: Mod 6

C: Mod 8

D: Mod 7

Answer: B

explanation: When counter is 110 the counter resets. Hence mod 6.

NO : 35.

Question : In register index addressing mode the effective address is given by

A: index register value

B: sum of the index register value and the operand

C: operand

D: difference of the index register value and the operand

Answer: B

explanation: 4 = 2 2 , in up scaling digit will be shifted by two bit in right direction.

NO : 36.

Question : 7BF 16 = _____ 2

A: 0111 1011 1110

B: 0111 1011 1111

C: 0111 1011 0111

D: 0111 1011 0011

Answer: B

explanation: 7BF 16 = 7 x 16 2 + 11 x 16 1 + 15 x 16 0 = 1983 in decimal = 0111 1011 1111 in binary.

NO : 37.

Question : For the minterm designation $Y = \sum m (1, 3, 5, 7)$ the complete expression is

A: Y = A BC + A B C

B: Y = A B C + A B C + ABC + A BC

C: $Y = A B C + A B C + ABC + A BC$

D: $Y = A B C + ABC + A BC + A BC$

Answer: B

explanation: Decimal number 1 = binary number 001 = A B C Decimal number 7 = binary number 111= ABC, Decimal number 3 = binary number 011= A BC Decimal number 5 = binary number 101= A B C . Hence result.

NO : 38.

Question : Zero suppression is not used in actual practice.

A: True

B: False

Answer: B

explanation: Zero suppression is commonly used.

NO : 39.

Question : A counter type A/D converter contains a 4 bit binary ladder and a counter driven by a 2 MHz clock. Then conversion time

A: 8 μ sec

B: 10 μ sec

C: 2 μ sec

D: 5 μ sec

Answer: A

explanation:

NO : 40.

Question : The hexadecimal number (3E8) 16 is equal to decimal number

A: 1000

B: 982

C: 768

D: 323

Answer: A

explanation: 3 x 16 2 + 14 x 16 1 + 8 = 1000.

NO : 41.

Question : The number of distinct Boolean expression of 4 variables is

A: 16

B: 256

C: 1024

D: 65536

Answer: D

explanation: $2^{2n} = 2^{2 \cdot 4} = 2^{16}$.

NO : 42.

Question : The fixed count that should be used so that the output register will represent the input for a 6 bit dual slope A/D converter uses a reference of -6v and a 1 MHz clock. It uses a fixed count of 40 (101000).

A: 000110

B: 0010

C: 1111

D: 011101

Answer: A

explanation: If is made to be unity, the O/P count $N_2 = e_i$, $N_1 = 6 = 000110$.

NO : 43.

Question : For the K map in the given figure the simplified Boolean expression is

A: $A\,C + A\,D + ABC$

B: $A\,C + A\,D + ABC$

C: $A\,C + A\,D + ACD$

D: $A\,C + A\,D + AB\,C$

Answer: A

explanation:

NO : 44.

Question : A memory system of size 16 k bytes is to be designed using memory chips which have 12 address lines and 4 data lines each. The number of such chips required to design the memory system is

A: 2

B: 4

C: 8

D: 18

Answer: C

explanation: .

NO : 45.

Question : In a 7 segment display, LEDs b and c lit up. The decimal number displayed is

A: 9

B: 7

C: 3

D: 1

Answer: D

explanation:

NO : 1.

Question : Assertion (A): A demultiplexer can be used as a decoder. Reason (R): A demultiplexer can be built by using AND gates only.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: Demultiplexer requires NOT gates also in addition to AND gates.

NO : 2.

Question : Assertion (A): The output of a NOR gate is equal to the complement of OR of input variables. Reason (R): A XOR gate is a universal gate.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: XOR gate is not a universal gate.

NO : 3.

Question : The number of bits in ASCII is

A: 12

B: 10

C: 9

D: 7

Answer: D

explanation: ASCII is a 7 bit code.

NO : 4.

Question : 4 bit 2's complement representation of a decimal number is 1000. The number is

A: + 8

B: 0

C: - 7

D: - 8

Answer: D

explanation: (a) and (d) both are option, But there is meaning to represent a positive number in 2's complement form, we take complement representation for negative number only. Therefore most appropriate number is "-8".

NO : 5.

Question : In a D latch

A: data bit D is fed to S input and D to R input

B: data bit D is fed to R input and D to S input

C: data bit D is fed to both R and S inputs

D: data bit D is not fed to any input

Answer: A

explanation:

NO : 6.

Question : A 4 : 1 multiplexer requires _____ data select line.

A: 1

B: 2

C: 3

D: 4

Answer: B

explanation: 2 2 = 4. Hence 2 select lines.

NO : 7.

Question : The number of unused states in a 4 bit Johnson counter is

A: 2

B: 4

C: 8

D: 12

Answer: C

explanation: Total state = 2 n = 2 4 = 16 Used state = 2 n = 2 x 4 = 8 Unused state = 16 - 8 = 8.

NO : 8.

Question : It is desired to display the digit 7 using a seven segment display. The LEDs to be turned on are

A: a, b, c

B: b, c, d

C: c, d, e

D: a, b, d

Answer: A

explanation:

NO : 9.

Question : For a MOD-12 counter, the FF has a t pd = 60 ns The NAND gate has a t pd of 25 n sec. The clock frequency is

A: 3.774 MHz

B: > 3.774 MHz

C: < 3.774 MHz

D: 4.167 MHz

Answer: A

explanation: For a proper working, the clock period should be equal to or greater than t pd = Mod 12 - 4FFs = 4 x 60 = 240 nsec. Total t pd = 240 + 25 = 265 nsec. = f c and f c = 3.774 MHz.

NO : 10.

Question : 100101 2 is equal to decimal number

A: 47

B: 37

C: 21

D: 17

Answer: B

explanation: 32 + 4 + 1 = 37 in decimal.

NO : 11.

Question : A Karnaugh map with 4 variables has

A: 2 cells

B: 4 cells

C: 8 cells

D: 16 cells

Answer: D

explanation: 2 4 = 16.

NO : 12.

Question : An 8 bit data is to be entered into a parallel in register. The number of clock pulses required is

A: 8

B: 4

C: 2

D: 1

Answer: D

explanation: In a parallel in register only one pulse is needed to enter data.

NO : 13.

Question : Which of the following is error correcting code?

A: EBCDIC

B: Gray

C: Hamming

D: ASCII

Answer: C

explanation: Hamming code is widely used for error correction.

NO : 14.

Question : A universal shift register can shift

A: from left to right

B: from right to left

C: both from left to right and right to left

D: none of the above

Answer: C

explanation: Both left to right and right to left operations are possible in universal shift register.

NO : 15.

Question : Available multiplexer IC package can have a maximum of 8 inputs.

A: True

B: False

Answer: B

explanation: 16 : 1 1C multiplexer is also available.

NO : 16.

Question : A 16 X 2 16 _____ .

A: 1616

B: 1516

C: 1416

D: 1316

Answer: C

explanation: A 16 = 10, 2 16 = 2, 10 x 2 = 20 in decimal = 14 in hexadecimal.

NO : 17.

Question : For the binary number 11101000, the equivalent hexadecimal number is

A: F 9

B: F 8

C: E 9

D: E 8

Answer: D

explanation: 11 01000 = 128 + 64 + 32 + 8 = 232 in decimal = E 8 in hexadecimal.

NO : 18.

Question : AECF1 16 + 15ACD 16 = _____ .

A: C47BB16

B: C47BE16

C: A234F16

D: A111116

Answer: B

explanation: Convert to decimal, add and change the result to hexadecimal.

NO : 19.

Question : A XOR gate has inputs A and B and output Y. Then the output equation is

A: Y = AB

B: Y = AB + A B

C: Y = A B + A B

D: Y = A B + A B

Answer: C

explanation: XOR gate recognises odd number of 1's.

NO : 20.

Question : Wired AND connection can be used in TTL with totem pole output.
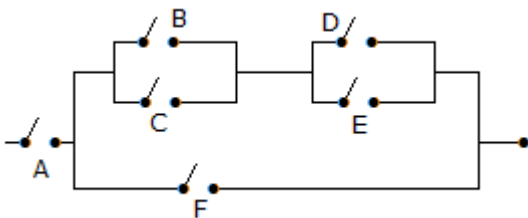
A: True

B: False

Answer: B

explanation: F, No it cannot be used.

NO : 21.

Question : The Boolean expression for the circuit of the given figure

A: A {F + (B + C) (D + E)}

B: A [F + (B + C) (DE)]

C: A + F + (B + C) (D + E)]

D: A [F + (BC) (DE)]

Answer: A

explanation: B and C in parallel give B + C. Similarly D and E in parallel give D + E. (B + C) in series with (D + E) give (B + C) (D + E). Since F is in parallel we get F + (B + C) (D + E). Finally A is in series. Therefore we get A[F + (B + C) (D + E)].

NO : 22.

Question : What will be BCD number when the output is 0.37 V?

A: 00110111

B: 10110111

C: 11001000

D: 01001000

Answer: A

explanation: BCD number is (00110111).

NO : 23.

Question : The first machine cycle of an instruction is always

A: a memory read cycle

B: a fetch cycle

C: a input/output read cycle

D: a memory write cycle

Answer: B

explanation: Fetch cycle is always first machine cycle.

NO : 24.

Question : A counter has N flip flops. The total number of states are

A: N

B: 2 N

C: 2N

D: 4 N

Answer: C

explanation: One flip-flop means 2 states and N flip-flops means 2 N states.

NO : 25.

Question : Out of S, R, J, K, Preset, Clear inputs to flip flops, the synchronous inputs are

A: S, R, J, K only

B: S, R, Preset, Clear only

C: Preset, Clear only

D: S, R only

Answer: A

explanation: Preset and clear inputs are not applied in any fixed sequence.

NO : 26.

Question : The Boolean expression A ⊕ B is equivalent to

A: AB + AB

B: AB + AB

C: B

D: A

Answer: B

explanation: A ⊕ B = A B + A B

NO : 27.

Question : Which of these are two state devices?

A: Lamp

B: Punched card

C: Magnetic tape

D: All of the above

Answer: D

explanation: Each has 2 states.

NO : 28.

Question : What will be minimum conversion rate in 6 bit dual slope A/D converter uses a reference of -6v and a 1 MHz clock. It uses a fixed count of 40 (101000).

A: 9000

B: 9259

C: 1000

D: 1000

Answer: B

explanation: Minimum conversion rate .

NO : 29.

Question : The minimum number of NAND gates required to implement the Boolean function A +A B + A B C is equal to

A: 0

B: 1

C: 4

D: 7

Answer: A

explanation: A + A B +A B C = A + A B (1 + C) = A + A B = A(1 + B) = A.

NO : 30.

Question : For the K map of the given figure, the simplified Boolean expression is

A: A C + A D + ABC

B: A B D + BC

C: A C D + AC

D: A C D + AC + BC

Answer: A

explanation:

NO : 31.

Question : The dual of A + [B + (AC)] + D is

A: A + [(B (A + C))] + D

B: A [B + AC] D

C: A + [B (A + C)] D

D: A [B (A + C)] D

Answer: D

explanation: In taking dual OR is replaced by AND and vice versa.

NO : 32.

Question : A divide by 78 counter can be obtained by

A: 6 numbers of mod-13 counters

B: 13 numbers of mod-6 counters

C: one mod-13 counter followed by mod-6 counter

D: 13 number of mod-13 counters

Answer: C

explanation: Modulus 13 x modulus 6 = modulus 78.

NO : 33.

Question : The initial state of MOD-16 down counter is 0110. What state will it be after 37 clock pulses?

A: Indeterminate

B: 0110

C: 0101

D: 0001

Answer: D

explanation: A mod-16 counter goes through 16 states in one cycle of 16 Pulses. It complete 2 cycles in 32 Pulses. In the rest 5 Pulses, it moves down from $0110 = 6_{10} - 5_{10} = 1_{10}$ or $(001)_2$.

NO : 34.

Question : The number of address lines in EPROM 4096 x 8 is

A: 2

B: 4

C: 8

D: 12

Answer: D

explanation: $2^{12} = 4096$.

NO : 35.

Question : If the inputs to a 3 bit binary adder are 111_2 and 111_2, the output will be 110_2

A: True

B: False

Answer: B

explanation: 111 + 111 = 1110.

NO : 36.

Question : Which display device resembles vacuum tube?

A: LED

B: LCD

C: VF

D: None of these

Answer: C

explanation: It is similar to triode.

NO : 37.

Question : The number of inputs and outputs of a full adder are

A: 3 and 2 respectively

B: 2 and 3 respectively

C: 4 and 2 respectively

D: 2 and 4 respectively

Answer: A

explanation: Inputs are carry from lower bits and two other bits. Outputs are SUM and CARRY.

NO : 38.

Question : A VF display operates on the principle of a vacuum diode.

A: True

B: False

Answer: B

explanation: It operates on the principle of vacuum triode.

NO : 39.

Question : In a 3 input NAND gate, the number of states in which output is 1 equals

A: 8

B: 1

C: 6

D: 5

Answer: B

explanation: Only one input, i.e., A = 1, B = 1 and C = 1 gives low output.

NO : 40.

Question : In a mod-12 counter the input clock frequency is 10 kHz. The output frequency is

A: 0.833 kHz

B: 1.0 kHz

C: 0.91 kHz

D: 0.77 kHz

Answer: A

explanation: Mod-12 counter is divide by 12 counter. Output frequency = = 0.833 kHz.

NO : 41.

Question : The total number of input words for 4 input OR gate is

A: 20

B: 16

C: 12

D: 8

Answer: B

explanation: 2 4 = 16.

NO : 42.

Question : In digital circuits Schottky transistors are preferred over normal transistors because of their

A: lower propagation delay

B: lower power dissipation

C: higher propagation delay

D: higher power dissipation

Answer: A

explanation: Schottky transistors have low switching time and hence low propagation delay.

NO : 43.

Question : A flip flop is a

A: combinational circuit

B: memory element

C: arithmetic element

D: memory or arithmetic element

Answer: B

explanation: It is a memory element used in digital circuits.

NO : 44.

Question : A 4 bit parallel type A/D converter uses a 6 volt reference. How many comparators are required and what is the resolution in volts?

A: 0.375 V

B: 15 V

C: 4.5 V

D: 10 V

Answer: A

explanation: No. of comparators = $2^n - 1 = 2^4 - 1 = 15$.

NO : 45.

Question : Quantization error occurs in

A: D/A converter

B: A/D converter

C: both D/A and A/D converter

D: neither D/A nor A/D converter

Answer: B

explanation: Analog input can have any value but digital value can have only 2^N discrete levels (for N bits). Hence quantization error in A/D conversion.

NO : 46.

Question : Which of these are universal gates?

A: Only NOR

B: Only NAND

C: Both NOR and NAND

D: NOR, NAND, OR

Answer: C

explanation: Both NAND and NOR are called universal gates.

NO : 47.

Question : Out of latch and flip flop, which has clock input?

A: Latch only

B: Flip flop only

C: Both latch and flip flop

D: None

Answer: B

explanation: This the main difference between latch and flip-flop. Only flip-flop has clock input.

NO : 48.

Question : A mod 4 counter will count

A: from 0 to 4

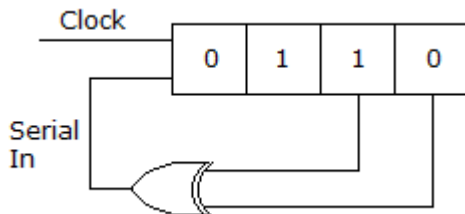B: from 0 to 3

C: from any number n to n + 4

D: none of the above

Answer: B

explanation: Mod 4 counter has 4 states, 0 to 3.

NO : 49.

Question : In the given figure shows a 4 bit serial in parallel out right shift register. The initial contents as shown are 0110. After 3 clock pulses the contents will be

A: 0000

B: 0101

C: 1010

D: 1111

Answer: C

explanation: Output of XOR gate is input to register.

NO : 50.

Question : Which of the following finds application in pocket calculators?

A: TTL

B: CMOS

C: ECL

D: Both (a) and (c)

Answer: B

explanation: Because of low power consumption CMOS is used in pocket calculators.

NO : 1.

Question : Octal number 12 is equal to decimal number

A: 8

B: 9

C: 10

D: 11

Answer: C

explanation: 12 in octal = 8 + 2, i.e., 10 in decimal.

NO : 2.

Question : Hexadecimal number E is equal to binary number

A: 1110

B: 1101

C: 1001

D: 1111

Answer: A

explanation: E = 14 in decimal or 1110 (8 + 4 + 2 + 0 = 14) is binary.

NO : 3.

Question : Decimal number 46 in excess 3 code =

A: 1000 1001

B: 0111 1001

C: 0111 1111

D: 1000 1111

Answer: B

explanation: Decimal 46 in excess 3 code = 46 + 33 = 79 in decimal = 0111 1001 in 4 bit binary.

NO : 4.

Question : Logic hardware is available only in NAND and NOR.

A: True

B: False

Answer: B

explanation: Other gates are also available.

NO : 5.

Question : A 4 input AND gate is equivalent to

A: 4 switches in parallel

B: 2 switches in series and 2 in parallel

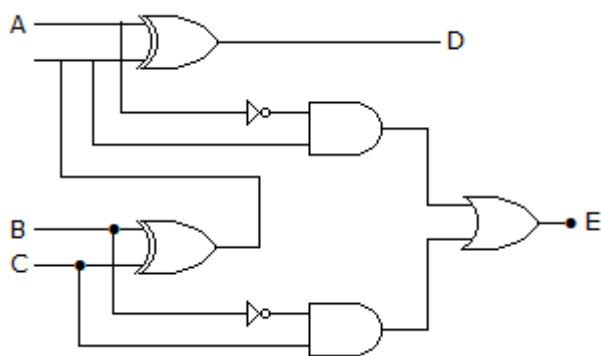C: three switches in parallel and one in series

D: 4 switches in series

Answer: D

explanation: All the switches have to be closed so that the circuit can be made. In AND gate all the inputs have to be high for output to be high.

NO : 6.

Question : The circuit of the given figure is

A: full adder

B: full subtractor

C: shift register

D: decade counter

Answer: B

explanation:

NO : 7.

Question : A half adder adds

A: 2 bits

B: 3 bits

C: 4 bits

D: 2 or 3 bits

Answer: A

explanation:

NO : 8.

Question : The no. of comparators required in a 3 bit comparator type ADC is

A: 2

B: 3

C: 7

D: 8

Answer: C

explanation: Number of comparators = 2 n - 1 = 2 3 - 1 = 7.

NO : 9.

Question : If the ladder reference voltage is 2 V, then minimum comparator resolution required is

A: 0.125 V

B: 1.25 V

C: 12.5 V

D: 0

Answer: A

explanation: .

NO : 10.

Question : In a 7 segment LED display, the minimum number of segments is activated when the input decimal number is

A: 0

B: 1

C: 2

D: 3

Answer: B

explanation: Only 2 segments are lit as seen in

NO : 11.

Question : A 4 bit down counter starts counting from 1111 irrespective of modulus.

A: True

B: False

Answer: B

explanation: The starting count depends on modulus. 4 bit decade down counter starts counting from 1010.

NO : 12.

Question : The number of counter states which an 8 bit stair step A/D converter has to pass through before conversion takes place is equal to

A: 1

B: 8

C: 255

D: 256

Answer: D

explanation: 2 8 = 256.

NO : 13.

Question : 74 HC series can sink upto 4 mA. The 74 LS series has I IL(max) - 0.4 mA. How many 74 LS inputs be driven by 74 HC output?

A: 100

B: none

C: 8

D: 10

Answer: D

explanation: .

NO : 14.

Question : An 8 bit transistor register has output voltage of low-high-low-high-low-high-low-high. The decimal number stored is

A: 105

B: 95

C: 85

D: 75

Answer: C

explanation: 01010101 in binary and 64 + 16 + 4 + 1 = 85 in decimal.

NO : 15.

Question : The number of cells in a 4 variable K map is

A: 16

B: 8

C: 4

D: 32

Answer: A

explanation: 2 4 = 16.

NO : 16.

Question : Find the FSV (full scale voltage) in a 6 bit R -2 R ladder D/A converter has a reference voltage of 6.5 V.

A: 6.4 V

B: 0.1 V

C: 7 V

D: 8 V

Answer: A

explanation: .

NO : 17.

Question : Parallel adder is

A: sequential circuit

B: combinational circuit

C: either sequential or combinational circuit

D: none of the above

Answer: B

explanation: Adder is a combinational circuit.

NO : 18.

Question : An 8 bit binary number is to be entered into an 8 bit serial shift register. The number of clock pulses required is
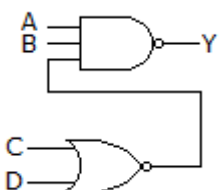
A: 1

B: 2

C: 4

D: 8

Answer: D

explanation: In serial shift register one pulse is needed to store each bit.

NO : 19.

Question : In the given figure, A = B = 1 and C = D = 0. Then Y =

A: 1

B: 0

C: either 1 or 0

D: indeterminate

Answer: B

explanation: The CD inputs when fed to NOR gate give output 1. Therefore Y = 1.1.1 = 0.

NO : 20.

Question : Assertion (A): CMOS devices have very high speed. Reason (R): CMOS devices have very small physical size and simple geometry.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: CMOS has high packing density but low speed.

NO : 21.

Question : Binary number 11001 is equivalent to decimal number

A: 35

B: 15

C: 105

D: 25

Answer: D

explanation: 11001 = 16 + 8 + 1 = 25 in decimal.

NO : 22.

Question : Which of the following are included in the architecture of computer? Addressing mode, design of CPU Instruction set, data format Secondary memory, operating system Select the correct answer using the codes given below:

A: 1 and 2

B: 2 and 3

C: 1 and 3

D: 1, 2 and 3

Answer: A

explanation: Addressing mode, CPU design, Data formats, instruction set are part of Computer Architecture.

NO : 23.

Question : Assertion (A): Tristate logic is used for bus oriented systems Reason (R): The outputs of a tristate logic are 0, 1 and indeterminant.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: Outputs of tristate logic are 0, 1 and high impedance state.

NO : 24.

Question : The value of 2 5 in octal system is

A: 40

B: 20

C: 100

D: 200

Answer: A

explanation: 2 5 in decimal = 32 (32) 10 = (100000) 2 = .

NO : 25.

Question : Assertion (A): ECL gate has very high speed of operation. Reason (R): Transistors in ECL do not go into saturation region.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: A

explanation: Since transistors in ECL do not enter saturation state, switching is fast.

NO : 26.

Question : Assertion (A): TTL is a very popular logic in SSI and MSI category. Reason (R): In Schottky TTL the power dissipation is less than in ordinary TTL.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: In Schottky TTL storage time is reduced.

NO : 27.

Question : FF 16 when converted to 8421BCD =

A: 0000 0101 0101

B: 0010 0101 0101

C: 1111 0101 0101

D: 1000 0101 0101

Answer: B

explanation: FF in hexadecimal = 15 x 16 + 15 = 255 in decimal = 0010 0101 0101 in BCD.

NO : 28.

Question : ECL has high switching speed because the transistors are

A: switching between cutoff and saturation regions

B: switching between cutoff and active regions

C: switching between active and saturation regions

D: none of the above

Answer: B

explanation: High speed is obtained because saturation state is avoided.

NO : 29.

Question : Karnaugh map can not be drawn when the number of variables is more than 4

A: True

B: False

Answer: B

explanation: K map can be drawn for more than 4 variables.

NO : 30.

Question : A dynamic RAM cell which holds 5 V has to be refreshed every 20 ms so that the stored voltage does not fall by more than 0.5 V. If the cell has a constant discharge current of 0.1 pA, the storage capacitance of cell is

A: 4×10^{-6} F

B: 4×10^{-9} F

C: 4 x 10-12 F

D: 4 x 10-15 F

Answer: D

explanation: Q = 20 x 10 -3 x 0.1 x 10 -12 = 2 x 10 -15 C and .

NO : 31.

Question : In which counter does the maximum frequency depend on the modulus?

A: Synchronous

B: Ripple

C: Both synchronous and ripple

D: Neither synchronous nor ripple

Answer: B

explanation: Since propagation delays of all flip-flops are added in ripple counter, the maximum frequency depends on the number of flip-flops which depends on modulus.

NO : 32.

Question : A current tracer responds to

A: steady current only

B: pulsating current only

C: both pulsating and steady current

D: none of the above

Answer: B

explanation: The indicator of current tracer glows when its tip is held over a pulsating current path.

NO : 33.

Question : A presettable counter with 4 flip flops can start counting from

A: 0000

B: 1000

C: any number from 0000 to 1000

D: any number from 0000 to 1111

Answer: D

explanation: Since 4 flip-flops are used it can count from 0000 to 1111. By presetting it can start from any number.

NO : 34.

Question : A logical expression Y = A + A B is equal to

A: Y = AB

B: Y = AB

C: Y = A + B

D: Y = A + B

Answer: D

explanation: Y = A + A B = (A + A) (A + B) = (A + B).

NO : 35.

Question : Using the same flip flops

A: a synchronous flip flop can operate at higher frequency than ripple counter

B: a ripple counter can operate at higher frequency than synchronous counter

C: both ripple and synchronous counter can operate at the same frequency

D: can not determine

Answer: A

explanation: In a synchronous counter clock pulses are applied to all flip-flops simultaneously. Hence minimum time delay and high frequency.

NO : 36.

Question : A 10 bit ADC with a full scale output voltage of 10.24 V is to be designed to have ± LSB/2 accuracy. If ADC is calibrated at 25°C, the maximum net temperature coefficient of ADC should not exceed

A: ± 200 μV/°C

B: ± 400 μV/°C

C: ± 600 μV/°C

D: ± 800 μV/°C

Answer: A

explanation: , accuracy = 5 mV, temp, .

NO : 37.

Question : If all the LEDs in a seven segment display are turned on, the number displayed is

A: 1

B: 3

C: 0

D: 8

Answer: D

explanation:

NO : 38.

Question : In a three input AND gate A = 1, B = 1, C = 0 The output Y =

A: ABC

B: ABC

C: ABC

D: ABC

Answer: C

explanation: Since C = 0 we get C Therefore Y = A B C .

NO : 39.

Question : DeMorgan's first theorem shows the equivalence of

A: OR gate and Exclusive OR gate

B: NOR gate and Bubbled AND gate

C: NOR gate and NAND gate

D: NAND gate and NOT gate

Answer: B

explanation: First theorem A + B = A . B .

NO : 40.

Question : 0.1011 2 = _____ .

A: 0.687510

B: 0.680010

C: 0.010010

D: 0.500010

Answer: A

explanation: 0.5 + 0 + 0.125 + 0.0625 = 0.6875.

NO : 41.

Question : If memory chip size is 256 x 1 bits, the number of chips required to make 1 k byte memory is

A: 8

B: 12

C: 24

D: 32

Answer: D

explanation: (1024 x 8)/(256 x 1) = 32.

NO : 42.

Question : Computers use RC circuit for edge triggering.

A: True

B: False

Answer: B

explanation: No, gates are used for edge triggering.

NO : 43.

Question : The function Y = AC + BD + EF is

A: POS

B: SOP

C: Hybrid

D: none of the above

Answer: B

explanation: It is sum of products.

NO : 44.

Question : Assertion (A): A multiplexer can be used for data routing. Reason (R): A multiplexer has one input and many outputs.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: Multiplexer has many inputs but one output.

NO : 45.

Question :

$\overline{\overline{AB} + \overline{AC}}$

A: A + B + C

B: ABC

C: ABC

D: A + B + C

Answer: B

explanation: .

NO : 46.

Question : A 3 bit up-down counter can count from

A: 000 to 111

B: 111 to 000

C: 000 to 111 and also from 111 to 000

D: none of the above

Answer: C

explanation: Since it is an up-down counter it can count upwards or downwards.

NO : 47.

Question : The density of dynamic RAM is

A: the same as static RAM

B: less than that of static RAM
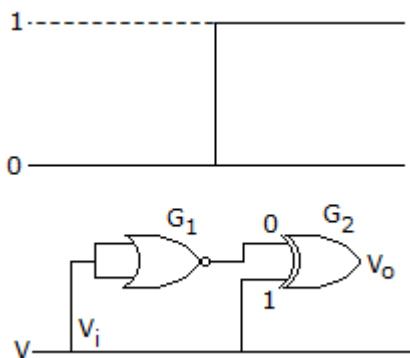
C: more than that of static RAM

D: either equal or less than that of static RAM

Answer: C

explanation: Dynamic RAM has higher packing density and requires lesser space.

NO : 48.

Question : The gates G 1 and G 2 in the figure have propagation delays of 10 n sec. and 20 n sec. respectively. If the input V i makes an output change from logic 0 to 1 at time t = t 0 then the output wavefrom V 0 is

A:

B:

C:

D:

Answer: D

explanation: Truth table are as follows.

NO : 49.

Question : A 3 input NAND gate is to be used as inverter. Which of the following will give better results?

A: The two unused inputs are left open

B: The two unused inputs are connected to 0

C: The two unused inputs are connected to 1

D: None of the above

Answer: C

explanation: Unused inputs should be given high input.

NO : 50.

Question : The maximum counting range of a four stage counter using IC 74193 is

A: 0 to 1023

B: 0 to 4093

C: 0 to 65535

D: 0 to 131071

Answer: C

explanation: IC 74193 is a divide by 16 counter. Since 4 stages are used, counting range = 16 4 = 65536.

NO : 1.

Question : A multilevel decoder is more costly as compared to single level decoder.

A: True

B: False

Answer: A

explanation: A multi level decoder may be cheaper than single level decoder.

NO : 2.

Question : EPROM can be

A: UVPROM

B: EEPROM

C: both UVPROM and EEPROM

D: none of the above

Answer: C

explanation: Both ultra violet and electric pulses are used for erasing.

NO : 3.

Question : A full subtractor has a total of

A: 2 inputs

B: 3 inputs

C: 4 inputs

D: 5 inputs

Answer: B

explanation:

NO : 4.

Question : The function of interface circuit is

A: to match output conditions of driver with input conditions of load device

B: to match output conditions of load device with input conditions of driver

C: both (a) and (b)

D: neither (a) nor (b)

Answer: A

explanation: Output of driver stage has to be matched with input of load.

NO : 5.

Question : 1274 16 - 3A7 16 = _____ .

A: ACA16

B: ACB16

C: ECD16

D: AAA16

Answer: C

explanation: Convert to decimal, subtract and change the result to hexadecimal.

NO : 6.

Question : With four Boolean variables, how many Boolean expressions can be performed?

A: 16

B: 256

C: 1024 (1 K)

D: 64K (64 x 1024)

Answer: D

explanation: 2 2 4 = 2 16 .

NO : 7.

Question : A + (B . C) =

A: A . B + C

B: A . B + A . C

C: A

D: (A + B) . (A + C)

Answer: D

explanation: This is distributive law.

NO : 8.

Question : To count 1000 bottles in a milk plant, the minimum number of flip flops requires is

A: 12

B: 10

C: 8

D: 6

Answer: B

explanation: 2 0 = 512 and 2 10 = 1024 Hence at least 10 flip-flops are required.

NO : 9.

Question : Decimal 8 in excess-3 code =

A: 1000

B: 1001

C: 1011

D: 1111

Answer: C

explanation: Decimal 8 in excess 3 code = decimal 11 = 1011 in binary.

NO : 10.

Question : The inputs to a 3 bit binary adder are 111 2 and 110 2 . The output will be

A: 101

B: 1101

C: 1111

D: 1110

Answer: B

explanation: Rules for binary addition. 0 + 0 = 0 0 + 1 = 1 + 0 = 1 1 + 1 = 10 i.e., 1 + 1 equals 0 with a carry of 1 to next higher column. 1 + 1 + 1 = 11 i.e., 1 + 1 + 1 equals 1 with a carry of 1 to next higher column.

NO : 11.

Question : BCD number 1100111 = _____ 10

A: 66

B: 67

C: 68

D: 69

Answer: B

explanation: 0110 = 6 and 0111 = 7 Hence 67.

NO : 12.

Question : The K-map for a Boolean function is shown in figure. The number of essential prime implicants for this function is

A: 4

B: 5

C: 6

D: 8

Answer: A

explanation: Essential Prime implicates = 4.

NO : 13.

Question : When microprocessor processes both positive and negative numbers, the representation used is

A: l's complement

B: 2's complement

C: signed binary

D: any of the above

Answer: B

explanation: 2's complement representation requires simple electronic circuitry.

NO : 14.

Question : An AND gate has four inputs. One of the inputs is low and other inputs are high. The output

A: is low
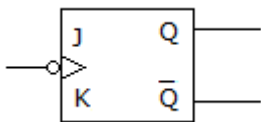
B: is high

C: is alternately low and high

D: may be high or low depending on relative magnitudes of inputs

Answer: A

explanation: In AND gate all inputs must be high to give high output.

NO : 15.

Question : In the given figure, the flip flop is

A: negative edge triggered

B: positive edge triggered

C: level triggered

D: either (a) or (c)

Answer: A

explanation: The small circle indicates negative and small triangle indicates edge triggering.

NO : 16.

Question : The number of switching functions of 3 variables are

A: 3

B: 8

C: 16

D: 32

Answer: B

explanation: 2 3 = 8.

NO : 17.

Question : The applications of shift registers are Time delay Ring counter Serial to parallel data conversion Serial to serial data conversion Which of the above are correct?

A: 1, 2, 3

B: 2, 3, 4

C: 1, 2, 3, 4

D: 1, 2, 4

Answer: C

explanation: Shift registers are used for all these applications.

NO : 18.

Question : Assertion (A): ECL is fast as compared to TTL. Reason (R): ECL dissipates less power than TTL.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: ECL dissipates more power than TTL.

NO : 19.

Question : Assertion (A): Synchronous counter has higher speed of operation than ripple counter Reason (R): Synchronous counter uses high speed flip flops.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: Higher speed is due-to the reason that clock pulses in synchronous counter are applied simultaneously to all the flip-flops.

NO : 20.

Question : What will be the maximum conversion time in 6 bit dual slope A/D converter uses a reference of -6v and a 1 MHz clock. It uses a fixed count of 40 (101000).
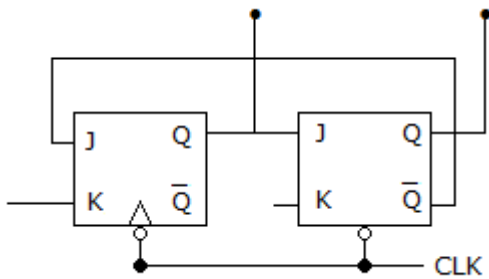
A: 108 sec

B: 63 μ sec

C: 40 sec

D: 80 μ sec

Answer: A

explanation: for t 2 maximum all bits should be 111111 = (63) 10 Maximum conversion time = 63 + 40 = 103 μ sec and it takes 5 μ sec to transfer N 2 to the O/P register. t cmax = 108 μ sec.

NO : 21.

Question : The modulus of counter in the given figure is

A: 1

B: 2

C: 3

D: 4

Answer: C

explanation: Third clock pulse resets the counter to 00 state. Hence mod is 3.

NO : 22.

Question : The input to a parity detector is 1001. The output is

A: 0

B: 1

C: 0 or 1

D: indeterminate

Answer: A

explanation: Since the number of 1 's is even, output is 0.

NO : 23.

Question : A 4 bit modulo 16 ripple counter uses JK flip-flops. If the propagation delay of each FF is 50 ns. The max. clock frequency that can be used is equal to

A: 20 MHz

B: 10 MHz

C: 5 MHz

D: 4 MHz

Answer: C

explanation: Propagation Delay for one FF is 50 nsec. For 4 FF = 50 x 4 = 200 nsec. .

NO : 24.

Question : As the number of flip flops are increased, the total propagation delay of

A: ripple counter increases but that of synchronous counter remains the same

B: both ripple and synchronous counters increase

C: both ripple and synchronous counters remain the same

D: ripple counter remains the same but that of synchronous counter increases

Answer: A

explanation: In ripple counter the clock pulses are applied to one flip- flop only. Hence as the number of flip-flops increases the delay increases. In synchronous counter clock pulses to all flip-flops are applied simultaneously.

NO : 25.

Question : In a 4 input OR gate, the total number of High outputs for the 16 input states are
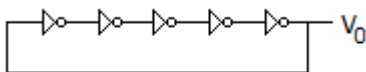
A: 16

B: 15

C: 14

D: 13

Answer: B

explanation: OR gate gives high output when one or more inputs are high.

NO : 26.

Question : For the ring oscillator shown in the figure, the propagation delay of each inverter is 100 pico sec. What is the fundamental frequency of the oscillator output _____

A: 10 MHz

B: 100 MHz

C: 1 GHz

D: 2 GHz

Answer: D

explanation: T = 500 x 10 -12 = 5 x 10 -10 = .

NO : 27.

Question : If A is 1011, A" is

A: 1011

B: 0100

C: 1100

D: 1010

Answer: A

explanation: Taking 2's complement twice gives the original number.

NO : 28.

Question : Which of the following is not a characteristic of a flip flop?

A: It is a bistable device

B: It has two outputs

C: It has two outputs are complement of each other

D: It has one input terminal

Answer: D

explanation: Flip-flop has more than 1 input.

NO : 29.

Question : The number of flip flops needed for a Mod 7 counter are

A: 7

B: 5

C: 3

D: 1

Answer: C

explanation: 2 3 = 8 If 3 flip-flops are used the modulus can be a maximum of 8.

NO : 30.

Question : For AB + A C + BC = AB + A C the dual form is

A: (A + B) (A + C)(B + C) = (A + B)(A + C)

B: (A + B) (A + C)(B + C) = (A + B)(A + C)

C: (A + B) (A + C) (B + C) = (A + B) (A + C)

D: none of the above

Answer: A

explanation: Change OR to AND and vice versa.

NO : 31.

Question : A DAC has full scale output of 5 V. If accuracy is ± 0.2% the maximum error for an output of 1 V is

A: 5 mV

B: 10 mV

C: 2 mV

D: 20 mV

Answer: B

explanation: Maximum error = = 10 mV.

NO : 32.

Question : Binary number 1101101101 is equal to decimal number

A: 3289

B: 2289

C: 1289

D: 289

Answer: A

explanation: 2048 + 1024 + 128 + 64 + 16 + 8 + 1 = 3289 in decimal.

NO : 33.

Question : A 16:1 multiplexer has 4 select input lines.

A: True

B: False

Answer: A

explanation: 2 4 = 16.

NO : 34.

Question : Which one of the following can be used as parallel to series converter?

A: Decoder

B: Digital counter

C: Multiplexer

D: Demultiplexer

Answer: C

explanation: It converts parallel data into serial data.

NO : 35.

Question : What will be conversion time of a successive approximation A/D converter which uses 2 MHz clock and 5 bit binary ladder containing 8 V reference.?

A: 2.5 μ sec

B: 25 μ sec

C: 3 μ sec

D: 4 μ sec

Answer: A

explanation: .

NO : 36.

Question : A 4 bit down counter can count from

A: 0000 to 1111

B: 1111 to 0000

C: 000 to 111

D: 111 to 000

Answer: B

explanation: It can count from 15 to 0 or 1111 to 0000.

NO : 37.

Question : Assertion (A): In computers the data is stored in hexadecimal form Reason (R): Hexadecimal representation is short as compared to binary representation.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A
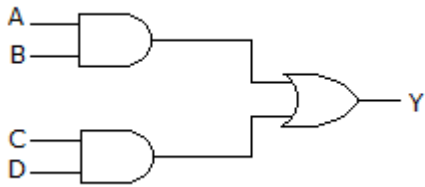
C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: Data is stored in binary form only.

NO : 38.

Question : For the circuit of the given figure, the output equation is

A: Y = ABCD

B: Y = AB + CD

C: Y = A + BCD

D: Y = ABC + D

Answer: B

explanation: The inputs A and B are ANDed. Inputs B and C' so ANDed. The outputs of two AND gates are ORed.

NO : 39.

Question : Using 2's complement, the largest positive and negative number which can be stored with 8 bits are

A: +128 and -127

B: +128 and -128

C: +127 and -128

D: +127 and -127

Answer: C

explanation: Largest positive number is 0111 111 = + 127 and largest negative number is 1000 0000 = -128.

NO : 40.

Question : Three Mod-16 counters are connected in cascade. The maximum counting range is

A: 16

B: 256

C: 4096

D: none of the above

Answer: C

explanation: 16 x 16 x 16 = 4096.

NO : 41.

Question : TTL is used in electronic calculators.

A: True

B: False

Answer: B

explanation: Calculators use CMOS.

NO : 42.

Question : Inverter 74 LS04 has following specifications I 0H max = - 0.4 mA, I 0L max = 8 mA, I IH max = 20 μA, I IL max = 0.1 mA The fan out of this inverter is

A: 10

B: 20

C: 60

D: 100

Answer: B

explanation: Fan out in low state = = 80 Fan out in high state = Hence fan out is smaller of two values ie., 20.

NO : 43.

Question : A 4 bit ripple counter starts in 0000 state. When the counter reads 0010 the number of clock pulses which have occurred is

A: 2

B: 18

C: 2 or 18

D: 2 or 18 or 34

Answer: D

explanation: At pulse 1 the state changes to 0001 and at pulse 2 it changes to 0010 Since it has a total of 16 states, the counter returns to 0000 after 16 and 32 pulses.

NO : 44.

Question : The number FF in hexadecimal system is equivalent to number _____ in decimal system.
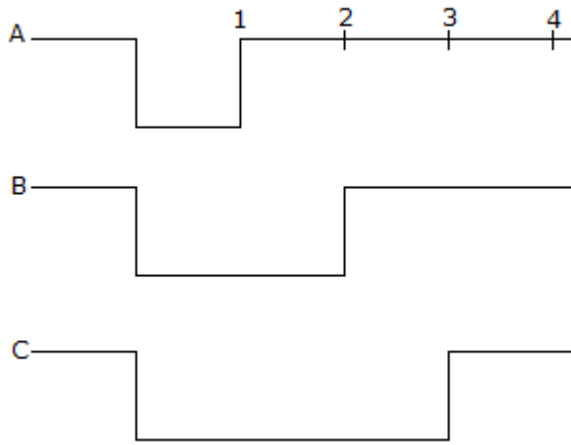
A: 256

B: 255

C: 240

D: 239

Answer: B

explanation: FF = 15 x 16 + 15 = 255.

NO : 45.

Question : The inputs A, B, C of the given figure are applied to a 3 input NOR gate. The output is

A: HIGH from 4 to 0

B: LOW from 0 to 4

C: HIGH from 0 to 1 and LOW from 1 to 4

D: LOW from 0 to 2 and HIGH from 2 to 4

Answer: C

explanation: NOR gate gives high output if all inputs are Low. For all other combinations of inputs, output is Low.

NO : 46.

Question : Assertion (A): XOR gate is not universal gate. Reason (R): It is not possible to realize any Boolean function using XOR gates only.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: A

explanation: A universal gate is one which can be used to realize any Boolean function using that type of gates only. Only NOR and NAND are universal gates.

NO : 47.

Question : The number of logic devices required in a Mod-16 synchronous counter are

A: 4

B: 5

C: 6

D: 7

Answer: C

explanation: 4 flip-flops and 2 AND gates.

NO : 48.

Question : A 2 bit BCD D/A converter is a weighted resistor type with E R = 1V, R = 1 MΩ and R f = 10KΩ then Resolution in percent and volt is _____ .

A: 1%, 1 mv

B: 10%, 10 mv

C: 10%, 1 mv

D: 1%, 10 mv

Answer: D

explanation: Resolution % for BCD = where d is Resolution in volts. Resolution in volts = volts per step = 0.01V 0r 10mV.

NO : 49.

Question : The number of bits in EBCDIC is

A: 12

B: 10

C: 8

D: 6

Answer: C

explanation: EBCDIC is an 8 bit code.

NO : 1.

Question : The number of memory locations in which 14 address bits can access is

A: 1024

B: 2048

C: 4096

D: 16384

Answer: D

explanation: 2 14 = 16384.

NO : 2.

Question : What will be conversion rate for a counter type A/D converter contains a 4 bit binary ladder and a counter driven by a 2 MHz clock. Then conversion time

A: 125

B: 125 x 103

C: 125 x 106

D: None

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : A 6 bit R -2 R ladder D/A converter has a reference voltage of 6.5 V. It meets standard linearity then resolution in percent and volts.

A: 3% 7 V

B: 6.4 V, 2%

C: 0.1%, 1.57 V

D: 1.57%, 0.1 V

Answer: D

explanation: R-2R ladder, resolution = Resolution in volts = .

NO : 4.

Question : What will be output for decimal input 82?
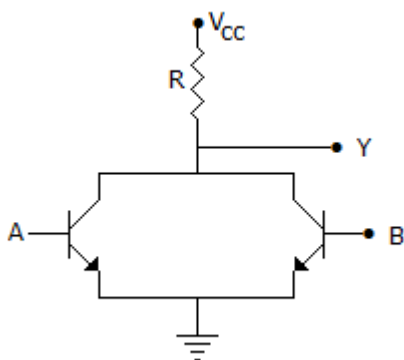
A: 0.82 V

B: 8 V

C: 0.1 V

D: 10 mV

Answer: A

explanation: Output for decimal input 82/(10000010) = 0.01 x 82 = 0.82 V.

NO : 5.

Question : The circuit of the given figure gives the output Y =

A: AB

B: A + B

C: A B

D: A + B

Answer: D

explanation: When any input is High, the corresponding transistor conducts and output is Low. Hence it is a NOR gate.

NO : 6.

Question : In a 4 bit ripple counter using flip flops with t pd = 40 ns, the maximum frequency can be

A: 1.25 MHz

B: 3.25 MHz

C: 6.25 MHz

D: 12.5 MHz

Answer: C

explanation: Total time delay = 40 x 4 = 160 x 100 -9 s. Hence .

NO : 7.

Question : What will be FSV in 2 bit BCD D/A converter is a weighted resistor type with E R = 1V, R = 1 MΩ and R f = 10KΩ

A: 0.99 V

B: 0.9 V

C: 0.1 V

D: 0

Answer: A

explanation: FSV for BCD = (10 d - 1)VR. = (10 2 -1) x .

NO : 8.

Question : The number of product terms in the minimized sum of product expression obtained through the following K-map, where d , don't care.

1	0	0	1
0	d	0	0
0	0	d	1
1	0	0	1

A: 2

B: 3

C: 4

D: 5

Answer: A

explanation: y = B C + AC D .

NO : 9.

Question : BCD equivalent of - 8 10 is

A: 00110

B: 10110

C: 11000

D: 01000

Answer: C

explanation: Decimal 8 = 1000 and - 8 = 11000.

NO : 10.

Question : The number of inputs and outputs in a full adder are

A: 2 and 1

B: 2 and 2

C: 3 and 3

D: 3 and 2

Answer: D

explanation:

NO : 11.

Question : A + A . B =

A: B

B: A . B

C: A

D: A or B

Answer: C

explanation: A.B= 1 or 0, A + A.B = 0 if A is zero and A + A.B = 1 if A = 1. Hence A + A.B = A.

NO : 12.

Question : The device 'one shot' has

A: two stable states

B: one stable state
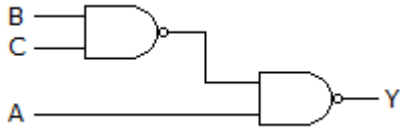
C: either 1 or 2 stable states

D: no stable state

Answer: B

explanation: One shot means one stable state.

NO : 13.

Question : For the logic circuit of the given figure the simplified Boolean expression is

A: A + BC

B: A + BC

C: A + B C

D: A + BC

Answer: B

explanation: = A + BC.

NO : 14.

Question : If number of information bits is 4, the parity bits in Hamming code are located at bit positions _____ from the LSB.

A: 1, 2, 5

B: 1, 2, 4

C: 1, 2, 3

D: 1, 2

Answer: B

explanation: The number of parity bits is 3. These bits are located at 2^0, 2^1, 2^2, i.e., 1, 2, 4 th bits starting from LSB.

NO : 15.

Question : A certain JK FF has t_{pd} = 12 n sec the largest MOD counter that can be constructed from these FF and still operate up to 10 MHz is

A: any

B: 8

C: 256

D: 10

Answer: C

explanation: Clock period(t) = = 10 -7 sec Number of FF = mod counter 2 8 = 256.

NO : 16.

Question : Two 2's complement number having sign bits X and Y are added and the sign bit of the result is Z. then, the occurrence of overflow is indicated by the Boolean function.

A: XYZ

B: X Y Z

C: X YZ + XY Z

D: XY + YZ + ZX

Answer: D

explanation: carry of a one bit full order is given by expression XY + YZ + ZX .

NO : 17.

Question : If A = 0101, then A' is

A: 1010

B: 1011

C: 1001

D: 0110

Answer: B

explanation: A' = 1010 + 1 = 1011.

NO : 18.

Question : 11011 in gray code = _____ .
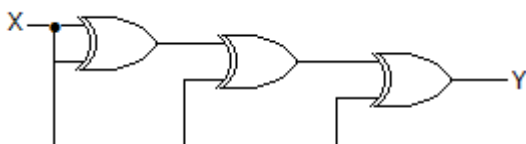
A: 100102

B: 111112

C: 111002

D: 100012

Answer: A

explanation: Change to decimal and then to binary.

NO : 19.

Question : In the circuit of the given figure, Y =

A: 0

B: 1

C: X

D: X

Answer: A

explanation: X X = 0.

NO : 20.

Question : A . 0 =

A: 1

B: A

C: 0

D: A or 1

Answer: C

explanation: 1.0 = 0 and 0.0 = 0.

NO : 21.

Question : The complement of exclusive OR function is

A: AB + A B

B: AB + A B

C: A B + A

D: AB + A B

Answer: B

explanation: Complement of XOR is X NOR.

NO : 22.

Question : Decimal -90 equals _____ in 8 bit 2s complement

A: 1000 1000

B: 1010 0110

C: 1100 1100

D: 0101 0101

Answer: B

explanation: +90 in binary is 01011010. Its 2's complement is 10100110.

NO : 23.

Question : 23.6 10 = _____ 2

A: 11111.1001

B: 10111.1001

C: 00111.101

D: 10111.1

Answer: B

explanation: 23= 10111 and 0.6 =10011 Hence 10111 . 10011 .

NO : 24.

Question : In a shift left register, shifting a bit by one bit means

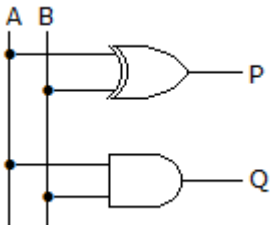A: division by 2

B: multiplication by 2

C: subtraction of 2

D: None of the above

Answer: B

explanation: In binary shift one bit left means multiplication by 2.

NO : 25.

Question : If A = B = 1, the outputs P and Q in the given figure are

A: P = Q = 0

B: P = 0, Q = 1

C: P = 1, Q = 0
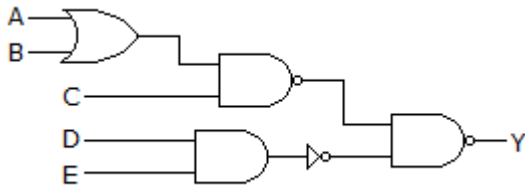
D: P = Q = 1

Answer: B

explanation: It is a half adder 1 + 1 = 10. Therefore SUM = P = 0 and Carry = Q = 1.

NO : 26.

Question : In the given figure, Y =

A: $(A + B)C + DE$

B: $AB + C(D + E)$

C: $(A + B)C + D + E$

D: none of the above

Answer: A

explanation: .

NO : 27.

Question : Assertion (A): The access time of memory is lowest in the case of DRAM Reason (R): DRAM uses refreshing cycle.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: DRAM has lower speed than SRAM.

NO : 28.

Question : In a 3 input NOR gate, the number of states in which output is 1 equals

A: 1

B: 2

C: 3

D: 4

Answer: A

explanation: Only one input, i.e., $A = 0$, $B = 0$ and $C = 0$ gives 1 as output.

NO : 29.

Question : Assertion (A): Even if TTL gates and CMOS gates used in a realization have the same power supply of + 5 V, suitable circuit is needed to interconnect them Reason (R): V_{OH}, V_{OL}, V_{IH} and V_{IL} of a TTL gave are respectively 2.4, 0.4, 2 and 0.8 V respectively. If supply voltage is + 5 V. V_{IL} and V_{IH} for CMOS gate for the supply voltage of + 5 V are 1.5 V and 3.5 V respectively.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: A

explanation: Interfacing is necessary and interfacing depends on gate parameters like V_{OH}, V_{OL}, I_{IH}, I_{IL}.

NO : 30.

Question : The series 54 H/74 H denotes

A: Standard TTL

B: High speed TTL

C: Low Power TTL

D: High Power TTL

Answer: B

explanation: It denotes high speed TTL.

NO : 31.

Question : For a 4096 x 8 EPROM, the number of address lines is

A: 14

B: 12

C: 10

D: 8

Answer: B

explanation: $4096 = 2^{12}$.

NO : 32.

Question : Assertion (A): A PROM can be used as a synchronous counter Reason (R): Each memory location in a PROM can be read synchronously.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: PROM is a memory. It is not a counter.

NO : 33.

Question : ABCD + AB C D =

A: ABC

B: ABCD

C: A B D

D: ABCD

Answer: C

explanation: A B C D + A B C D = A B D (C + C) = A B D .

NO : 34.

Question : Find the output voltage for 011100 in a 6 bit R -2 R ladder D/A converter has a reference voltage of 6.5 V.

A: 6.4 V

B: 2.84 V

C: 0.1 V

D: 8 V

Answer: B

explanation: (a n-1 2 n-1 + a n-2 2 n-2 + ...a 1 2 1 + a 0 2 0) (2 4 + 2 3 + 2 2) = 6.5 x = 2.84 .

NO : 35.

Question : Binary number 1101 is equal to octal number

A: 17

B: 16

C: 15

D: 14

Answer: C

explanation: 1101 = 13 in decimal = 15 (i.e., 8 + 5) in octal.

NO : 36.

Question : Logic analyser is

A: a multichannel oscilloscope

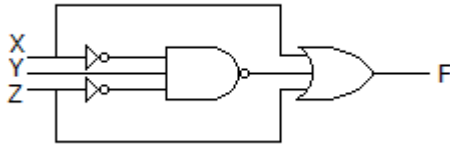B: similar to logic pulser

C: similar to current tracer

D: none of the above

Answer: A

explanation: It is a multichannel oscilloscope.

NO : 37.

Question : The minimized version of logic circuit in the given figure is

A:

B:

C:

D:

Answer: A

explanation: The Boolean equation is The circuit in the given figure gives .

NO : 38.

Question : In the given figure shows a negative logic AND gate. If positive logic is used this gate is equivalent to
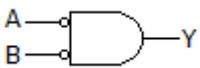
A: AND gate

B: OR gate

C: NOR gate

D: NAND gate

Answer: C

explanation: Y = A B = A + B .

NO : 39.

Question : The function Y = A B C + AB C + A B C + A BC is to be realized using discrete gates. The inputs available are A, B, C. We need a total of

A: 8 gates

B: 6 gates

C: 10 gates

D: 5 gates

Answer: A

explanation: Three NOT gates, four AND gates and one OR gate, i.e., total of 8 gates.

NO : 40.

Question : A 10 bit D/A converter gives a maximum output of 10.23 V. The resolution is

A: 10 mV

B: 20 mV

C: 15 mV

D: 25 mV

Answer: A

explanation: Resolution = V or 10 mV.

NO : 41.

Question : As applied to a flip flop the word edge triggered's means

A: flip flop can change state when clock transition occurs

B: flip flop can change state when clock signal goes from LOW to HIGH only

C: flip flop can change state when clock signal goes from HIGH to LOW only

D: none of the above

Answer: A

explanation: Edge triggering means the instant when clock transition occurs.

NO : 42.

Question : A NOR gate is a combination of

A: OR gate and AND gate

B: AND gate and NOT gate

C: OR gate and NOT gate

D: two NOT gates

Answer: C

explanation: OR and NOT = NOR.

NO : 43.

Question : The 2's complement representation of - 17 is

A: 01110

B: 01111

C: 11110

D: 10001

Answer: B

explanation: (17) 10 = (10001) 2 = (-17) 10 = 1's complement of (17) 2 + 1 the MSB is 0, hence (-17) 2 cannot represented in 2's complement representation with 5 bit, therefore (-17) in 2's complement is simply (10001) 2 = (17) 10 .

NO : 44.

Question : TTL inverter has

A: one input

B: two inputs

C: one or two inputs

D: three inputs

Answer: B

explanation: Data input and control input.

NO : 45.

Question : 4 bit ripple counter and 4 bit synchronous counter are made using flip-flop having a propagation delay of 10 ns each. If the worst case delay in the ripple counter and the synchronous counter be R and S respectively, then

A: R = 10 ns, S = 40 ns

B: R = 40 ns, S = 10 ns

C: R = 10 ns, S = 30 ns

D: R = 30 ns, S = 10 ns

Answer: B

explanation: In synchronous counter time delay is constant while in Ripple it is additive.

NO : 46.

Question : The number of digits in hexadecimal system

A: 15

B: 16

C: 10

D: 8

Answer: B

explanation: It has 16 digits 0 to 15.

NO : 47.

Question : Which of these is the most recent display device?

A: LED

B: LCD

C: VF

D: (a) and (c)

Answer: C

explanation: VF display can operate at very low voltages, has low power consumption and very long life.

NO : 48.

Question : A NOR gate has 3 inputs A, B, C. For which combination of inputs is output HIGH

A: A = B = C = 0

B: A = B = C = 1

C: A = B = 1 and C = 0

D: A = C = 1 and B = 0

Answer: A

explanation: NOR gate gives High output when all inputs are Low.

NO : 49.

Question : In 2's complement form, - 2 is

A: 1011
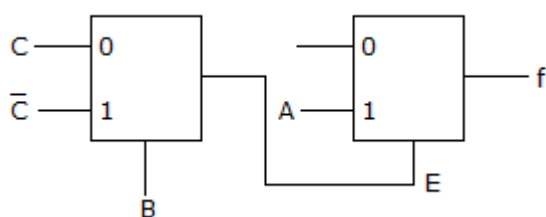
B: 1110

C: 1100

D: 1010

Answer: B

explanation: A = 1110, A = 0001, A + 1 = 0001 + 1 = 0010 = 2 Therefore A = -2.

NO : 50.

Question : The Boolean function/implemented in the figure using two I/P multiplexers is

A: ABC + ABC

B: ABC + AB C

C: ABC + ABC

D: ABC + AB C

Answer: A

explanation: when B = 1, f 1 = ABC B = 0, f 2 = A B C f = f 1 + f 2 = AB C + A B C.

NO : 1.

Question : A full adder adds

A: 2 bits

B: 3 bits

C: 4 bits

D: any number of bits

Answer: B

explanation:

NO : 2.

Question : For a Mod 64 parallel counter we need

A: 6 flip flops

B: 6 flip flops and 2 AND gates

C: 6 flip flops and 4 AND gates

D: none of the above

Answer: C

explanation: 2 6 = 64 So we need 6 flip-flops and (6 - 2) = 4 AND gates.

NO : 3.

Question : If the inputs to a 2 input XOR gate are high then, the output is high.

A: True

B: False

Answer: B

explanation: Output is Low.

NO : 4.

Question : The number of select lines in a 16 : 1 multiplexer are

A: 4

B: 3

C: 2

D: 1

Answer: A

explanation: 2 4 = 16.

NO : 5.

Question : 9's complement of 56 10 is

A: 4310

B: 8410

C: 6510

D: 5310

Answer: A

explanation: 99 - 56 = 43.

NO : 6.

Question : Am equivalent 2's complement representation of the 2's complement number 1101 is

A: 110100

B: 001101

C: 110111

D: 111101

Answer: D

explanation: 2's complement of (1101) 2 = 0011

NO : 7.

Question : In a 7 segment display the segments a, c, d, f, g are lit. The decimal number displayed will be

A: 9

B: 5

C: 4

D: 2

Answer: B

explanation:

NO : 8.

Question : The minimum number of comparators required to build an 8 bit flash ADC is

A: 8

B: 63

C: 255

D: 256

Answer: C

explanation: 2 n - 1 = 2 8 - 1 = 255.

NO : 9.

Question : For a Mod-64 synchronous counter the number of flip flops and AND gates needed is

A: 6 and 4 respectively

B: 4 and 6 respectively

C: 7 and 5 respectively

D: 5 and 7 respectively

Answer: A

explanation: 2 6 = 64 Hence 6 flip-flops. The number of AND gates is 6 - 2 = 4 see in the given figure

NO : 10.

Question : A 4 bit DAC gives an output of 4.5 V for input of 1001. If input is 0110, the output is

A: 1.5 V

B: 2.0 V

C: 3.0 V

D: 4.5 V

Answer: C

explanation:

NO : 11.

Question : Which of the following characteristic are necessary for a sequential circuit? It must have 6 gates It must have feedback Its output should depend on past value Which of the above statements are correct?

A: 1, 2, 3

B: 1, 2

C: 2, 3

D: 1, 3

Answer: C

explanation: The number of gates may be any.

NO : 12.

Question : 1011 2 x 101 2 = _____ 10

A: 55

B: 45

C: 35

D: 25

Answer: A

explanation: 1011 = 11 in decimal and 101 = 5 in decimal, 11 X 5 = 55.

NO : 13.

Question : For the logic circuit of the given figure the simplified Boolean equation
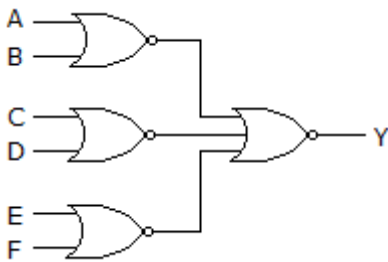
A: Y = (A + B) (C + D) (E + F)

B: Y = A = B + C + D + E + F

C: ABCDEF

D: ABC + DEF

Answer: A

explanation: = (A + B) (C + D) (E + F).

NO : 14.

Question : A combination circuit is one in which the output depends on

A: input combination at that time

B: input combination and previous output

C: input combination and previous input

D: present output and previous output

Answer: A

explanation: Combinational circuit does not have memory.

NO : 15.

Question : 71 8 = _____ .

A: 1110002

B: 1110012

C: 1000012

D: 1100012

Answer: B

explanation: 71 in octal = 7 x 8 + 1= 57 in decimal = 111001 in binary.

NO : 16.

Question : Boolean expression for the output of XNOR (Equivalent) logic gate with inputs A and B is

A: AB + AB

B: AB + AB

C: (A + B). (A + B)

D: (A + B). (A + B)

Answer: C

explanation: (A + B) (A + B) = A ⊕ B .

NO : 17.

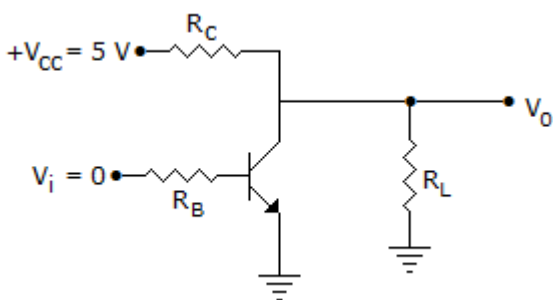Question : An SR flip flop can be built using NOR gates or NAND gates.

A: True

B: False

Answer: A

explanation:

NO : 18.

Question : In the given figure R C = R L = 1 kΩ, then V 0 =

A: 5 V

B: 2.5 V

C: 1 V

D: 0 V

Answer: B

explanation: Transistor is off. .

NO : 19.

Question : A 14 pin NOT gate 1C has _____ NOT gates.

A: 8

B: 6

C: 5

D: 4

Answer: B

explanation: 6 Input pins, 6 output pins, 1 supply pin and 1 ground pin. Hence 6 NOT gates.

NO : 20.

Question : F's complement of (2BFD) hex is

A: E 304

B: D 403

C: D 402

D: C 403

Answer: C

explanation:

NO : 21.

Question : Assertion (A): Master slave JK flip flop is commonly used in high speed synchronous circuitry Reason (R): Master slave JK flip flop uses two JK flip flops in cascade.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: R-S, J-K flip-flop is not used very commonly.

NO : 22.

Question : Inputs A and B of the given figure are applied to a NAND gate. The output is LOW
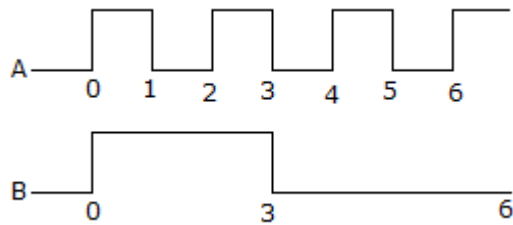
A: from 0 to 6

B: from 0 to 2

C: from 0 to 1 and 2 to 3

D: from 1 to 2 and 3 to 4

Answer: C

explanation: NAND gate gives Low output if all inputs are High. For other combinations of inputs, output is High.

NO : 23.

Question : ECL is a saturating logic.

A: True

B: False

Answer: B

explanation: It is a non-saturating logic. Hence highest speed of operation.

NO : 24.

Question : For the NMOS gate in the given figure, F =

A: ABCDE

B: (AB + C) (D + E)

C: A(B + C) + DE

D: A + B C + DE

Answer: C

explanation: B + C are in parallel and A is in series with this parallel combination, Similarly D + E are in series. Then D, E are in parallel with A, B and C Y = A(B + C) + DE .

NO : 25.

Question : The resolution of 4 bit counting ADC is 0.5 volt, for an Analog input of 6.6 volts. The digital output of ADC will be

A: 1011
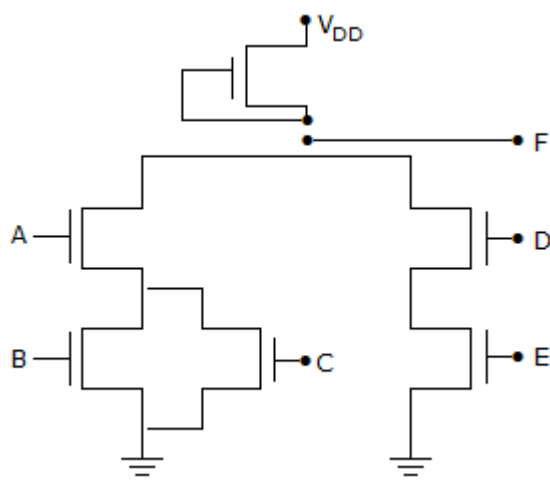
B: 1101

C: 1100

D: 1110

Answer: B

explanation: Digital output of ADC resolution = .

NO : 26.

Question : 9's complement of 12 10 is

A: 2110

B: 8710

C: 7810

D: 7610

Answer: B

explanation: 99 - 12 = 87.

NO : 27.

Question : The minterm designation for ABCD is

A: m8

B: m10

C: m14

D: m15

Answer: D

explanation: ABCD = 1111 = m 15 .

NO : 28.

Question : Read the following statements The circuitry of ripple counter is more complex than that of synchronous counter. The maximum frequency of operation of ripple counter depends on the modulus of the counter. The maximum frequency of operation of synchronous counter does not depend on the modulus of the counter. Which of the above statements are correct?

A: 1 only

B: 1, 2

C: 1, 2, 3

D: 2, 3

Answer: D

explanation: Circuitry of ripple counter is simpler than that of synchronous counter.

NO : 29.

Question : The minterm designation for ABCD is

A: m11

B: m13

C: m15

D: m16

Answer: C

explanation: ABCD = 1111 = m 15 .

NO : 30.

Question : The logic circuit of the given figure is equivalent to

A:

B:

C:

D:
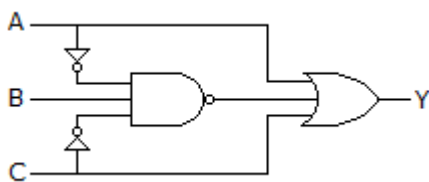
Answer: C

explanation: In the given figure .

NO : 31.

Question : A multiple emitter transistor has many emitters and collectors.

A: True

B: False

Answer: B

explanation: It has many emitters but one collector.

NO : 32.

Question : A mode-10 counter can divide the clock frequency by a factor of

A: 10

B: 100

C: 1000

D: 10000

Answer: A

explanation: Decade counter is divide by 10 counter.

NO : 33.

Question : Which of the following binary numbers is equivalent to decimal 10?

A: 1000

B: 1100

C: 1010

D: 1001

Answer: C

explanation: 1010 = 8 + 0 + 2 + 0 = 10.

NO : 34.

Question : A 4 bit synchronous counter has flip flops having propagation delay of 50 ns each and AND gates having propagation delay of 20 ns each. The maximum frequency of clock pulses can be

A: 20 MHz

B: 50 MHz

C: 14.3 MHz

D: 5 MHz

Answer: C

explanation: Maximum delay = 50 + 20 = 70 x 10 -9 s. Hence .

NO : 35.

Question : A counter has 4 flip flops. It divides the input frequency by

A: 4

B: 2

C: 8

D: 16

Answer: D

explanation: 2 4 = 16.

NO : 36.

Question : A pulse train with a 1 MHz frequency is counted using a 1024 modulus ripple counter using JK flip flops. The maximum propagation delay for each flip-flop should be

A: 1 µs

B: 0.5 µs

C: 0.2 µs

D: 0.1 µs

Answer: D

explanation: Total delay = = 1 ms = 10 x delay of one flip flop. Therefore delay for one flip-flop = 0.1 ms.

NO : 37.

Question : What will be maximum input that can be converted for a 6 bit dual slope A/D converter uses a reference of -6v and a 1 MHz clock. It uses a fixed count of 40 (101000).

A: 9 V

B: 9.45

C: 10 V

D: 8 V

Answer: B

explanation: .

NO : 38.

Question : In the given figure shows a logic circuit. The minimum Boolean expression for this circuit is
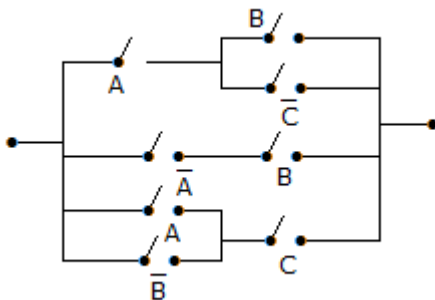
A: A + B

B: A + B + C

C: AB + C

D: AB + AC + BC

Answer: B

explanation: Output $A(B + C) + A B + C(A + B) = AB + A C + A B + AC + B C = B + A + B C = A + B + C$.

NO : 39.

Question : If number of information bits is 11, the number of parity bits in Hamming code is

A: 5

B: 4

C: 3

D: 2

Answer: B

explanation: $2 p > m + p + 1$. If $m = 11$, p must be 4 to satisfy this equation.

NO : 40.

Question : The number of digit 1 present in the binary representation of 3 x 512 + 7 x 64 + 5 x 8 + 3 is

A: 8

B: 9

C: 10

D: 12

Answer: B

explanation: $3 \times 512 + 7 \times 64 + 5 \times 8 + 3 = (2 + 1) \times 2^9 + (4 + 2 + 1)2^6 + (4 + 1)2^3 + (2 + 1) = 2^{10} + 2^9 + 2^8 + 2^7 + 2^6 + 2^5 + 2^3 + 2^1 + 1 = 2^{10} + 2^9 + 2^8 + 2^7 + 2^6 + 2^5 + 2^3 + 2^1 + 2^0$ 9 term of power two Hence number of '1' is 9.

NO : 41.

Question : Out of 5 M x 8, 1 M x 16, 2 M x 16 and 3M x 8 memories, which memory can store more bits?

A: 5 M x 8

B: 2 M x 16

C: 3 M x 8

D: 1 M x 16

Answer: A

explanation: Bits are 40 M, 16 M and 32 M.

NO : 42.

Question : A 6 bit ladder A/D converter has input 101001. The output is (assume 0 = 0 V and 1 = 10 V)

A: 4.23

B: 6.41

C: 5.52

D: 9.23

Answer: B

explanation: Output = 10 j 6.41 V.

NO : 43.

Question : A ripple counter has 4 bits and uses flip flops with propagation delay time of 25 ns. The maximum possible time for change of state will be

A: 25 ns

B: 50 ns

C: 75 ns

D: 100 ns

Answer: D

explanation: In ripple counter all the delays are added.

NO : 44.

Question : A counter has a modulus of 10. The number of flip flops is

A: 10

B: 5

C: 4

D: 3

Answer: C

explanation: 2 3 = 8 and 2 4 = 16 Therefore 4 flip-flops are needed. Some states will be skipped to give a modulus of 10.

NO : 45.

Question : The counter shown in the given figure is built using 4 -ve edge triggered toggle FFs. The FF can be set asynchronously when R = 0. The combinational logic required to realize a modulo-13 counter is
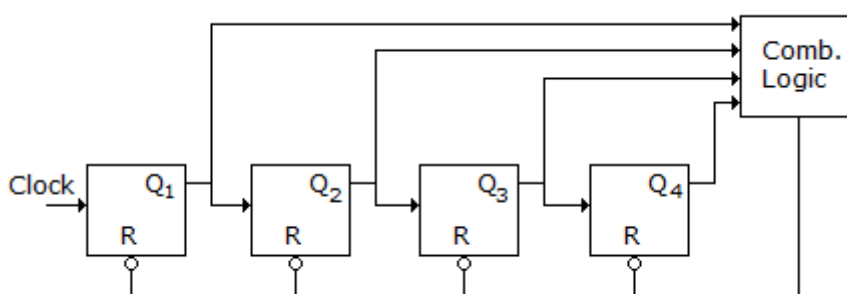
A: F = Q4 Q3 Q2 Q1

B: F = Q4 + Q3 + Q2 + Q1

C: F = Q4 + Q3 + Q2 + Q1

D: F = Q4Q3Q2Q1

Answer: A

explanation: Counter is modulo-13, it will count up to 15 but due to mod-13, it will be reset at 13, (13) 10 = (1101) 2 = Q 4 Q 3 Q 2 Q 1 .

NO : 46.

Question : In the figure, the LED
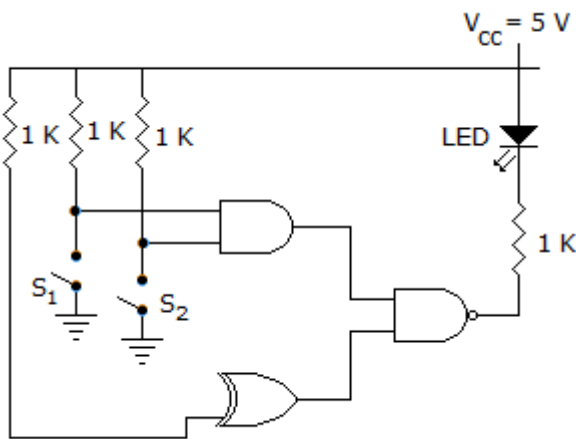
A: emits light when both S1 and S2 are closed

B: emits light when both S1 and S2 are open

C: emits light when only S1 and S2 is closed

D: does not Emit light, irrespective of the switched positions

Answer: D

explanation: To emit the light, it is necessary NAND gate output is zero, for NAND O/P zero. Both the I/O must be height. And it is not possible in any case.

NO : 47.

Question : A 4 bit ripple counter uses flip flops with propagation delay of 50 ns each. The maximum clock frequency which can be used is

A: 5 MHz

B: 10 MHz

C: 20 MHz

D: 25 MHz

Answer: A

explanation: Time delay = 50 x 4 x 10 -9 s, .

NO : 48.

Question : An AND gate has two inputs A and B and one inhibit input S. Out of total 8 input states, output is 1 in

A: 1 state

B: 2 states

C: 3 states

D: 4 states

Answer: A

explanation: Only one input, i.e., A = 1, B = 1 and S = 0 gives output 1.

NO : 49.

Question : 268 10 = _____ .

A: 10A16

B: 10B16

C: 10C16

D: 10D16

Answer: C

explanation: 10C in hexadecimal = 1 x 16 2 + 12 = 268 in decimal.

NO : 50.

Question : In a JK Master slave flip flop

A: both master and slave are positively clocked

B: both master and slave are negatively clocked

C: master is positively clocked and slave is negatively clocked

D: master is negatively clocked and slave is positively clocked

Answer: C

explanation:

NO : 1.

Question : The counter which require maximum number of FF for a given mod counter is

A: Ripple counter

B: BCD counter

C: Ring counter

D: Programmed counter

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : Four inputs A, B, C, D are fed to a NOR gate. The output of NOR gate is fed to an inverter. The output of inverter is

A: A + B + C + D

B: A + B + C + D

C: ABCD

D: ABCD

Answer: A

explanation: Output = = A + B + C + D.

NO : 3.

Question : The content of which of the following determines the state of the CPU at the end of the execute cycle (when the interrupt is recognized)? Program counter Processor register Certain status conditions Select the correct answer using the codes given below :

A: 1 and 2

B: 2 and 3

C: 1 and 3

D: 1, 2 and 3

Answer: C

explanation: It is the state at which interrupt is recognized program counter and certain status condition.

NO : 4.

Question : In a gate output is Low if and only if all inputs are High. The gate is

A: OR

B: AND

C: NOR

D: NAND

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : With on-chip decoding, n address lines can access

A: 2n memory locations

B: 2n2 memory locations

C: 2n memory locations

D: n2 memory location

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : The circuit in the figure is has two CMOS-NOR gates. This circuit functions as a
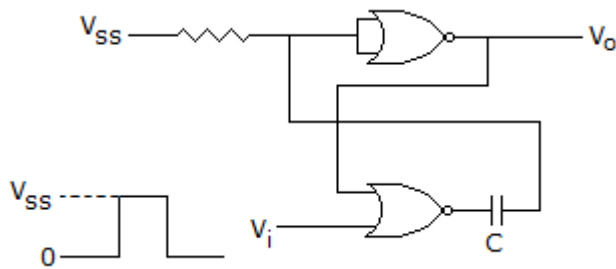
A: flip-flop

B: schmitt trigger

C: monostable multivibrator

D: astable multivibrator

Answer: C

explanation: It is simple monostable multivibrator.

NO : 7.

Question : A 6 bit DAC uses binary weighted resistors. If MSB resistor is 20 k ohm, the value of LSB resistor is

A: 20 k ohm

B: 80 k ohm

C: 320 k ohm

D: 640 k ohm

Answer: D

explanation: Resistances are R, 2R, 4R, 8R, 16R and 32R. LSB resistance = 32R = 32 x 20 = 640 K ohm.

NO : 8.

Question : A 6 bit dual slope A/D converter uses a reference of -6v and a 1 MHz clock. It uses a fixed count of 40 (101000). Then, what will be input, if the output register shows 100111 at the end of conversion.

A: 5.85 V

B: 6 V

C: 5 V

D: 10 V

Answer: A

explanation: I/P voltage and reference voltage arc of opposite polarity.

NO : 9.

Question : In the TTL circuit in the figure, S 2 to S 0 are select lines and X 7 to X 0 are input lines. S 0 and X 0 are LSBs. The output Y is
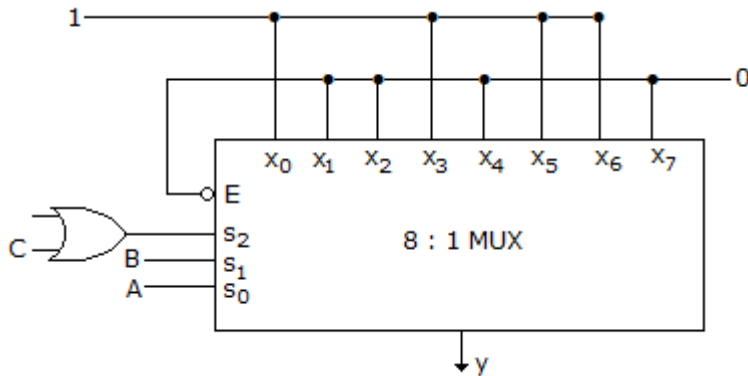
A: Indeterminate

B: A ⊕ B

C: A ⊕ B

D: C . A ⊕ B + C . (A ⊕ B)

Answer: B

explanation: The MUX is made up of TTL circuit. For TTL circuit open terminal is taken high, since S 2 select line is connected to OR gate whose one terminal connected to C and the other is open (high) so OR gate output is S 2 = 1 + C = 1. S 2 = 1 S 1 (B) S0(A) Y 1 0 0 0 1 0 1 1 1 1 0 1 1 1 1 0 Y = S 0 ⊕S 1 => A⊕B.

NO : 10.

Question : The number of accumulators in 6800 are

A: 2

B: 3

C: 1

D: 4

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : If an analog voltage is expressed in binary using 4 bits, each successive binary count would represent

A: of total voltage

B: of total voltage

C: of total voltage

D: of total voltage

Answer: C

explanation: Since 1111= decimal 15, each successive binary count represent 1/15 of total voltage.

NO : 12.

Question : In a 4 input AND gate, the total number of High outputs for 16 input states are

A: 16

B: 8

C: 4

D: 1

Answer: D

explanation: In only one combination are all inputs high.

NO : 13.

Question : Symmetrical square wave of time period 100 μs can be obtained from square wave of time period 10 μs by using

A: divide by 5 circuit

B: divide by 2 circuit

C: divide by 5 circuit followed by divide by 2 circuit

D: BCD counter

Answer: C

explanation: Frequency has to be divided by 10.

NO : 14.

Question : The Boolean expression for the shaded area in the Venn diagram is
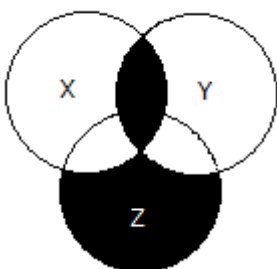
A: X + Y + Z

B: XY + Z + X YZ

C: X Y Z + XY

D: X + Y + Z

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : The initial state of a Mod-16 counter is 0110. After 37 clock pulses the state of counter will be

A: 1011

B: 0110

C: 010

D: 0001

Answer: A

explanation: After 37 clock pulses the state will be the same as after (37 - 32), i.e., 5 clock pulses. 6 + 5 = 11. Hence 1011.

NO : 16.

Question : A 14 pin AND gate IC has _____ AND gates.

A: 8

B: 6

C: 4

D: 2

Answer: C

explanation: Each AND gates requires 3 pins, 2 inputs and one output, 1 supply pin and 1 ground pin. Hence 4 AND gates.

NO : 17.

Question : In 8085 microprocessor, how many lines are there in data bus?

A: 6

B: 8

C: 2

D: 16

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : The basic shift register operations are

A: serial in - serial out

B: serial in - parallel out

C: parallel in - serial out

D: all of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : The hexadecimal number 'A0' has the decimal value

A: 80

B: 256

C: 100

D: 160

Answer: D

explanation: 'Ao' = 10 x 16 1 + 0 = 160.

NO : 20.

Question : The logic realized by the circuit shown in figure below is
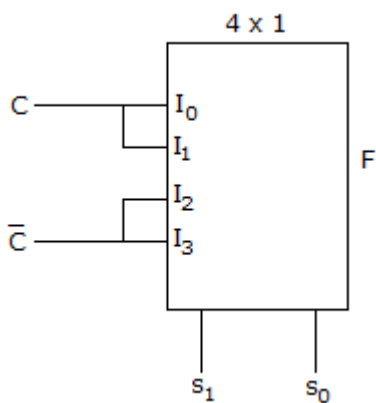
A: F = A - C

B: F = A + C

C: F = B ⊙ C

D: F = B ⊕ C

Answer: D

explanation: F = A B C + A BC + A B C + ABC = (A C + A C) (B + B) = A ⊕ C.

NO : 21.

Question : A 4 bit ripple counter is in 0000 state. The clock pulses are applied and then removed. The counter reads 0011. The number of clock pulses which have occurred are

A: 3

B: 3 or 19

C: 3 or 19 or 35

D: none of the above

Answer: C

explanation: After 16 pulses the counter resets. 0011 is 3. Hence clock pulses can be 3 or 3 + 16 or 3 + 16 + 16.

NO : 22.

Question : TTL logic is preferred to DRL logic because

A: greater fan-out is possible

B: greater logic levels are possible

C: greater fan-in is possible

D: less power consumption is achieve

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : Assertion (A): Schottky transistors are preferred over normal transistors in digital circuits Reason (R): A Schottky transistor when used as a switch, between cutoff and active region.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: A

explanation: Schottky transistors are fast switching because saturation is avoided.

NO : 24.

Question : The inputs A and B of the given figure are applied to a two input NOR gate. The output waveform is

A:

B:

C:

D:

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : In the circuit of the given figure, V 0 =
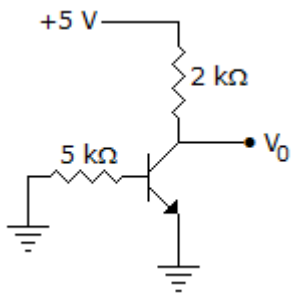
A: 5 V

B: 3.1 V

C: 2.5 V

D: 0

Answer: A

explanation: Transistor is off and circuit current is zero.

NO : 26.

Question : A parallel in-parallel out shift register can be used to introduce delay in digital circuits.

A: True

B: False

Answer: B

explanation: No time delay in this shift register since all bits are loaded and read simultaneously.

NO : 27.

Question : In following figure, the initial contents of the 4-bit serial in parallel out, right shift, shift register as shown in figure are 0110. After 3 clock pulses the contents of the shift register will be
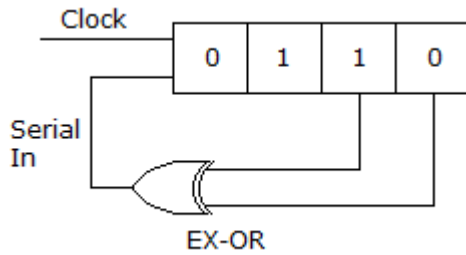
A: 0000

B: 0101

C: 1010

D: 1110

Answer: C

explanation:

NO : 28.

Question : For the logic circuit of the given figure, the minimized expression is
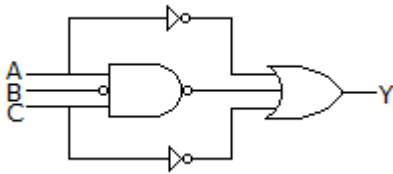
A:

B: Y = A + B + C

C: Y = A + B

D: Y = ABC

Answer: A

explanation: + A + C = A + B + C + A + C = A + C + B =

NO : 29.

Question : Binary multiplication can be done by repeated addition.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : Assertion (A): In totem pole output the output impedance is low. Reason (R): TTL gate with active pull up should not be used in wired AND connection.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A
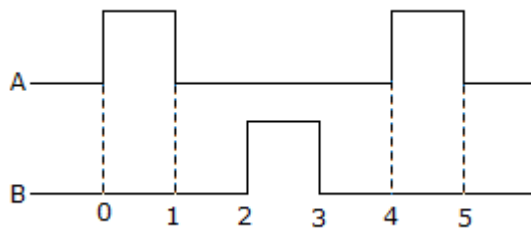
C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : A 4 bit synchronous counter uses flip flops with a delay time of 15 ns each. The time required for change of state is

A: 15 ns

B: 30 ns

C: 45 ns

D: 60 ns

Answer: A

explanation: In a synchronous counter clock input is applied to all flip flops simultaneously. Hence total delay time is 15 ns.

NO : 32.

Question : The inputs to a NAND gate are as shown in the given figure. The waveform of output is

A:

B:

C:

D:
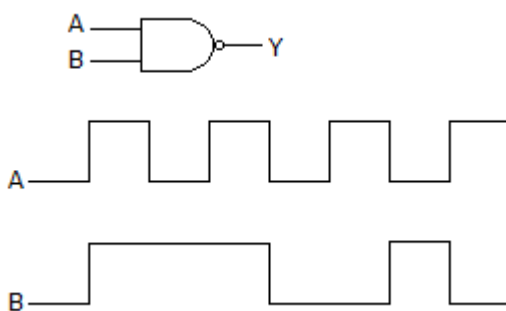
Answer: A

explanation: NAND gate gives high output when both inputs are Low.

NO : 33.

Question : What do the contents of instruction register specify?

A: Operand for the instruction being executed

B: Op code for the instruction being executed

C: Op code for the instruction to be executed next

D: Operand for the instruction to be executed next

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : In the decimal number 27, the digital 2 represents

A: 2

B: 20

C: 0.2

D: 200

Answer: B

explanation: 2 x 10 = 20.

NO : 35.

Question : Which of the following is true?

A: SOP is a two level logic

B: POS is a two level logic

C: Both SOP and POS are two level logic

D: Hybrid function is two level logic

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : E7F6 16 = _____ .

A: 60000010

B: 5938210

C: 938210

D: 38210

Answer: B

explanation: E7 F6 in hexadecimal = 14 x 16 3 + 7 x 16 2 + 15 x 16 + 6 = 59382 in decimal.

NO : 37.

Question : What is the normal range of analog input voltage?

A: 0 to 1 V

B: 0 to 5 V

C: 5 to 15 V

D: 15V to 30V

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : Assertion (A): The propagation delay in ECL is minimum Reason (R): Transistors used in ECL switch between active and cutoff regions.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: A

explanation: Since saturation is avoided switching speed is high.

NO : 39.

Question : For the design of a sequential circuit having 9 states, minimum number of memory elements required is

A: 3

B: 4

C: 5

D: 9

Answer: B

explanation: 2 3 = 8 and 2 4 = 16. Hence minimum of 4 memory elements.

NO : 40.

Question : ICs are

A: analog

B: digital

C: both analog and digital

D: mostly analog

Answer: C

explanation: Op-amp is an analog IC.

NO : 41.

Question : In a 5 x 7 dot matrix, format, to store 64 alphanumeric characters we require

A: 1120 bits

B: 2240 bits

C: 33 bits

D: 64 bits

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : A digital system is required to amplify a binary encoded audio signal. The user should be able to control the gain of the amplifier from a minimum to a maximum in 100 increments. The minimum number of bits required to encode, in straight binary is,

A: 8

B: 6

C: 5

D: 7

Answer: D

explanation: Let 6 bit required = 2 6 = 64, which indicate 64 increment. If 7 bit = 2 7 = 128, for 100 increment, 7 bit required.

NO : 43.

Question : A 4 bit transistor register has output voltage of high-low-high-low. The binary number stored and its decimal equivalent are

A: 0101 and 5

B: 0101 and 10

C: 1010 and 5

D: 1010 and 10

Answer: D

explanation: 1010 in binary and 8 + 2 = 10 in decimal.

NO : 44.

Question : Assertion (A): A demultiplexer cannot be used as a decoder Reason (R): A multiplexer selects one of many outputs whereas a decoder selects on output corresponding to coded input.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: Demux can be used as a decoder.

NO : 45.

Question : Hexadecimal number F is called to octal number

A: 15

B: 16

C: 17

D: 18

Answer: C

explanation: F = 15 in decimal notation = 17 in octal notation (8 + 7 = 15).

NO : 46.

Question : A half adder can be used only for adding

A: 1 s

B: 2 s

C: 4 s

D: 8 s

Answer: A

explanation:

NO : 47.

Question : In the 8421 BCD code, the decimal number 125, is written as

A: 1111101

B: 0001 0010 0101

C: 7 D

D: none of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : 110.11 2 x 110 2 = _____ 10

A: 40.5

B: 30.5

C: 20.5

D: 10.5

Answer: A

explanation: 110.11 =6.75 and 110 = 6 and 6.75 x 6 = 40.5 in decimal.

NO : 49.

Question : Y = A + A B is the same as

A: Y = AB

B: Y = A + B

C: Y = A + B

D: Y = A + B

Answer: B

explanation: Verify by preparing truth table.

NO : 50.

Question : Assertion (A): Different symbols are used for different gates Reason (R): IEEE symbols are the same as traditional symbols for gates.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: IEEE symbols are different than traditional symbols.

NO : 1.

Question : In a JK flip flop toggle means

A: set Q = 1 and Q = 0

B: set Q = 0 and Q = 1

C: change the output to the opposite state

D: no change in output

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : How many flag are there in 8085 microprocessor?

A: 4

B: 5

C: 6

D: 8

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : A microcomputer has a 64 K memory. What is the hexadecimal notation for the first memory location?

A: 0000

B: FFFF

C: 0FFF

D: 3FFF

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : Binary 101010 is equivalent to decimal number

A: 24

B: 42

C: 44

D: 64

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Each cell of a static RAM has

A: 4 MOS transistors

B: 4 MOS transistors and 2 capacitors

C: 2 MOS transistors and two capacitors

D: 1 MOS transistor and 1 capacitor

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : The clear data and present input of the JK flip-flop are known as

A: direct inputs

B: synchronous inputs

C: indirect inputs

D: either direct inputs or synchronous inputs

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : The advantages of high density IC are

A: more circuits on chip

B: high operating speed

C: low power consumption

D: both (a) and (b)

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : The multiplication time for 10-bit numbers with 1 MHz clock will be

A: 32 μ sec

B: 20 μ sec

C: 21 μ sec

D: 22 μ sec

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : The initial state of MOD-16 down counter is 011. After 37 clock pulses, the state of the counter will be

A: 1011

B: 0110

C: 0101

D: 0001

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : In a 4 bit weighted resistor D/A converter, resistor value corresponding to LSB is 32 k ohm. The resistor value corresponding to MSB is

A: 32 k ohm

B: 16 k ohm

C: 8 k ohm

D: 4 k ohm

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : Full adder circuit can be implemented by

A: Multiplexers

B: Half adders

C: AND or OR gates

D: Decoders

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : (FE35) 16 XOR (CB15) 16 is equal to

A: (3320)16

B: (FE35)16

C: (FF50)16

D: (3520)16

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : If 4 in binary system is 100 then 8 will be

A: 10

B: 100

C: 111

D: 1000

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : In the given figure A = 1, B = 1. B is now changed to a sequence 101010................The outputs X and Y will be
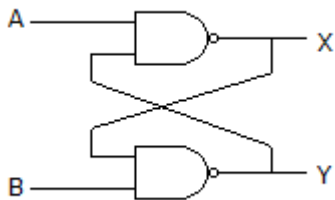
A: fixed at 0 and 1 respectively

B: X = 1010.......and Y = 0101........

C: X = 1010..........and Y = 1010

D: fixed at 1 and 0 respectively.

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : The ALU carrier out arithmetic and logic operations (OR AND, NOT, etc.) it processes

A: decimal numbers

B: binary numbers

C: hexadecimal numbers

D: octal numbers

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : The total number of fundamental products of three variables is

A: 3

B: 5

C: 8

D: 16

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : As per Boolean algebra, inputs can be interchanged in

A: OR gates

B: AND gates

C: both OR and AND gates

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : Medium scale integration refers to ICs with

A: more than 12 but less than 30 gates on the same chip

B: more than 50 gates on the same chip

C: more than 20 but less than 100 gates on the same chip

D: more than 12 but less than 100 gates on the same chip

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : The decimal equivalent of the hexadecimal number (3 E 8) 16 is

A: 1000

B: 982

C: 768

D: 323

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : Four memory chips of 16 x 4 size have their address buses connected together. This system will be of size

A: 64 x 4

B: 16 x 16

C: 32 x 8

D: 256 x 1

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : A ripple counter has propagation delay.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : Adder is a combinational logic circuit.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : In a decimal digital computer, the number 127 is stored

A: 1111111

B: 0001 00100111

C: 10001

D: 11000111

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : In 8085 microprocessor, which of the following interrupts has the lowest priority?

A: RST 5.5

B: RST 7.5

C: TRAP

D: INTR

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : All digital circuits can be realised using only

A: EX-OR gates

B: Multiplexers

C: Half adders

D: OR gates

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : The code used to reduce the error due to ambiguity in reading of a binary optical encoder is

A: Octal code

B: Excess-3 code

C: gray code

D: BCD code

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : In a clocked latch, clock drives

A: R NAND gate

B: S NAND gate

C: both R and S NAND gates

D: either R or S NAND gates

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : Vectored interrupt is an interrupt that takes the program to a vector location. TRAP vectors to 0024 FI, RST 7.5 to 003 CH, RST 6.5 to 0034 H and

A: RST 5.5

B: RST 6.5

C: 24 H to 48 H

D: RST 5.5 to 002 CH

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : ALU carries out

A: arithmetic operations

B: logic operations

C: both arithmetic and logic operations

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : The SID data received is

A: LSB first

B: LSB last

C: 1

D: none of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : A 3 bit synchronous counter uses FF with propagation delay time of 20 ns each. The maximum possible time required for change of state will be.

A: 60 ns

B: 40 ns

C: 20 ns

D: None

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : Computer ICs work reliably because

A: they are based on two state design

B: these are made from pure silicon

C: these are maintained at two temperatures

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : Octal 16 is equal to decimal

A: 13

B: 14

C: 15

D: 16

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : The Boolean expression Y = (A + B + A B) C then Y will be equal to

A: AC

B: BC

C: C

D: none

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : In 8085 microprocessor, how many lines are there in address bus?

A: 6

B: 8

C: 12

D: 16

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : A TTL circuit with totem pole output has

A: high output impedance

B: low output impedance

C: very high output impedance

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : The main drawbacks of EEPROM are

A: low density

B: high cost

C: both low density and high cost

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : How many JK flip-flops are needed to make a 4-bit shift register?

A: 2

B: 4

C: 6

D: 8

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : A 10 MHz square wave clocks 5 bit ripple counter. The frequency of the 3rd FF output is

A: 2 MHz

B: 1.25 MHz

C: 50 MHz

D: 615 kHz

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : The radix of a hexadecimal system is

A: 2

B: 3

C: 8

D: 16

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : In a 4 bit counter the output of 3 JK FFs from MSB downward are connected to the NAND gate whose O/P is connected to CLR

A: it is a MOD-14 counter

B: it is MOD-13 counter

C: it is divided by 13 counter

D: it is divide by 10 counter

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : For checking the parity of a digital word, it is preferable to use

A: AND gates

B: NAND gates

C: EX-OR gates

D: NOR gates

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : Among the digital IC families - ECL, TTL, and CMOS

A: ECL has the least propagation delay

B: TTL has largest fan out

C: CMOS has the lowest noise margin

D: TTL has the lowest power consumption

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : In ASCII, letter B is coded as

A: 1000001

B: 1000010

C: 100100

D: 1001000

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : The power dissipated per gate

A: is constant at all frequencies

B: increases with frequency

C: decreases with frequency

D: may increase or decrease with frequency

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : In 8085 microprocessor, what is the memory word addressing capability?

A: 32 K

B: 64 K

C: 256 K

D: 512 K

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : Gray code is used in devices which convert analog quantities to digital signal because it is

A: more error free

B: much simpler than binary code

C: superior to Excess-3 code

D: absolutely error free

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : A transistor is operated as non-saturated switch to eliminate

A: turn on time

B: turn off time

C: storage time

D: delay time

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : Which has the lowest propagation delay time?

A: ECL

B: TTL

C: CMOS

D: PMOS

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : Programmable logic array uses

A: RAM matrices

B: ROMs matrices

C: PROM matrices

D: Silo memory

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : Assertion (A): In a parallel in-serial out shift register data is loaded one bit-at a time Reason (R): A serial in-serial out shift register can be used to introduce a time delay.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : In an 8085 microprocessor, the instruction CMP B has been executed while the content of the accumulator is less than that of register B, As a result.

A: carry flag will be set but zero flag will be reset

B: carry flag will be reset but zero flag will be set

C: both carry flag and zero flag will be reset

D: both carry flag and zero flag will be set

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : Computers use thousands of flip-flops. To coordinate the overall action, a common signal is sent to all flip-flop known as

A: debug signal

B: toggle signal

C: active signal

D: clock signal

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : In a D-type latch EN = 1, D = 1, the O/P is

A: 1

B: 0

C: don't care

D: blocked

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Which has the highest power dissipation per gate?

A: ECL

B: TTL

C: CMOS

D: PMOS

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : A Schottky diode has

A: no minority carriers and very low voltage drop in forward direction

B: no minority carriers and very high voltage drop in forward direction

C: large number of minority carriers and very high voltage drop in forward direction

D: large number of minority carriers and very low voltage drop in forward direction

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : (FE35) 16 XOR (CB15) 16 is equal to

A: (3320)16

B: (FE35)16

C: (FF50)16

D: (3520)l6

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : Boolean algebra obeys

A: commutative law

B: associative law

C: distributive law

D: commutative, associative and distributive law

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : The figure of merit for a logic family is

A: gain band width product

B: (propagation delay time) (power dissipation)

C: (fan out) (power dissipation)

D: (noise margin) (power dissipation)

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : A universal register

A: accepts serial input

B: accepts Parallel input

C: gives serial and Parallel output

D: all of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : (1001-10) is equal to

A: 7

B: (8)8

C: (7)4

D: (8)4

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : A compiler is a software programme which

A: change high level Programming language into low level machine language

B: change the program into binary form

C: assembles the program

D: executes the program

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : In 8085 microprocessor, what are the contents of register SP, after the interrupt has been started?

```
Memory        Address        Mnemonics

START :       0118 H         MOV A, C
              0119 H         LXI SP, 0550 H
              011 CH         EI

              ↓              ↓
              0134 EH        CALL 020 EH
              ↓              ↓

SUB :         020 EH         PUSH D
              0202 FH        LDA x B
              0210 H         MOV B,A
              0211 H         IN x B

              ↓              ↓
              0230           RET
```

Programme 1

A: 0210 H

B: 0211 H

C: 054 CH

D: 054 EH

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : Assertion (A): The resolution of a DAC depends on the number of bits Reason (R): Low resolution leads to fine control.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : (62) 10 in binary system is

A: 110000

B: 111100

C: 111110

D: 111111

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : If noise margin is high, there is lesser chance of false operation.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : Decimal 1932 when converted into 10's complement will become

A: 8868

B: 8060

C: 8608

D: 8806

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : In 8085 microprocessor, what is the length of status Word?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : While obtaining minimal SOP expression

A: all do not care terms are ignored

B: all do not care terms are treated as 1

C: all do not care terms are treated as 0

D: only such do not care terms which aid minimization are treated as 1

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : In 8085 microprocessor, how many interrupt control lines are there?

A: 6

B: 8

C: 12

D: 16

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : In 2's complement addition, the carry generated in the last stage is

A: added to LSB

B: neglected

C: added to bit next to MSB

D: added to the bit next to LSB

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : A is even or B is true. Negation of above statement is

A: A is odd or B is false

B: A is odd and B is false

C: A is even or B is false

D: A is even and B is false

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : The abbreviation DTL stands for

A: Digital Timing Logic

B: Diode Transistor Logic

C: Dynamic Transient Logic

D: Delayed Tracking Logic

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : Which one of the following is a D to A conversion technique?

A: Successive approximation

B: Weighted resistor

C: Dual slope

D: Single slope

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : What is the purpose of using ALE signal high?

A: To latch low order address from bus to separate A0 - A7 lines

B: To latch data D0 - D7 from bus to separate data bus

C: To disable data bus latch

D: All of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : To have the multiprocessing capabilities of the 8086 microprocessor, the pin connected to the ground is

A: DEN

B: ALE

C: INTER

D:

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : An index register in digital computer is a register to be used for

A: performing arithmetic and logic operations

B: temporary storage of result

C: counting number of times a program is executed

D: address modification purpose

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : Assuming accumulator contain A 64 and the carry is set (1). What will register A and carry (CY) contain after ORA A?

A: A 6 H, 1

B: A 6 H, 0

C: 00 H, 0

D: 00 H, 1

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : 2's complement of a given 3 or more bit number of non-zero magnitude is the same as the original number if all bits except

A: MSB are zero

B: LSB are zero

C: MSB are 1

D: LSB are 1

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : A half adder adds _____ bits and a full adder adds _____ bits.

A: two, three

B: three, four

C: four, six

D: two, four

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : When a binary adder is used as BCD adder, the sum is

A: correct when it is < 9

B: correct when it is > 9

C: correct when it is < 16

D: none of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : A gate in which shift register is connected as shown in the figure below. How many clock pulse (after reset to '0') the contents of the shift register are '000' again?

A: 3

B: 6

C: 16

D: 8

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : Out of SR and JK flip flops, which is susceptible to race condition?

A: SR

B: JK

C: Both SR and JK

D: None of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : Which liquid crystal is used for LCD display?

A: Mercury

B: Pneumatic fluid

C: Aqua regia

D: Liquid boron

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : If interrupt service request have been received from all of the following interrupts, then which one will be serviced last?

A: RST 5.5

B: RST 6.5

C: RST 7.5

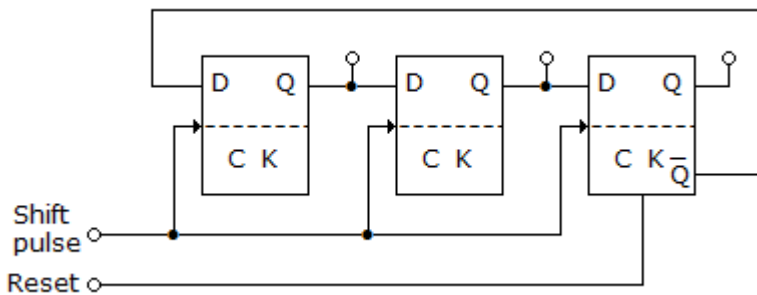D: None of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : In order to enable TRAP interrupt, which of the following instructions are needed?

A: El only

B: SIM only

C: El and SIM both

D: None

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : If modulus is less than 2 N , some states of the counter are skipped by using NAND gates.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : Two 16 : 1 and one 2 : 1 multiplexers can be connected to form a

A: 16 : 1 multiplexer

B: 32 : 1 multiplexer

C: 64 : 1 multiplexer

D: 8 : 1 multiplexer

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : What are the contents of the accumulator after the RIC has been executed?

A: 40 H

B: 41 H

C: 42 H

D: 43 D

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : Assertion (A): In a magnitude comparator IC the cascading inputs provide a means to cascade the 4 bit comparators Reason (R): A magnitude comparator has three outputs, A = B, A > B and A < B

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : For the K map of the given figure the simplified Boolean expression is

	C	0	1
AB			
00		1	1
01			
11		1	
10		1	

A: AC + A B

B: A BC + A B C + A B C + AB C

C: AC + A B + AC

D: A C + A B + AB

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : Assertion (A): It is possible that a digital circuit gives the same output for different input voltages
Reason (R): A digital circuit is also called logic circuit.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : In a ring counter for N clock pulses the scale for the counter is

A: N : 1

B: N : 2

C: N : 10

D: N : 100

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : Assuming accumulator contain A 64 and the carry is set (1). What will register A and (CY) contain after XRA A?

A: A 6 H, 1

B: A 6 H, 0

C: 00 H, 0

D: 00 H, 1

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : 2's complement of (-24) =

A: 11101000

B: 01001000

C: 01111111

D: 00111111

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : Some of MOS families are PMOS, NMOS, CMOS. The family dominating the LSI field where low power consumption is necessary is

A: NMOS

B: CMOS

C: PMOS

D: both NMOS and CMOS

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : The ASCII code is

A: 5-bit code

B: 7-bit code

C: 9-bit code

D: 11-bit code

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : The binary addition 1 + 1 =

A: 11

B: 10

C: 111

D: 100

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : The Boolean function A + BC is a reduced form of

A: AB + BC

B: (A + B) . (A + C)

C: AB + ABC

D: (A + C) . B

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : Which of the following statements is not true in regard to storage time of a transistor?

A: The transistor is in active region

B: Both junctions are forward-biased

C: The collector injects electrons or holes into the base region

D: It is the time taken by the carriers to leave the base region

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : The inputs to logic gate are 0. The output is 1. The gate is

A: NAND or XOR

B: OR or XOR

C: AND or XOR

D: NOR or Ex-NOR

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : In a JK master slave flip flop race condition does not occur.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : State transition table and state transition diagram form part of design steps for

A: combinational circuits

B: sequential circuits

C: delay circuits

D: all of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : Which binary subtraction is incorrect?

A: 100101 - 100011 = 000000

B: 10000000 - 01000000 = 1000000

C: 10111110.1 - 101011.11 = 110010.11

D: 11111111 - 1111111 = 10000000

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Consider the following statements: Race around condition can occur in JK flip flop when both inputs are 1 A flip flop is used to store one bit of information A transparent latch is a D type flip flop Master slave flip flop is used to store two bits of information Which of the above are correct?

A: 1, 2, 3

B: 1, 3, 4

C: 1, 2, 4

D: 2, 3, 4

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : D FF can be used as a

A: differentiator

B: divider circuit

C: delay switch

D: none

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : In flip flops the duration of clock pulse is about

A: 3 ns

B: 10 ns

C: 25 ns

D: 50 ns

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : Which of the following is decimal equivalent of the binary 1111111?

A: 27

B: 87

C: 127

D: 167

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : A 555 timer can be used as

A: an astable multivibrator

B: monostable multivibrator

C: frequency Divider only

D: any of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : Which of the following statements defines a full adder?

A: It adds two binary digits and produces their SUM and CARRY

B: It adds three inputs (two binary digits and a carry) and produces their SUM and CARRY

C: It has two inputs and two outputs

D: None of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : In 8085 microprocessor, what is the memory word size?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : Which of the following memory is preferred in case of calculators?

A: Dynamic RAM

B: Dynamic ROM

C: Static ROM

D: Static RAM

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : Which device changes parallel data to serial data?

A: Decoder

B: Multiplexer

C: Demultiplexer

D: Flip flop

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : A 12 bit ADC is employed to convert an analog voltage of zero to 10 volts. The resolution of the ADC is

A: 2.44 mV

B: 24.4 mV

C: 83.3 mV

D: 1.2 V

Answer: A

explanation: Full scale measurement range = 0 to 10 volts. ADC resolution is 12 bits: 2^{12} = 4096 quantization levels. ADC voltage resolution is: (10-0)/4096 = 0.00244 volts = 2.44 mV.

NO : 15.

Question : Race condition always arises in

A: synchronous circuit

B: asynchronous circuit

C: combinational circuit

D: digital circuit

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : The expression Y (A, B, C) = $\sum$m (1, 3, 5, 6) is to realized using a multiplexer. Then

A: use 8 : 1 multiplexer and ground input lines 1, 3, 5, 6

B: use 8 : 1 multiplexer and ground input lines 0, 2, 4, 7

C: use 8 : 1 multiplexer and ground input lines 0, 1, 2, 3

D: use 8 : 1 multiplexer and ground input lines 4, 5, 6, 7

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : A microprocessor with a 16 bit address bus is used in a linear memory selection configuration. Address bus lines are directly uses as chip selects of memory chips with 4 memory chips the maximum addressable memory space is

A: 64 k

B: 16 k

C: 8 k

D: 4 k

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : An I/O processor control the flow of information between

A: cache memory and I/O devices

B: main memory and I/O devices

C: 1 Two I/O devices

D: cache and main memories

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : The process of entering data into ROM is called

A: writing

B: burning

C: decoding

D: registering

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : Which of the following conversion is incorrect?

A: 2048.0625 = 100000000000.00012

B: 100000011.10012 = 131.562510

C: 1011012 = 458

D: Hexadecimal B6C7 = 4679110

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : The output of basic DTL configuration is

A: low when one of the input is high

B: low when all inputs are high

C: high when all inputs are high

D: high when all inputs are low

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : figure shows three pulse train inputs to a 3-input AND gate. Assuming positive logic, the output signal obtained in figure would be

A:

B:

C:

D:

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : The number of flip flops required to construct a register to store number 102 10 in binary form is

A: 2

B: 4

C: 8

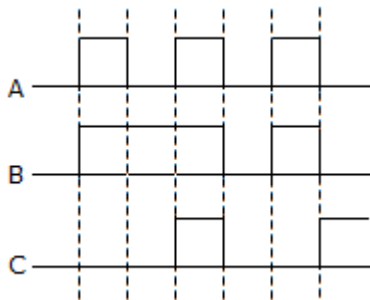D: 10

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : Minimum no. of 2 I/P NAND gate required to implement the Boolean function Z = ABC, assuming that A, B and C are available is

A: 2

B: 3

C: 5

D: 6

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : In 8085 microprocessor, which of the following interrupts is unmaskable interrupts?

A: RST 5.5

B: RST 7.5

C: TRAP

D: INTR

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : The 8085 microprocessor is interrupted while executing MOV instruction at location 0210 H. What is the location at which contents of register E are stored.

A: 054 CH

B: 054 DH

C: 054 EH

D: 054 FH

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : The amplifier used in bootstrap voltage sweep should have a gain of

A: +1

B: +∞

C: -1

D: -∞

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : +12 V supply is given to plates a, d, g, and 0 V to other plates and grid of a VF display. The plates which will glow are

A: a, d, g

B: b, c, e, f

C: all

D: none

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : An interrupt in which the external device supplies its address as well as the interrupt is known as

A: vectored interrupt

B: maskable interrupt

C: polled interrupt

D: non-maskable interrupt

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : What is the decimal equivalent of the binary number shown in fourth row?

A: 79

B: 97

C: 117

D: 127

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : An instruction used to set the carry flag in a computer can be classified as

A: data transfer

B: arithmetic

C: Logical

D: program control

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : In the assembler, which one of the following is required for variable name in symbol table?

A: Addresses

B: Values

C: Registers

D: Storage

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : A monostable multivibrator has

A: no stable state

B: one stable state

C: two stable state

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : Which memory does not require programming equipment?

A: RAM

B: EPROM

C: EEPROM

D: UVPROM

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : The 8085 microprocessor is interrupted while executing MOV instruction at location 0210 H. What is the location at which contents of register D are stored

A: 054 CH

B: 054 DH

C: 054 EH

D: 054 FH

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : NAND and NOR gates are universal gates.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : The control logic for a binary multiplier is specified by a states diagram. The state diagram has four states and two inputs. To implement it by the sequence register and decoder method.

A: two flip-flop & 2 x 4 decoder are needed

B: four flip-flop & 2 x 4 decoder are needed

C: two flip-flop & 3 x 9 decoder are needed

D: four flip-flop & 3 x 9 decoder are needed

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : A hexadecimal odometer displays F52F. The next reading will be

A: E 52 F

B: E 52 E

C: E 53 F

D: F 53 O

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : Which of them has 10 inputs and 4 outputs?

A: Decimal to BCD encoder

B: BCD to decimal decoder

C: Octal to binary encoder

D: All encoders

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : The binary number 0.10110111101 is equal to hexadecimal number

A: B3A

B: B5A

C: B7A

D: BA7

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : Karnaugh map is used to

A: minimise the number of flip flops in a digital circuit

B: minimise the number of gates only in a digital circuit

C: minimise the number of gates and fan in a digital circuit

D: design gates

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : The main advantage of CMOS circuit is

A: high gain

B: high output impedance

C: low power consumption

D: high gain and high output impedance

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : Floating gate is fabricated for making MOS
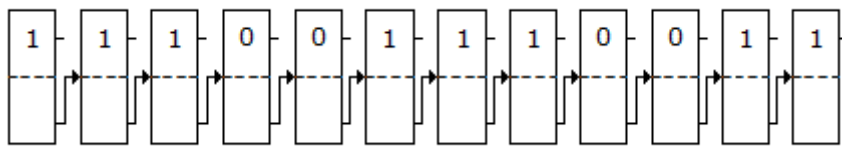
A: ROM

B: PROM

C: EPROM

D: EAROM

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : A 12-bit binary counter has the following state. The octal number represented is

A: 677

B: 7163

C: 7128

D: 7183

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : (1111.11) 2 is

A: (1.01)10

B: (0.75)10

C: (15.3)10

D: (15.75)10

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : The number of flip-flops required to build a mod-19 counter is

A: 4

B: 5

C: 6

D: 7

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : The number of flip-flops needed to divide the input frequency by 32 is

A: 2

B: 4

C: 5

D: 16

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : Given two numbers A and B in sign magnitude representation in an eight bit format A = 00011110 and B = 10011100 then A $\oplus$ B gives

A: 10000010

B: 00011111

C: 10011101

D: 11100001

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : The 8086 arithmetic instruction work on signed and unsigned numbers ASCII data unpacked BCD data Select the correct answer using the codes given below :

A: 1 and 2

B: 1 and 3

C: 2 and 3

D: 1, 2 and 3

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : For the K map of the given figure the simplified Boolean expression is

A: A + BC

B: A + BC

C: A + B C

D: A + B C

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : Consider the followings statements: A multiplier selects one of the several inputs and steers it to the output routes the data from a single input to many outputs converts parallel data into serial data is a combinational circuit On the above statements which are correct?

A: 1, 2, 4

B: 2, 3, 4

C: 1, 3, 4

D: 1, 2, 3

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : In the full adder, denoting Sum by S and carry by C

A: S = 1 when two or more inputs are unity

B: C = 1 when two or more inputs are unity

C: C = 1 when all the inputs are unity

D: S = 1 when all the inputs are unity

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : Each term in POS form is called max terms.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : When signed numbers are used in binary arithmetic, which of the following has unique representation for zero?

A: Sign-magnitude

B: 1's complement

C: 2's complement

D: 9's complement

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Which of the following characteristics is not true for TTL Logic?

A: Good speed

B: Low power dissipation per gate

C: High cost

D: None of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : In 8085 microprocessor, an interrupt service request is serviced

A: immediately on receipt of request

B: after the execution of the current instruction is completed

C: at the end of the current machine cycle

D: none

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : Which interrupts are masked?
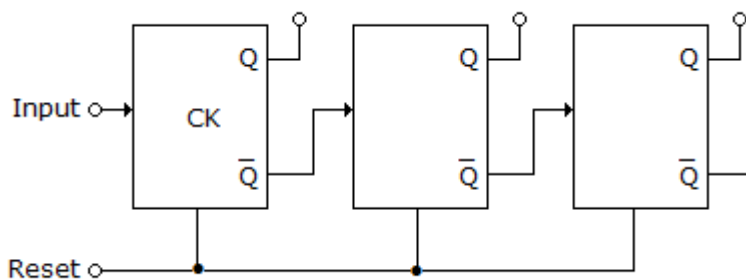
A: 5.5

B: 6.5

C: 7.5

D: None

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : A clock pulse is fed into 3 bit binary down count. The signal at B output is

A:

B:

C:

D: none of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : Assertion (A): A high density IC has more diodes, transistors and resistors per unit surface area. Reason (R): A high density IC can handle high voltages.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 10.

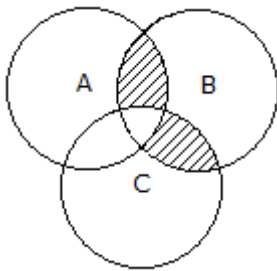Question : CMOS is extensively used in

A: pocket calculators

B: digital wrist watches

C: satellites

D: all of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : The boolean expression for shaded area in the given figure is

A: AB + AC

B: ABC + ABC

C: ABC + ABC

D: None of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : 100101.1011 2 = _____ .

A: 115.228

B: 115.548

C: 215.548

D: 100.018

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : The given figure shows a K-map for a Boolean function. The number of essential prime implicants is

A: 4

B: 5

C: 6

D: 8

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : For the logic circuit given, what is the simplified Boolean function?

A: X = AB + C

B: X = BC + A

C: X = AB + AC

D: X = AC + B

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : An XOR gate with 6 variables is as follows A ⊕ B ⊕ C ⊕ D ⊕ E ⊕ F. The number of minterms in the Boolean expression is

A: 6

B: 12

C: 64

D: 32

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : Semiconductor ROM's are sometimes preferred to semiconductor RAM's because

A: ROM's are cheaper than RAMs

B: ROMs are faster

C: ROMs do not require power supply for their operations
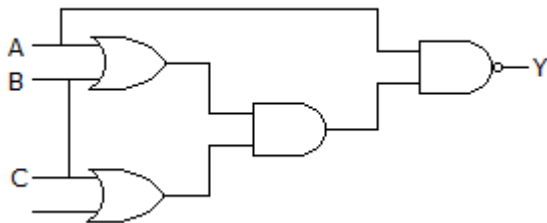
D: Programs stored in ROMs cannot be altered either by the power failure or by the user

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : RAMs can be built with bipolar or CMOS transistor RAMs that are not possible with bipolar transistors are

A: SRAM

B: SRAM, DRAM

C: DRAM

D: PROM

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : RS latch can be built with

A: NOR gates

B: NAND gates

C: NOR or NAND gates

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : In D-type FF, Preset (Pr) and clear (Clr) inputs are called

A: Synchronous

B: Asynchronous

C: Data

D: None

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : Which memory is available in all technologies?

A: PROM

B: EEPROM

C: ROM

D: EPROM

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : Four MSI TTL 4-bit ripple counters are cascaded to form a 16-bit binary counter. Its propagation delay is about _____ nanoseconds.

A: 70

B: 140

C: 210

D: 280

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : The Boolean function A + BC is reduced form of

A: AB + BC

B: AB + ABC

C: (A + B) (A + C)

D: (A + C)B

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : The accuracy of A/D conversion is generally

A:

B: ± LSB

C:

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : To convert JK flip flop to D flip flop

A: connect D to both J and K

B: connect D to J directly and D to K through inverter

C: connect D to K directly and D to J through inverter

D: connect D to K and leave J open

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : Read cycle is always followed by (during instructions execution)

A: read cycle

B: write cycle

C: delete signal

D: none of these

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : If t p is the pulse width, Δt is the propagation delay, T is period of pulse train then the following condition can avoid the race around condition

A: $tp = \Delta t = T$

B: $2tp > \Delta t > T$

C: $tp < \Delta t < T$

D: $tp < \Delta t < T$

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : In a Karnaugh map for an expression having 'don't care terms' the don't cares can be treated as

A: 0

B: 1

C: 1 or 0

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : Which of the following pairs of octal and binary numbers are not equal?

A: 111 110112 = 7678

B: 1101101012 = 6658

C: 110102 = 38

D: 10101.112 = 25.68

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : With a JK master-slave flip-flop the master is clocked when the clock is _____ , and the slave is triggered when the clock is _____ .

A: low, low

B: high, low

C: low, high

D: high, high

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : The communicating capacitor reduces turn on time because

A: it acts as an open circuit

B: it allows maximum base circuit to flow

C: it aids in removing the excess carrier from the base region

D: none of these

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : The output impedance of a logic pulser is

A: low

B: high

C: may be Low or High

D: can't say

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : In a J-K flip flop the input J = K = 1 pulse is about

A: set

B: reset

C: no change

D: toggle

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : In a four variable Karnaugh map, eight adjacent cells give a

A: two variable term

B: single variable term

C: three variable term

D: four variable term

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : Binary 1000 multiplied by binary 1000 gives

A: 10000

B: 100000

C: 1000000

D: 10000000

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : 11101 2 x 10001 2 =

A: 111101101

B: 111101100

C: 11110

D: 1100110

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : Schmitt trigger can be used as a

A: comparator

B: square-wave generator

C: flip-flop

D: all of these

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : Most of the digital computers do not have floating-point hardware because

A: floating point hardware is costly

B: it is slower than software

C: it is not possible to perform floating point addition by hardware

D: of not specific reason

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : Consider the following statements in connection with CMOS inverter in figure where both the MOSFET are of enhancement type and both have a threshold voltage of 2 V statements 1: T 1 conducts when v i ≥ 2 V statements 2: T 1 is always in saturation when v 0 = 0 V Which of the following is correct?
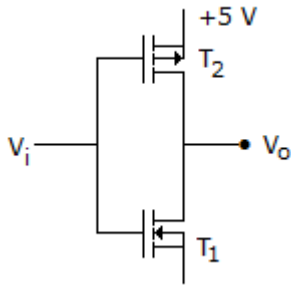
A: Only statement 1 is true

B: Only statement 2 is true

C: Both the statement are true

D: Both the statements are false

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : The number of FF required for a divide by 12 circuit is

A: 16

B: 12

C: 8

D: 4

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : In sign magnitude numbers,

A: the leading bit stands for the sign

B: the leading bit is part of the magnitude

C: the leading bit is always 0

D: the leading bit is always 1

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : In order to enable RST 5.5, RST 6.5 and RST 7.5 interrupts, which of the following instructions are needed?

A: EI only

B: SIM only

C: EI and SIM only

D: None

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : Digital technologies being used now-a-days are

A: DTL and EMOS

B: TTL, ECL, CMOS and RTL

C: TTL, ECL and CMOS

D: TTL, ECL. CMOS and DTL

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : A seven bit code (even parity) 1111101 may have error. The correct code is

A: 1111101

B: 1111111

C: 0101011

D: 1100011

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : A/D parallel converter is also called flash converter.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : Square root of 4 is

A: (16)16

B: (2)2

C: (8)16

D: (5)16

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : Periodic recharging of the memory cells at regular intervals of 3 to 8 millisecond is required in a

A: ROM

B: Static RAM

C: Dynamic RAM

D: PLA

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : The frequency of the driving network connected between pins 1 and 2 of a 8085 chip must be

A: equal to the desired clock frequency

B: twice the desired clock frequency

C: four times the desired clock frequency

D: eight times the desired clock frequency

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : Assertion (A): Divide-64 counter is a Mod-64 counter and divides the input frequency by 64
Reason (R): A Mod 64 counter can be obtained by cascading Mod 16 and Mod 4 counters.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A
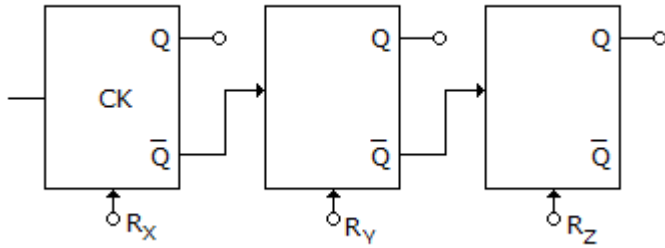
C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : In number system e.g. 6, a "decade" counter has to recycle to 0 at the sixth count. Which of the connections indicate below will realize this resetting? (a logic "0" at the R inputs resets the counters)

A:

B:

C:

D: None of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : In 8085 microprocessor, in order to enable INTR interrupt, which of the following instruction are needed?

A: EI only

B: SIM only

C: El and SIM both

D: None

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : A Read/Write memory chip has a capacity of 64 k bytes. Assuming separate data and address line and availability of chip enable signal, what is the minimum number of pins required in the IC chip?

A: 28

B: 26

C: 24

D: 22

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : SSI refers to ICs with

A: less than 12 gates on the same chip

B: less than 8 gates on the same chip

C: less than 6 gates on the same chip

D: less than 3 gates on the same chip

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : In 8085, TRAP is

A: always maskable

B: cannot interrupt a service subroutine

C: used for catastrophic events like temporary power failure

D: lowest priority interrupt

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : The simplest register is

A: buffer register

B: shift register

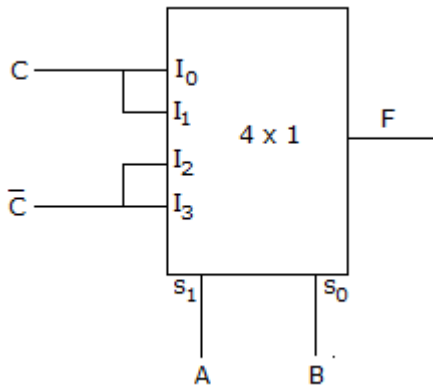C: controlled buffer register

D: bidirectional register

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : The logic realized by the circuit shown in figure

A: F = A ⊙ C

B: F = A ⊕ C

C: F = B ⊙ C

D: F = B ⊕ C

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : The hexadecimal number 5 F is equal to binary number

A: 1010011

B: 1011001

C: 1010101

D: 1011111

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : Which of the following methods is used for solving differential equations numerically?

A: Runge-Kutta method

B: Gauss-elimination method

C: Newton-Raphson method

D: Any one of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : Some ADCs are Parallel Updown Single slope Dual slope Successive approximation Stair step Out of above which ones do not use DAC?

A: 1 only

B: 1, 3, 4

C: 1, 2, 3

D: 1, 5, 6

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : As compared to TTL, ECL has

A: lower power dissipation

B: lower propagation delay

C: higher propagation delay

D: higher noise margin

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : A 16-megabit dynamic random access memory (DRAM) is an integrated circuit capable of storing _____ characters (bytes).

A: 1048567

B: 16 x 1024 x 106

C: 16 x 106

D: 2.1 x lo6

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : What is the gray code word for EX-OR the binary number 101011?

A: 101011

B: 110101

C: 111110

D: 011111

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : In a positive edge triggered JK flip flop, J = 1, K = 0 and clock pulse is rising Q will

A: be 0

B: be 1

C: show no change

D: toggle

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : A 16 bit binary adder has

A: 16 half adders

B: 16 full adders

C: one half adders and 15 full adders

D: 8 half adders and eight full adders

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : Digital circuits mostly use

A: Diodes

B: Bipolar transistors

C: Diodes and bipolar transistors

D: Bipolar transistors and FETs

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : The contents of stack location after the call operation will be

A: 00000111

B: 00001110

C: 00001010

D: 00001111

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : In figure, R = 20KΩ and C = 75 pF. The converter clock frequency will be

A: 606 Hz

B: 1212 Hz

C: 555 KHz

D: 606 KHz

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : If a microcomputer has a 64 K memory; what is the hexadecimal notations for the first memory location?
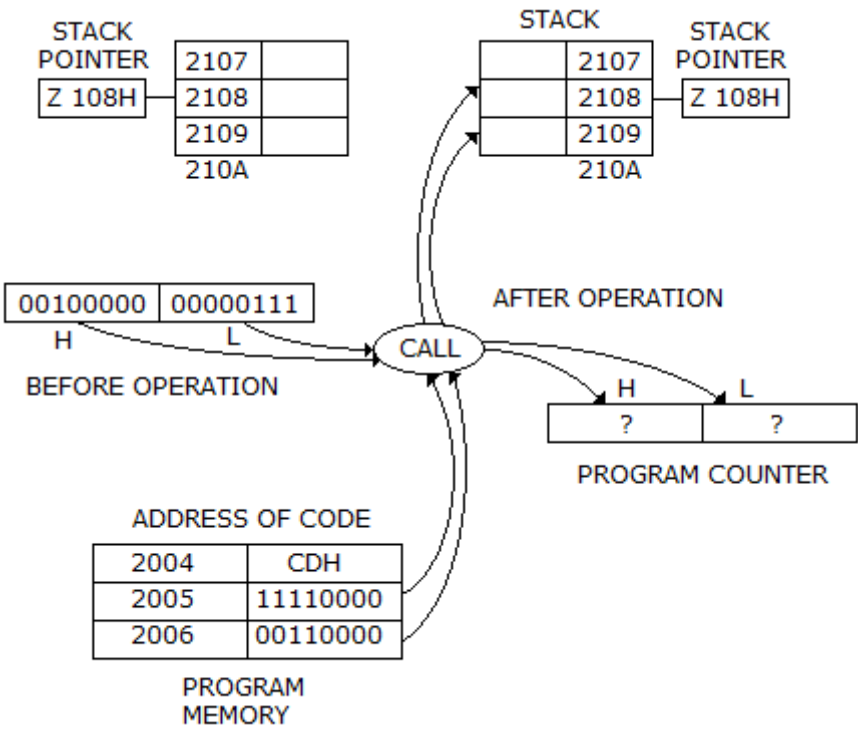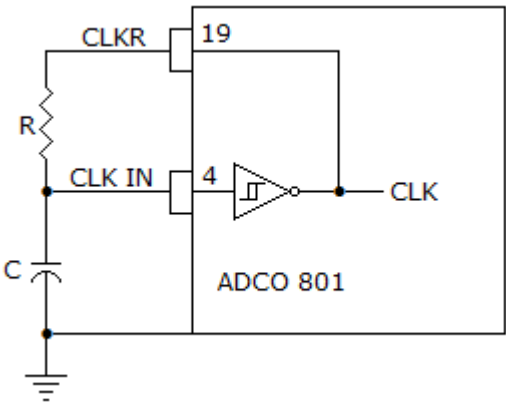
A: AAAA

B: FFFF

C: AAA0

D: 0000

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : In the switching circuit, switches A, B have value 0 for OFF, 1 for ON and the output Y has 0 volts for 1 volts, then the expression for Y is

A: AB

B: A + B

C: A + B

D: AB

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : 2's complement number 00011111 = _____ 10

A: +31

B: -31

C: +11

D: -11

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : In 8085 microprocessor, what is the length of temporary register?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : The problem of current lagging is associated with
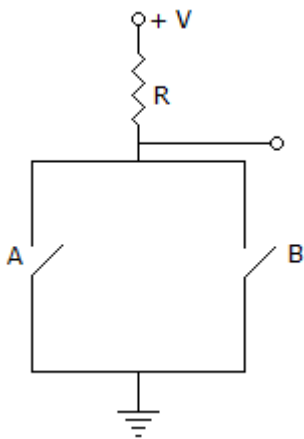
A: DCTL gates

B: DTL gates

C: ECL gates

D: CMOS gates

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : In a NOT gate the output is always the opposite of the input.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : "Micro-programming" is a technique

A: for programming the microprocessors

B: for writing small programs efficiently

C: for programming the control steps of a computer

D: for programming output/input

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : Status register in the 8156 contains information about

A: the timer

B: the ports

C: both (a) and (b)

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : The noise margin of a TTL gate is about

A: 0.2 V

B: 0.4 V

C: 0.6 V

D: 0.8 V

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : TTL circuit with active pull up is preferred because of its suitability for

A: wired AND operation

B: bus operated system

C: wired logic operation

D: reasonable dissipation and speed of operation

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : A parity check usually can detect

A: one-bit error

B: double-bit error

C: three-bit error

D: any-bit error

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : Which of the following is 'synchronous'?

A: Half adder

B: Full adder

C: R-S flip-flop

D: Clocked R-S flip-flop

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : TRAP is _____ whereas RST 7.5, RST 6.5, RST 5.5 are _____ .

A: maskable, non-maskable

B: maskable, maskable

C: non-maskable, non-maskable

D: non-maskable, maskable

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : For a binary half subtractor having two inputs A and B the correct sets of logical expressions for the outputs D (A - B) and X = Borrow are

A: D = AB + AB, X = AB

B: D = AB AB, X = AB

C: D = AB + AB, X = AB

D: D = AB + A B, X = AB

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : In a flip-flop with a NAND latch, a low R and a low S produces

A: active condition

B: inactive condition

C: race condition

D: dead condition

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : ECL can be used to high frequencies in the order of

A: 500 kHz

B: 1 MHz

C: 100 MHz

D: 500 MHz

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : The output Y of the circuit shown in the figure is

A: (A + B) C + DE

B: AB + C(D + E)

C: (A + B) C + D + E

D: (AB + C) . DE

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : Status register in the 8156 is read with

A: IN 20 H

B: OUT 20 H

C: either (a) or (b)

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : Binary 1111 when subtracted from binary 11111 is

A: 101110

B: 10110

C: 10000

D: 100010

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : Computer virus is a piece of rough software of unknown origin that

A: copies itself like a breeding germ

B: spreads from one machine to another

C: eats away processing power

D: all of the above
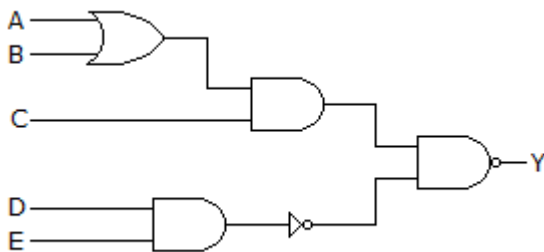
Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : What is the result for expression (map method)? AB C + AD + D (B + C) + A C + A D

A: A + D + BC

B: A + D

C: A D + B C

D: A + D + BC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : In a 4 bit full adder how many half adders and OR gates are required

A: 8 and 4

B: 7 and 4

C: 7 and 3

D: 8 and 3

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : Which of the following is not a specification of D/A and A/D converters?

A: Gain

B: Drift

C: Speed

D: Accuracy

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : Words having 8 bits are to be stored into computer memory. The number of lines required for writing into memory are

A: 1

B: 2

C: 4

D: 8

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : In 8085, to disable the whole interrupt system (except TRAP)

A: the DI instruction may be used

B: the DO instruction may be used

C: the INTERRUPT instruction may be used

D: the El instruction may be used

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : The reason for glitches on the outputs of decoding gates on a synchronous counter is

A: FFs changing states together

B: FFs changing states one at a time

C: AND gates not functioning properly

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : EEPROM is also known as

A: UVPROM

B: EAPROM

C: both UVPROM and EAPROM

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : The MOS symbols shown indicates: that it is depletion type that it is enhancement type that it is n channel that it is p channel that electrons flow from D to S that holes flow from D to S The only true statements are

A: 1, 3, 6

B: 2, 4, 6

C: 1, 3, 5

D: 2, 3, 6

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : As compared to TTL, CMOS logic has

A: higher speed of operation

B: higher power dissipation

C: smaller physical size

D: all of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .
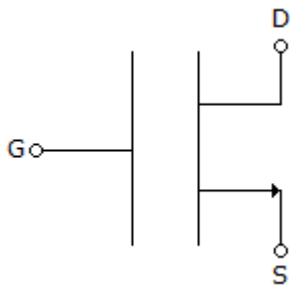
NO : 46.

Question : Decimal number 5436 when converted into 9's complement will become

A: 4356

B: 4653

C: 4563

D: 4655

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : What is output 'Z' of an EX-OR gate, whose all inputs are set at A?

A: Z = A

B: Z = 1

C: Z = 0

D: Z = A

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : Minimum number of J-K flip-flop needed to construct a BCD counter is

A: 2

B: 3

C: 4

D: 5

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : The following switching functions are to be implemented using a decoder f 1 = $\sum$ m (1, 2, 4, 8, 10, 14) f 2 = $\sum$ m (2, 5, 9, 15) f 3 = $\sum$ m (2, 4, 5, 6, 7) The minimum configuration of decoder is

A: 2 to 4 line

B: 3 to 8 line

C: 4 to 16 line

D: 5 to 32 line

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : For the logic circuit of the given figure the simplified Boolean expression is

A: A $\oplus$ B
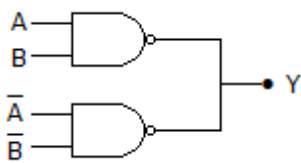
B: A + B

C: AB

D: A + B

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : A buffer is a device that isolates other devices. Typically a buffer has

A: a high input impedance and a low output impedance

B: a high input impedance as well as output impedance

C: a low input impedance and a high output impedance

D: a low input impedance as well as output impedance

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : Which of the following is used as switch?

A: J-K flip-flop

B: Master slave J-K flip-flop

C: T-flip-flop

D: D-flip-flop

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : In a positive edge triggered D flip flop

A: D input is called direct set

B: Preset is called direct reset

C: Present and clear are called direct set and reset respectively

D: D input overrides other inputs

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : The first contribution to logic was made by

A: George Boole

B: Copernicus

C: Aristotle

D: Shannon

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Average latency time of magnetic tape memory is of the order of

A: 1 μ sec

B: 1 msec

C: 1 sec

D: 1 minute

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : Which one of the following is loaded in the main memory by the bootstrap loader?

A: System data

B: User program

C: BIOS

D: Part of DOS

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : In a NAND SR latch S = 0, R = 1 then

A: Q = 0

B: Q = 1, Q = 0

C: it is race condition

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : Microprocessors find applications in

A: pocket calculators

B: scientific instruments

C: medical equipments

D: all of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : The characteristic equation of flip-flop gives the next state Q N + 1 in terms of present state Q N and the inputs. Which one of the following is the characteristic equation of J - K flip-flop?

A: QN+1 = JQN + KQN

B: QN+1 = J + KQN

C: QN+1 = KQN + JQN

D: QN+1 = K + JQN

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : If we need a device to shut off a few ampere current in a few nano seconds, the proper devices is

A: VMOS

B: CMOS

C: BJT

D: UJT

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : The 2732 is 4096 x 8 EPROM. How many address lines does it have?

A: 12

B: 24

C: 50

D: 100

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : In a D latch

A: D drives R and D drives S

B: D drives S and D drives R

C: D drives both R and S

D: D drives both R and S

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : Fastest memory cell

A: bubble memory

B: core memory

C: semiconductor memory

D: superconductor memory

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : A seven bit (even parity) code 0010001 may have error. The correct code is

A: 0010001

B: 1110001

C: 0011001

D: 1111110

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : Which of the following represents the decimal form of binary 0.0111?

A: 0.1600

B: 0.22728

C: 0.9375

D: 0.7964

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : In a positive edge triggered JK flip flop

A: High J and High K produce inactive state

B: Low J and High K produce inactive state

C: Low J and Low K produce inactive state

D: High J and Low K produce inactive state

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : In case of static storage elements

A: information is permanently stored

B: information is to be periodically refreshed

C: information is to be intermittently refreshed

D: information is lost in case power is removed

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : For a microprocessor system using IO-mapped IO the following statement is NOT true

A: memory space available is greater

B: not all data transfer instructions are available

C: IO and memory address spaces are distinct

D: IO address space is greater

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : Which of the following is susceptible to race condition?

A: R-S latch

B: D latch

C: Both R - S and D latches

D: None of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : The density of the dynamic RAM is

A: more than that of static RAM

B: less than that of static RAM

C: equal to that to static RAM

D: equal to or more than that of static RAM

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : In 8085 microprocessor, even after a Reset operation which of the following interrupts remains enabled?

A: INTR

B: RST 5.5

C: RST 7.5

D: TRAP

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : A decoder can be used as a demultiplexer.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : ADC 0804 is a

A: dual slope A/D converter

B: single slope A/D converter

C: successive approximation A/D converter

D: either (a) or (b)

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : The noise margin of a TTL gate is about

A: 0.2 V

B: 0.4 V

C: 0.6 V

D: 0.8 V

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : Assertion (A): BCD code is used in pocket calculators Reason (R): BCD code is slower than binary.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : In TTL the transistors are driven into and out of saturation.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : The most commonly used logic family is

A: ECL

B: TTL

C: CMOS

D: PMOS

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : In a JK master slave flip flop

A: master is clocked when clock is low

B: slave is clocked when clock is high

C: master is clocked when clock is high and slave is clocked when clock is low

D: master is clocked when clock is low and slave is clocked when clock is high

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : The characteristic equation for the next state (Q_{n+1}) of a J-K flip-flop is

A: $Q_{n+1} = JQ_n + KQ_n$

B: $Q_{n+1} = JQ_n + KQ_n$

C: $Q_{n+1} = JQ_n + KQ_n$

D: $Q_{n+1} = JQ_n + KQ_n$

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : A semiconductor Read-only-Memory basically is

A: a combinational logic circuit

B: a set of flip-flop memory elements

C: a sequential circuit with flip-flops and gates

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : A 4 bit counter with four flip-flops will count upto decimal

A: 8

B: 15

C: 31

D: 63

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : Out of the following memory types, one that is volatile is

A: ferrite-core

B: semiconductor RAM

C: semiconductor ROM

D: magnetic disc

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : A number given in binary as 0101.01 is to be scaled up 4 times. The scaled up binary is

A: 10101

B: 01.0101

C: 0404.04

D: 010.101

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : The problem of logic race occurs in

A: SOP functions

B: POS functions

C: Hybrid function

D: SOP and POS functions

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : A shift register can be used for all of the following EXCEPT

A: ring counter

B: A/D conversion

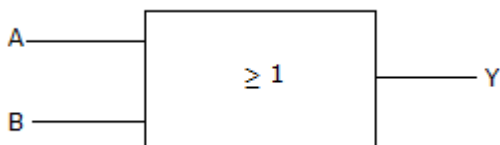C: series to parallel conversion

D: generation of delay

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : Symbol in the given figure is IEEE symbol for

A: AND

B: OR

C: NAND

D: NOR

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : For a level input sequential circuit

A: output in a level only

B: output is in the pulse form

C: output may be a pulse or a level form

D: none of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : In a digital system, the maximum clock frequency that can be used with Master/Slave Clocked flip-flops having total propagation delay of 200 μsec is

A: 20 MHz

B: 50 MHz

C: 100 MHz

D: 200 MHz

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : Which of them contains an organic fluid?

A: LED

B: LCD

C: Both LED and LCD

D: Neither LED nor LCD

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : A buffer is

A: always non-inverting

B: always inverting

C: inverting or non-inverting

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : The gate width of a monostable multivibrator is given by

A: T = 1.1 RC

B: T = 0.693 RC

C: 0.963 RC

D: T = 0.369 RC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : Assertion (A): 2's complement arithmetic is preferred in digital computers Reason (R): The hardware required to obtain 2's complement is simple.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A
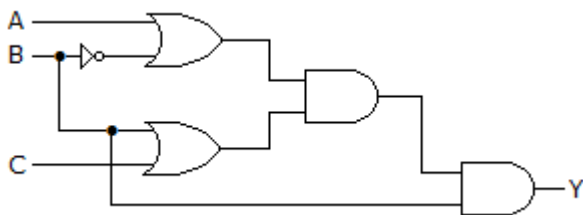
C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : For the logic circuit of the given figure, Y =

A: A + BC

B: BC

C: AB

D: AB + C

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : For edge triggering in flip flops, manufacturers use

A: RC circuit

B: direct coupled design

C: either RC circuit or direct coupled design

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : Assertion (A): A binary number is a string of zeros and ones only Reason (R): The base in a binary system is 2

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : What does the B register contain after the first MOV B, A has been executed?

A: 40 H

B: 60 H

C: 80 H

D: 80 D

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : Program counter in a digital computer

A: counts the number of program run in the machine

B: counts the number of times a subroutine is called

C: counts the number of times the loops are executed

D: points the memory address of the current or the next instruction to be executed

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : _____ switch, a T flip-flop is used as _____ switch, a T flip-flop is used as switch

A: toggled, delay

B: delay, toggle

C: set reset

D: reset, set

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : In a three variable K map four adjacent cells give

A: single variable term

B: two variable term

C: three variable term

D: either (a) or (b)

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : In 2 out of 5 code, decimal number 8 is

A: 11000

B: 10100

C: 11000

D: 1010

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : A voltage DAC is generally slower than current DAC

A: because of more accuracy

B: because of higher resolution

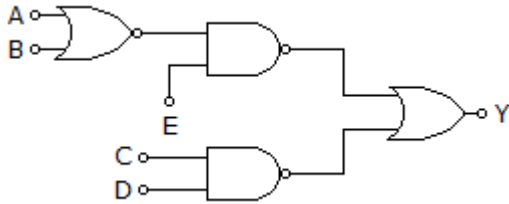C: because of response time of op-amp current to voltage converter

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : The circuit realizes the function

A: (A + B) E + CD

B: (A + B) (E + CD)

C: (A + B) (E + C + D)

D: (AB + E). CD

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : For a NAND SR latch of input is the normal resting state of inputs is

A: S = R = 1

B: S = 0, R = 1

C: S = 1, R = 0

D: S = R = 0

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : A mod-2 counter followed by a mod 5 is same as

A: mod-7 counter

B: A decade counter

C: mod-3 counter

D: none

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : The write cycle time of memory is 200 nsec. The maximum rate of data which can be stored is

A: 200 words/sec

B: 5 x 103 words/sec

C: 5 x 106 word/sec

D: 5 x 109 words/sec

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : Decimal 45.15 when converted into 9's complement will become

A: 54.84

B: 45.48

C: 48.54

D: 45.84

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : Binary number 11011.01 when converted to its 2's complement will become

A: 0101.110

B: 01111.10

C: 01100.10

D: 00100.11

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : A five bit binary adder is used to add 01001 and 00111. The adders from LSB position are numbered as FA 0 , FA 1 , FA 2 and FA 3 . The outputs of FA 2 are

A: SUM = 0

B: SUM = 0, CARRY = 1

C: SUM = 1, CARRY = 0

D: SUM = 1, CARRY = 1

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : figure shows a NAND latch used as a switch debouncer. With the switch in STOP position. Q will be equal to

A: 0

B: 1

C: CLK

D: none of these

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : The values of 2 5 in octal system is

A: 40

B: 20

C: 400

D: 200

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : As compared to MOS memories, bipolar memories have

A: slower access time but are cheaper

B: slower access time and are costly

C: faster access time and are cheaper

D: faster access time and are costly

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : The hexadecimal number BBC7 is equivalent to decimal number

A: 49761

B: 46791

C: 47691

D: 49761

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : In 8085, out of interrupts given below, one particular interrupts is quite different from others, This interrupt is

A: RST 5.5

B: RST 6.5

C: RST 7.5

D: none of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : Which of the following is coincidence logic circuit?

A:

B:

C:

D:

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : An A/D converter uses for reference purposes

A: DC voltage

B: a saw tooth generator

C: set of keys

D: a flip-flop

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : A pulse stretcher is same as a

A: free running multivibrator

B: bistable multivibrator

C: monostable multivibrator

D: latch

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : Binary multiplication 1 x 0 =

A: 1

B: 0

C: 10

D: 11

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : The minimum decimal equivalent of the number 11C0 is
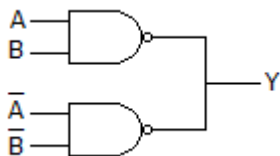
A: 183

B: 194

C: 268

D: 269

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : The circuit of the given figure performs

A: OR function

B: AND function

C: exclusive OR function

D: exclusive NOR function

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : The hex number EB 16 represents binary number of

A: 11101011

B: 10010110

C: 10101100

D: 11101011

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : In 8085 microprocessor, if instruction RST is written in a program then the program will jump to location
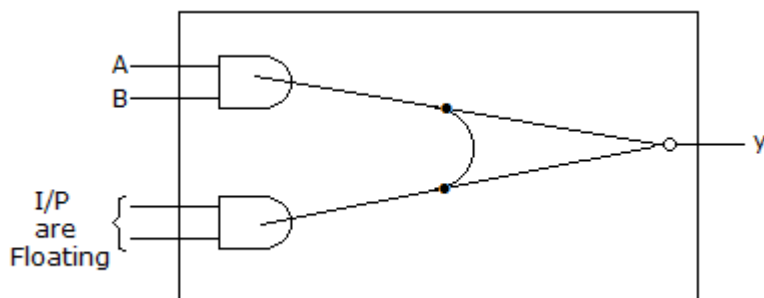
A: 0020 H

B: 0024 H

C: 0028 H

D: 002 CH

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : figure given below shows the internal schematic of a TTL AND-OR Invert (AOI) gate, For the input shown in the given figure, the output Y is

A: 0

B: 1

C: AB

D: AB

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : In 8085 microprocessor, the RST 5.5 interrupt service routine start from location

A: 0020 H

B: 0024 H

C: 0028 H

D: 002 CH

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : Which memory requires periodic recharging?

A: All ROMS

B: All RAMS

C: Static RAM

D: Dynamic RAM

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : The hexadecimal number given below represent decimal numbers which are multiples of DC, C8, BE, 46, IE

A: 2

B: 6

C: 7

D: 10

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : A master slave flip-flop has the characteristics that

A: change in the I/P immediately reflected in the O/P

B: change in the O/P occurs when the state of the master is affected

C: change in the output occurs when the state of the slave is affected

D: both the master and the slave states are affected at the same time

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : Which of the following flip-flops is used as latch?

A: JK flip-flop

B: D flip-flop

C: RS flip-flop

D: T flip-flop

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 28.

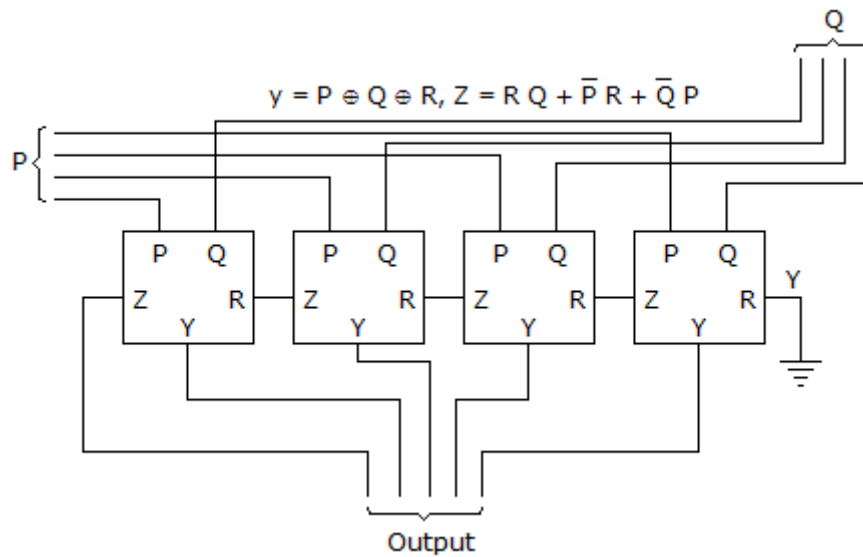Question : Least expensive logic

A: RTL

B: DTL

C: TTL

D: ECL

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : The circuit show in the figure has 4 boxes each described by inputs P, Q, R and outputs y, z with $Y = P \oplus Q \oplus R$, $Z = RQ + P R + Q P$ The circuit act as a

$$y = P \oplus Q \oplus R, \; Z = RQ + \bar{P}R + \bar{Q}P$$

A: 4 bit adder giving P + Q

B: 4 bit subtractor P - Q

C: 4 bit subtractor Q - P

D: 4 bit adder P + Q + R

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : Logic pulser

A: generates short duration pulses

B: generates long duration pulses

C: generates sinusoidal voltage

D: generates ideal pulses

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : The no. of FF required and the maximum decimal no. of a MOD-12 counter is

A: 12, 12

B: 4, 11

C: 3, 6

D: 4, 10

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : In a four variable K map eight adjacent cells give

A: single variable term

B: two variable term
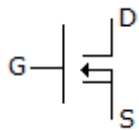
C: three variable term

D: four variable term

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : The MOS symbol shown indicates that It is depletion type It is enhancement type It is channel It is P-channel Electrons flow from s to D Holes flow from D to s The true statements are

A: 1, 3, 6

B: 1, 3, 5

C: 2, 4, 6

D: 2, 3, 5

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : In a digital counter the number of flip-flops is

A: always 2

B: always even

C: always odd

D: equal to the number of bits required in the final binary count

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : Assertion (A): Gray code is used in shaft position encoding. Reason (R): In gray code only a single bit change occurs when going from one code to another.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : For the K map of the given figure the simplified Boolean expression is

AB\CD	00	01	11	10
00				
01			1	1
11		1	1	1
11		1		

A: ACD + ABD + BCD

B: ACD + BCD

C: ACD + ABD

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : The term VLSI generally refers to a digital IC having

A: more than 1000 gates

B: more than 100 gates

C: more than 1000 but less than 9999 gates

D: more than 100 but less than 999 gates

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : 1101 2 - 1001 2 =

A: 1000

B: 0100

C: 0010

D: 0001

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : Which of the following memories normally has highest storage capacity?

A: Magnetic disc

B: Magnetic tape

C: Semiconductor memory

D: Core memory

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : The number of comparators of needed in a parallel conversion type 8 bit A to D converter is

A: 8

B: 16

C: 255

D: 256

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : Assertion (A): In hybrid digital circuits the problem of logic race can occur. Reason (R): In two level logic there is no problem of logic race.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : What is the memory word size of 8085 μp?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : The characteristic equation of an SR flip-flop in given by

A: $Qn+1 = S + RQn$

B: $Qn+1 = RQn + SQn$

C: $Qn+1 = S + RQn$

D: $Qn+1 = S + RQn$

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : Binary number 101101 when converted to its 2's complement will become

A: 0101.01

B: 0100.10

C: 0100.10

D: 0101.10

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : Assertion (A): In a BCD to 7 segment decoder the number of outputs active at one time is always the same. Reason (R): A decoder can be used to interface BCD input to LED display.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : The number of flags available in 6800 are

A: 6

B: 5

C: 7

D: 4

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : Microprocessors were introduced in the year

A: 1951

B: 1961

C: 1971

D: 1981

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : What is the addressing mode used in instruction MOV M, C?

A: Direct

B: Indirect

C: Induced

D: Immediate

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : For the following decimal multiplication the result are given in binary numbers, Spot the incorrect relation, if any

A: 15 x 3 = 110000112

B: 42 x 1/12 = 10011.1102

C: 7.75 x 2.5 = 10011.1102

D:

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : Shift left and shift right operations occur in a calculator.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : In a T flip-flop the output frequency is

A: same as input frequency

B: half of I/p frequency

C: double the input frequency

D: none

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : The access time of ROM using bipolar transistors is about

A: 1 sec

B: 1 mili sec

C: 1 μ sec

D: 1 n sec

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : In LIFO

A: only the top of the stack is immediately accessible

B: only the top of the stack is never accessible

C: only the first-in is accessible

D: only the first-in is not accessible

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : 10 in BCD code represent

A: 10100

B: 1100

C: 010111

D: None of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : In RAM, all the information can be obtained at the output with

A: minimum time delay

B: unequal time delay

C: nearly identical time delay

D: maximum time delay

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : A 1 ms pulse can be converted into a 10 ms pulse by using which one of the following

A: An astable multivibrator

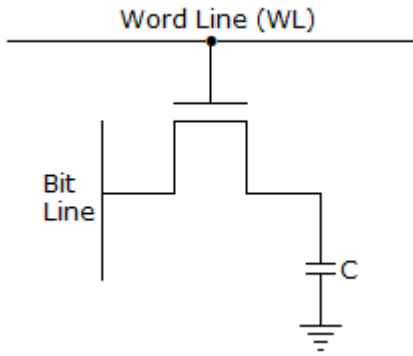B: Stable multivibrator

C: A bistable multivibrator

D: A J-K flip-flop

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : In the DRAM cell in the figure is the V t of the NMOSFET is 1 V. For the following three combinations of WL and BL voltages.

A: 5 V, 3 V, 7 V

B: 4 V, 3 V, 4 V

C: 5 V, 5 V, 5 V

D: 4 V, 4 V, 4 V

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : Assertion (A): The carry look ahead adder is very fast Reason (R): The carry look ahead adder generates the carry and sum digits directly.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : The factors which govern fan out of CMOS gates are

A: maximum permissible propagation delay

B: input capacitance of each load

C: both (a) and (b)

D: neither (a) nor (b)

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : Which of the following subtraction operations do not result in F 16 ? (BA) 16 - (AB) 16 (BC) 16 - (CB) 16 (CB) 16 - (BC) 16 (CB) 16 - (BC) 16 Select the correct answer

A: 1 and 2

B: 1 and 3

C: 2 and 3

D: 1, 2 and 3

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : In 8085 microprocessor, how many I/O ports can be accessed by direct method?

A: 8

B: 256

C: 32 K

D: 64 K

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : If the mantissa of a digital computer is 37 bit long then the accuracy of the digital computer will be of

A: 37 decimal places

B: 23 decimal places

C: 11 decimal places

D: accuracy is independent of the length to mantissa

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : Bipolar IC memories are fabricated using

A: high density versions of the bipolar transistor flip-flop

B: low density versions of the unipolar transistor flip-flop
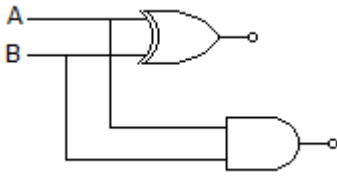
C: high density versions of the MOSFET

D: low density versions of the MOSFET

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : The circuit in the given figure is

A: half adder

B: full adder

C: half subtractor

D: full subtractor

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : A D-flip-flop is

A: dial type flip-flop

B: delay flip-flop

C: differential flip-flop

D: digital flip-flop

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : The fetching, decoding and executing of an instruction is broken down into several time intervals. Each of these intervals, involving one or more clock periods, is called a

A: instruction cycle

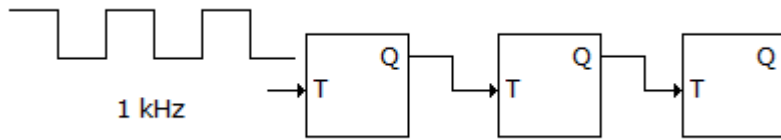B: machine cycle

C: process cycle

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : The output of the circuit shown below will be of the frequency

A: 125 Hz

B: 250 Hz

C: 500 Hz

D: 750 Hz

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : In the given figure Y =

A: A

B: B

C: A + B + C

D: ABC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : Assertion (A): An encoder converts key dips to binary code. Reason (R): An encoder has more inputs than output.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : If a RAM has 34 bits in its MAR and 16 bits in its MDR, then its capacity will be

A: 32 GB

B: 16 GB

C: 32 MB

D: 16 MB

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : DeMorgan's second theorem is
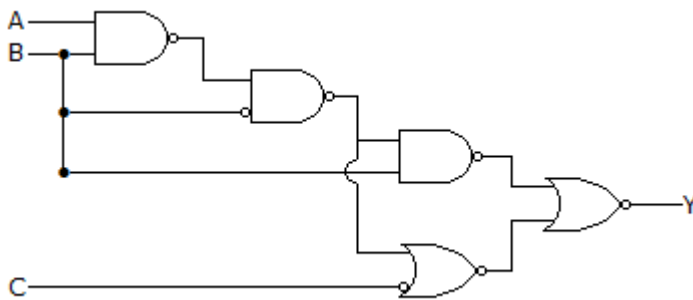
A: A . A = 0

B: A = A

C: A + B = A . B

D: AB = A + B

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : In a D latch

A: a high D sets the latch and low D resets it

B: a low D sets the latch and high D resets it

C: race can occur

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : In floating point representation, mantissa is expressed in

A: excess 3 notation

B: gray code

C: excess 32 notation

D: 2's complement

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : Which of the circuits in the given figure that converts JK flip flop to T flip flop?

A:

B:

C:

D:

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : In the generic microprocessor

A: instruction cycle time period is shorter than machine cycle time period

B: machine cycle time period is shorter than instruction cycle time period

C: instruction cycle time period is exactly half of machine cycle time period

D: instruction cycle time period is exactly equal to machine cycle time period

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : Consider the following registers: A accumulator and B register B and C registers D and E registers H and L registers Which of these 8-bit registers of 8085 μP can be paired together to make a 16-bit register?

A: 1, 3 and 4

B: 2, 3 and 4

C: 1 and 2

D: 1, 2 and 3

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : Access time of a storage is the time required

A: to write one word into the memory

B: to read one word from the memory

C: to write one word into and to read one word from the memory

D: either to write one word or to read one word

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : For a D/A converter, inputs and outputs are given. The output corresponding to digital input 01000

Digital inputs	Analog outputs
0000	0.0 V
0001	0.5 V
0010	1.0 V
0011	1.5 V

A: 2.0 V

B: 2.5 V

C: 3.0 V

D: 4.0 V

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : By placing an inverter between both inputs of an S-R flip-flop, the resulting flip-flop becomes

A: J-K flip-flop

B: D-flip-flop

C: T-flip-flop

D: Master salve JK flip-flop

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : Which of the following flip-flop do not have race problem?

A: T flip-flop

B: D flip-flop

C: JK flip-flop

D: Master-slave flip-flop

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : It is desired to route data from many registers to one register. The device needed is

A: decoder

B: multiplexer

C: demultiplexer

D: counter

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : Advanced low power Schottky is a part of

A: ECL family

B: CMOS family

C: TTL family

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : A device that converts from decimal to binary numbered is called

A: decoder

B: encoder

C: CPU

D: converter

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : It is desired to clean up ragged looking pulsed that have been distorted during transmission from one place to another, which of the following device will be appropriate?

A: Multiplexer

B: D/A converter

C: JK flip-flop

D: Schmitt trigger

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : Decimal number 9 in gray code =

A: 1100

B: 1101

C: 110

D: 1111

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : In magnetic film memory, the memory element consits of

A: plated wires

B: superconductive material

C: nickel iron alloy

D: doped aluminium

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : Which device changes serial data to parallel data?

A: Counter

B: Multiplexer

C: Demultiplexer

D: Flip flop

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : CD4010 is a

A: inverting buffer

B: non-inverting hex buffer

C: NOR IC

D: NAND IC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : What is the terminal count in decimal form?

A: 1579

B: 1681

C: 1881

D: 2014

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : The binary sum of 111010 2 and 11011 2 is

A: 10101012

B: 10110012

C: 10111012

D: 11111112

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : The number of programmable 8 bit registers of 6800 are

A: 2

B: 3

C: 4

D: 5

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : The seven bit Hamming code received is 0010001. If even parity has been used, the correct code is

A: 0010001

B: 1110001

C: 0110001

D: 0011001

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : When two 4 bit parallel adders are cascaded we get

A: 4 bit parallel adder

B: 8 bit parallel adder

C: 16 bit parallel adder

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : Consider the following features: negative operands cannot be used when immediate operand changes, the program should be reassembled the program is difficult to read the size of operand is restricted by word length of the computer Disadvantages of immediate addressing include

A: 1 and 2

B: 2 and 4

C: 2 and 3

D: 1 and 4

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : Which binary addition is incorrect?

A: 1101.1 + 1011.1 = 11001.0

B: 101101 + 1101101 + 1100011

C: 0.0011 + 0.1110 + 1.0001

D: 1100.001 + 1011.011 = 10111.100

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : Flash ADC is

A: serial ADC

B: parallel ADC

C: series-parallel ADC

D: successive approximation ADC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : Which of the following logic no resistors are used?
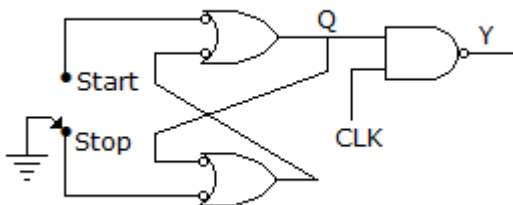
A: CMOS

B: TTL

C: 4 n sec ECL

D: 8 sec ECL

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : With the switch in STOP position, Y will be equal to

A: 0

B: 1

C: CLK

D: none of these

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : PROM is

A: Permanent Read Only Memory

B: Polarized Read Only Memory

C: Positive Read Only Memory

D: Programmable Read Only Memory

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : Decimal 17 in octal system is represented by

A: 888

B: 111

C: 21

D: 27

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : The logic operation that will selectively clear bits in register A in those positions where these are 1 's in the bits of register B is given by

A: A ← A + B

B: A ← AB

C: A ← A + B

D: A ← AB

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : The 2's complement representation of the decimal number -4 is

A: 0100

B: 1100

C: 1011

D: 1010

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : The following program starts at location 0100H L X ISP, 00FF - the content if accumulator LXIH, 0701 - when the program counter MVI A, 20 H - reaches 0109 H is S ∪ BM

A: 20 H

B: 02 H

C: 00 H

D: FFH

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : In 8085 microprocessor, what is the length of PC (program counter)?

A: 6 bits

B: 8 bit

C: 12 bits

D: 16 bits

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : In decimal system the base of radix is

A: 0

B: 1

C: 10

D: e

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : 7483 is a TTL binary adder. It can add

A: two 4-bit binary numbers

B: four 6-bit binary numbers

C: four 8-bit binary numbers

D: any number of 4-bit numbers

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : A 12 bit ADC is operating with 1 µs clock period. Total conversion time is 14 µs. ADC is

A: flash type

B: counting type

C: integrating type

D: successive approximation type

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : An 8156 has A 15 connected to its CE input. A 14 to A 8 are unconnected, and AD 7 to AC 0 are connected ignoring shadows, what are the RAM locations?

A: (4000)H - (40FF)H

B: (8000)H - (80FF)H

C: (8000)H - (40FF)H

D: Any of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : D/A converters are generally

A: weighted resistor network

B: binary ladder network

C: either (a) or (b)

D: neither (a) nor (b)

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : Is the interrupt-enable flag?

A: Low

B: High

C: Never

D: None

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : TTL uses

A: multi-emitter transistors

B: multi-collector transistors

C: multi-base transistors

D: multi-emitter or multi-collector transistors

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : Bit is

A: smallest piece of electronic hardware

B: a drilling tool

C: an abbreviation for binary digit

D: the smallest number

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : Consider the following two Statements 1: stable multivibrator can be used for generating square wave. Statements 2 : stable multivibrator can be used for storing binary information.

A: only statement 1 is correct

B: only statement 2 is correct

C: both statements are correct

D: both the statements 1 and 2 are not correct

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : Which of the following flip flops cannot be converted to D flip flop?

A: JK

B: SR

C: Master slave

D: None of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : In 8086 microprocessor, if the segment register contains 1 FAB and IP register contains 10AI, the effective memory address is

A: 20B51

B: 304C

C: FBC0

D: FDB5

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : The recently-introduces CD-ROM PC by Head Start Technologies Co. of New York enables users to view or play _____ .

A: vast amounts of text

B: graphics

C: music

D: all of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : In 8085 microprocessor, what is the length of A-register?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : How is inversion achieved using EX-OR gate?

A: Giving input signal to the two input lines of the gate tied together

B: Giving input to one input line and logic one to the other line

C: Giving input to one input line and logic one to the other line
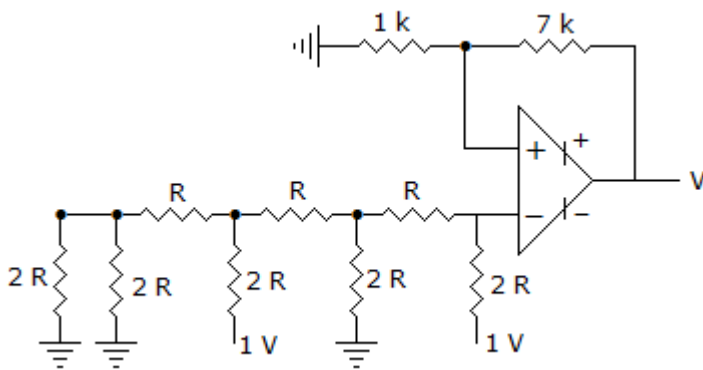
D: Inversion cannot be achieved using EX-OR gate

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : For the DAC in the given figure V O =

A: 10 V

B: 5 V

C: 4 V

D: 8 V

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : The difference between sequential and combinational circuits is

A: Combinational circuits store bits

B: Combinational circuits have memory

C: Sequential circuits store bits

D: Sequential circuits have memory

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : A universal shift register can shift left or right.
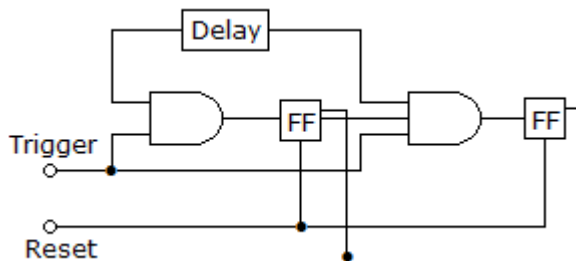
A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : The circuit given below is a

A: counter

B: digital to analog converter

C: two-bit series-to-parallel converter

D: analog-to digital converter

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : The high voltage level of a digital signal in positive logic is

A: 1

B: 0

C: either 1 or 0

D: -1

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : A 7477 decoder drives

A: seven-segment display

B: nickel tape

C: relays

D: diode matrix

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : BCD numbers are useful whenever

A: binary to hexadecimal conversion is desired

B: binary to BCD conversion is desired

C: decimal information is transferred into or out of a digital system

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : In 8085 microprocessor, what is the length of Data Buffer Register?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : In JK flip flop toggle state exists if

A: J = 0, K = 1

B: J = 1, K = 0

C: J = 0, K = 0

D: J = 1, K = 1

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : The binary number 101100.110 in octal number will be

A: 152.6

B: 154.6

C: 145.6

D: 174.6

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : Thu advantage of using a dual stop ADC in a digital voltmeter is that

A: its conversion time is small

B: its accuracy high

C: output is in BCD format

D: it does not require a comparator

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : Which converters uses integrating op-amp?

A: Parallel A/D converter

B: Single slope A/D converter

C: Dual slope A/D converter

D: Both (b) and (c)

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : While _____ is the fastest unsaturated logic gate _____ has the excellent noise immunity?

A: ECL, TTL

B: TTL, ECL

C: ECL, RTL

D: RTL, DTL

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : In a 4 bit D/A converter, the offset error is the output voltage when input digital voltage is

A: 1111

B: 0000

C: either 1111 or 0000

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : To convert SR latch to D latch

A: connect both S and R to D

B: connect D to S directly and D to R through inverter

C: connect D to R directly and D to S through inverter

D: connect S to D and leave R open

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : If a RAM has 34 bits in its MAR and 16 bits its MAR, then its capacity will be

A: 32 GB

B: 16 GB

C: 32 MB

D: 16 MB

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : The output voltage of 5-bit D/A binary ladder that has a digital input of 11010 (Assuming 0 = 0 V and 1 = + 10 V) is

A: 3.4375 V

B: 6.0 V

C: 8.125 V

D: 8.6875 V

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : The inputs to a 4 channel MUX have the following bandwidths. Channel 1-50 Hz, channel 2-200 Hz. Channel 3-75 Hz. Channel 4-90 Hz. The theoretical minimum sampling rate of the MUX is

A: 200 Hz

B: 400 Hz

C: 415 Hz

D: 1600 Hz

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : SSI is used in flip flops.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : Two numbers in excess-3 code are added and the result is less than 8. To get equivalent binary

A: 0011 is subtracted
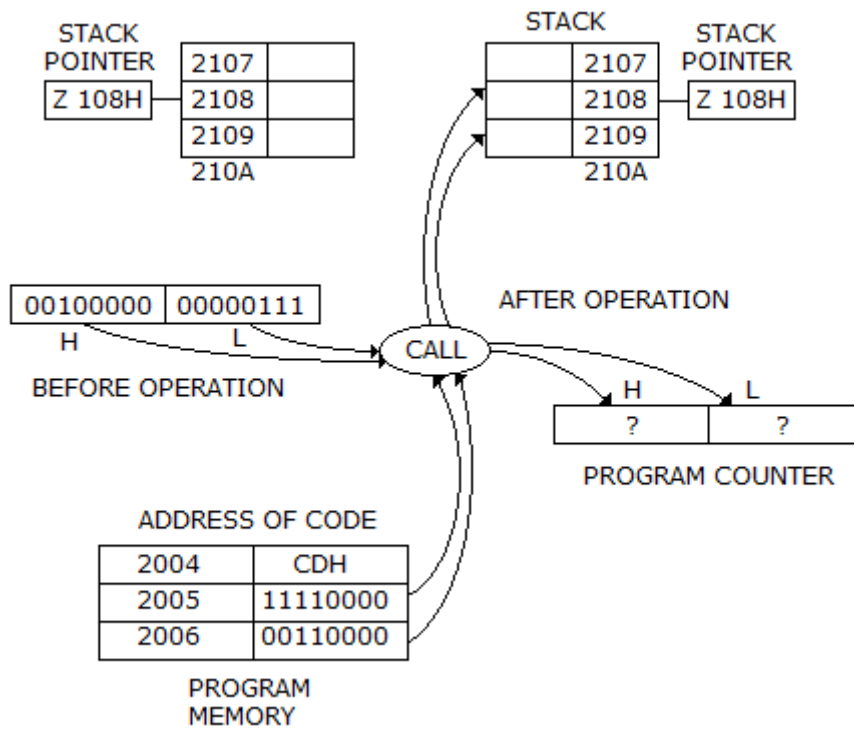
B: 0011 is added

C: 0110 is subtracted

D: 0110 is added

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : Flow charts that contain decision symbol

A: represent straight line programs

B: do not represent straight line programs

C: all of the above

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : The ASCII code is for information interchange by a binary code for

A: alphabet only

B: number only

C: alpha-numeric and other common symbols

D: none of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : Assertion (A): CMOS devices have very low power consumption Reason (R): CMOS devices have high noise margin.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : Which is known as flash converter?

A: Weighted resistor D/A converter

B: Parallel A/D converter

C: Stair step A/D converter

D: Up-down counter type A/D converter

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : In a sequential circuit the output at any instant depends on

A: present inputs only

B: past inputs only

C: past outputs only

D: past output and present input

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : Point out the wrong statement, Sequential logic circuit is

A: one that requires a clock to change states

B: one in which past affects the present states

C: one whose outputs changes immediately when the inputs change

D: also called clock logic or synchronous logic

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : In 8085 microprocessor, what is the memory address stored on the stack, when the program is interrupted?

```
Memory       Address        Mnemonics

START :       0118 H          MOV A, C
              0119 H          LXI SP, 0550 H
              011 CH          EI
                ↓              ↓
              0134 EH         CALL 020 EH
                ↓              ↓
SUB :         020 EH          PUSH D
              0202 FH         LDA x B
              0210 H          MOV B,A
              0211 H          IN x B
                ↓              ↓
              0230            RET
```

Programme 1

A: 0210 H

B: 0.211 H

C: 0118 H

D: 020 FH

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : The decimal equivalent of ABC 16 is

A: 348

B: 2583

C: 2748

D: 33

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : In parallel in-parallel out shift register all bits are loaded and read simultaneously.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : One XOR gate can work as

A: one bit magnitude comparator

B: two bit magnitude comparator

C: either (a) or (b)

D: neither (a) nor (b)

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : A Charge Couple Device (CCD) is a

A: RAM

B: sequential accessed memory

C: content addressable memory

D: read only memory

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : In an R-S latch, race condition occurs when

A: R is low and S is high

B: R and S are high

C: R and S are low

D: R is high and S is low

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : The subtraction of a binary number Y from another binary number X, done by adding the 2's complement of Y to X results in a binary number without overflow. This implies that the result is

A: -ve and is in normal form

B: -ve and 2's complement form

C: +ve and is in normal form

D: +ve and in 2's complement

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : The decimal equivalent of the binary number 10110.0101011101 is

A: 22.2408216500

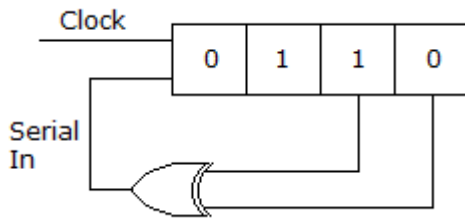B: 22.3408216750

C: 22.3408213125

D: 22.3408203125

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : The initial contents of the 4 bit serial in parallel out right shift, shift register shown in figure is 0110. After three clock pulses are applied, the contents of the shift register will be

A: 0000

B: 0101

C: 1010

D: 1111

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : In standard TTL the totem pole stage refers to

A: multiemitter input stage

B: phase splitter

C: output buffer

D: open collector output stage

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : In 8085 microprocessor the value of the most significant bit of the result following the execution of any arithmetic or Boolean instruction is stored in

A: the carry status flag

B: the auxiliary carry status flag

C: sign status flag

D: zero status flag

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : Which of the following correctly declares a pointer to an array of intergers in C?

A: int * P [20]

B: int * P

C: int (* P) [20]

D: int * (P [20])

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : With 2's complement representation, the range of values that can be represented on the data bus of an 8 bit microprocessor is given by

A: -128 to 127

B: -128 to +128

C: -127 to 128

D: -256 to 256

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : In a modem digital computer, a subtractor in normally not used because

A: subtractors are very expensive

B: the design of a subtractor is very complex

C: the adder is geared for doing subtraction

D: most of the programs do not require subtraction

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : In which one of the following types of analog to digital convertors the conversion time is practically independent of the amplitude of the analog signal?

A: The dual slope integrating type

B: Successive approximation type

C: Counter ramp type

D: Tracking type

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : In 8085 microprocessor, which of the following is not vectored interrupt?

A: RST 5.5

B: RST 6.5

C: RST 7.5

D: INTR

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : A two-input OR gate is designed for positive logic. However, it is operated with negative logic. The resulting logic operation will then be

A: OR

B: AND

C: NOR

D: EX-OR

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : A clock signal driving a 6-bit ring counter has a frequency of 1 MHz. How long is each timing bit high?

A: 1 ms

B: 2 ms

C: 3 ms

D: 6 ms

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : A twisted ring counter consisting of 4 FF will have

A: 4 states

B: 8 states

C: 24 states

D: None of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : Assertion (A): In a serial in-serial out shift register, access is available only to the left most or right most flip flops Reason (R): If the output of a shift register is feedback to serial input it can be used as a ring counter.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : IC counters are

A: synchronous only

B: asynchronous only

C: both synchronous and asynchronous

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : 2's complement representation of a 16 bit number (one sign bit and 15 magnitude bits) is FFFF. Its magnitude in decimal representation is

A: 0

B: 1

C: 32, 767

D: 65, 535

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : The method used to transfer data from I/O units to memory by suspending the memory-CPU data transfer for one memory cycle is called

A: I/O spooling

B: Cycle stealing

C: Line conditioning

D: Demand paging

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : Out of SAM and RAM

A: access time in both does not depend on address location

B: in SAM access time depends on address location but not in RAM

C: in RAM access time depends on address location but not in SAM

D: in both the access time depends on storage location

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : Bipolar IC memories are fabricated using

A: high density versions of MOSFET or low density versions of bipolar transistor flip-flop.

B: high density version of MOSFET or bipolar transistor flip-flop

C: low density versions of MOSFETs

D: high density versions of the bipolar transistor flip-flop.

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : For K map of the given figure the simplified Boolean expression is

A: Y = A B C + A B C + A B C

B: Y = A C + B

C: Y = A B C + ABC

D: Y = A B C + AB C + ABC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : Choose the appropriate turn on and turn off time of a FET

A: 1 ns, 10ns

B: 6 ns, 18ns

C: 4 ns, 8 ns

D: 10 ns, 10 ns

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : Consider the following statements ECL has least propagation delay TTL has largest fan out CMOS has highest noise margin TTL has lowest power dissipation Which of these are correct?

A: 1 and 3

B: 2 and 4

C: 3 and 4

D: 1 and 2

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : In Schottky TTL, a Schottky diode is used for

A: forming the gate

B: connecting the resistor
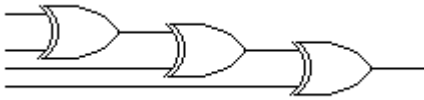
C: clamping of the basic collector junction

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : The circuit of the given figure is

A: full adder

B: magnitude comparator

C: parity detector

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : Which of the following ICs has only one NAND gate?

A: 7410

B: 7420

C: 7430

D: 7447

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : A mod-10 counter can divide the clock frequency by a factor of

A: 10

B: 20

C: 210

D: 102

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : In a digital circuit, a clock is a

A: crystal type

B: multivibrator

C: flip-flop

D: free running multivibrator

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : In a RS flip-flop no change occurs during

A: prohibited mode

B: set mode

C: reset mode

D: disable mode

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : Out of multiplexer and demultiplexer, which can be used as a logic function generator?

A: Multiplexer only

B: Demultiplexer only

C: Both

D: None

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : Binary 1000 will be the result of which of the following?

A: Binary 1000 - 100

B: Binary 1011 - 1111

C: Binary 1111 - 111

D: Binary 11111 - 1111

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : In a programmable counter

A: the starting number for counting can be programmed

B: the modulus can be programmed

C: both the starting number and modulus can be programmed

D: either the starting number or modulus can be programmed

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : NAND gates can be used to produce edge triggering.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : The number of comparator circuits required to build a three-bit simultaneous A/D converter is

A: 7

B: 8

C: 15

D: 16

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : -8 is equal to signed binary number

A: 10001000

B: 00001000

C: 10000000

D: 11000000

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : Assume that only x and y logic inputs are available. What is the minimum number of 2-input NAND gates required to implement $x \oplus y$?

A: 2

B: 3

C: 4

D: 5

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : The decimal equivalent of the hexadecimal number E 5 is

A: 279

B: 229

C: 327

D: 0

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : The parity bit is

A: always 1

B: always 0

C: 1 or 0

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : In 2's complement representation, a certain negative number - N is 1011. The representation for + N is

A: 0100

B: 0101

C: 0110

D: 0011

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : In 8355, the ROM is organized as _____ words of 8 bits each.

A: 2000

B: 2048

C: 8355

D: 835

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : What binary number does second row represent?

A: 01111001

B: 01010101

C: 10101010

D: 11101010

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : In C-language f - = 9 is equivalent to

A: f = -9

B: f = f - 9

C: f = 9 - 1

D: -f = 9

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : Effective address is calculated by adding or subtracting displacement value to

A: immediate address

B: Relative address

C: absolute address

D: base address

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : Typical switching time for ECL is

A: 5 nano seconds

B: 5 micro seconds

C: 5 milli seconds

D: 5 seconds

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : For the K map of the given figure the simplified Boolean expression is

A: A B + A B

B: B

C: A

D: AB

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : For a logic family V OH is the minimum output high level voltage V OL is the maximum output low level voltage V IH is the minimum acceptable input high level voltage V IL is the maximum acceptable input low level voltage The correct relationship is

A: VIH > V0H > VIL > V0L

B: VOH > VIH > VIL > V0L

C: VIH > VOH > VOL > VIL

D: VOH > VIH > VOL > VIL

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : In which function is each term known as minterm?

A: SOP

B: POS

C: Hybrid

D: Both SOP and POS

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : How many and what are the machine cycles needed for execution of MOV D, C?

A: 1, Fetch

B: 2, Fetch and Memory Read

C: 2, Memory Read and Memory write

D: 2, Fetch 4 Bus idle

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : The output data lines of microprocessor and memories are usually tristated because

A: more than one device can transmit information over the data bus by enabling only one device at a time

B: more than one device can transmit information over the data bus at the same time

C: the data lines can be multiplexed for both I/P and O/P

D: it increases the speed of data transfers over the data bus

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : In the NMOS inverter

A: the driver and active load are enhancement type

B: driver is enhancement type and load depletion type

C: driver is depletion type and load enhancement type

D: both driver and load are depletion type

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : A counter displays a sequence of numbers. If a reading corresponds to the hexadecimal number F52E, the next two readings are respectively

A: F52F, F520

B: F530, F531

C: F52F, F530

D: F52F, F52G

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : Monostable multivibrator is called one-shot or single-shot circuit because it

A: can be used once

B: can be used single and not with other circuits.

C: always returns by itself to its single stable state

D: changes to quasistable for a fixed period of time upon receipt of triggering signal.

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : 10's complement of 16 10 is

A: 8310

B: 8410

C: 3810

D: 4810

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : The hexadecimal number 64 AC is equivalent to decimal number

A: 25727

B: 25722

C: 25772

D: 25777

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : A binary with a digits, all of which are unity has the value

A: n2 - 1

B: 2n

C: 2(n - 1)

D: 2n - 1

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : In a NAND SR latch S = R = 1. Then

A: Q = 1, Q = 0

B: Q = 0, Q = 1

C: both Q and Q will be same as before

D: the latch will be set

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : A microprocessor with a 16-bit address bus is used in a linear memory selection configuration (i.e., Address bus lines are directly used as chip selects of memory chips) with 4 memory chips. The maximum addressable memory space is

A: 64 K

B: 16 K

C: 8 K

D: 4 K

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : The logic represented by the abbreviation ECL is

A: Emitter Coupled Logic

B: Electron Carrier Logic

C: Encoding Clock Logic

D: Electrostatic Channel Logic

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 8.

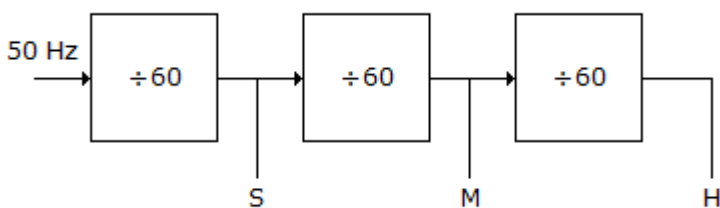Question : A (A + B) =

A: A

B: B

C: A

D: B

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : Unlimited number of ICs 7490, 78492 and 7493 are available. Which of these could be used to build the dividse-by-60 circuit of figure

A: 7490

B: 7492

C: combination of 7490 and 7492

D: combination of 7492 and 7493

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : One of the function of the Sio 2 layer in an IC is to

A: act as a dielectric for capacitors

B: prevent shorting of elements by interconnections

C: from cathodes for diodes

D: afford protection from the radiations

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : In a shift register the data is loaded in one operation but shifted out one bit at a time, The shift register is

A: serial in-serial out

B: parallel in-serial out

C: serial in-parallel out

D: parallel in-parallel out

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : In CCD

A: a small charge is deposited for logical 1

B: a small charge is deposited for both logical 1 and 0

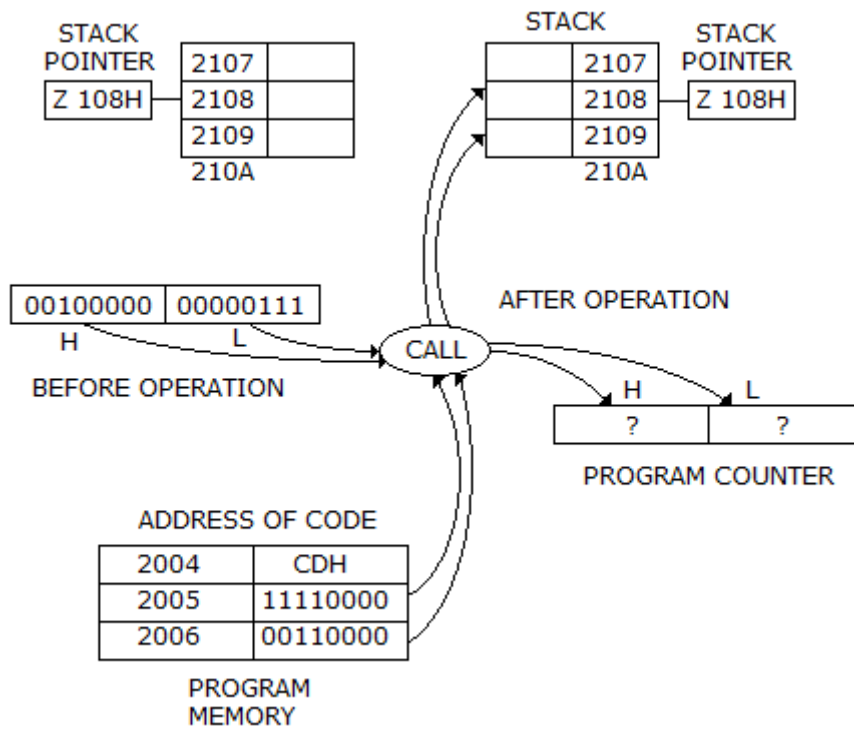C: a small charge is deposited for logical 0 and large charge for logical 1

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : The contents of the program counter after the call operation point to the first instruction on the

A: stack

B: subroutine

C: either of the above

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : Dual slope ADC uses an op amp comparator.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : The output of the 74 series of TTL gates is taken from a BST in

A: totem pole and common collector configuration

B: either totem pole or open collector configuration

C: common base configuration

D: common collector configuration

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : Assertion (A): Demorgan's first theorem replaces a NOR gate by bubbled AND gate. Reason (R): Double complement of a variable equals the variable.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : A flip-flop circuit is

A: monostable

B: bistable

C: multistable

D: unstable

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : Assertion (A): The use of 2's complement has simplified the computer hardware for arithmetic operations Reason (R): 2's complement is obtained by adding 1 to 1's complement.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : How many lines are there in address bus of 8085 μp?

A: 6

B: 8

C: 12

D: 16

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : Consider the following statements Timer 555 can be used as monostable multivibrator bistable multivibrator astable multivibrator Which of the above statements are correct?

A: 1 and 2

B: 1 and 3

C: 2 and 3

D: 1, 2, 3

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : A 4 bit binary adder has 4 full adders.

A: True

B: False

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : In floating point representation, the accuracy is

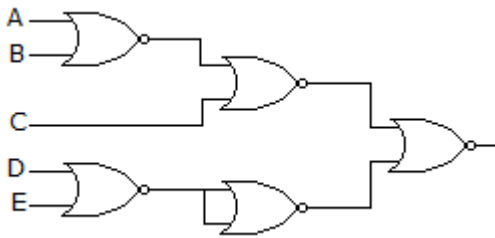A: 10 bit

B: 9 bit

C: 8 bit

D: 6 bit

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : The logic circuit in the given figure realizes the function

A: $(A + B + C) (D E)$

B: $(A + B + C) (D E)$

C: $(A + B + C) (D E)$

D: $(A + B + C) (D E)$

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : The PC contains 0450 H and SP contains 08D 6 H. What will be content of P and SP following a CALL to subroutine at location 02 AFH?

A: 0453 H, 08 D 8 H

B: 0453 H, 08 D 4 H

C: 02 AFH, 08 D 8 H

D: 02 AFH, 08 D 4 H

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : An n bit ADC using V r as reference has a resolution (in volts) of

A:

B: Vr(n)

C:

D: 2Vr(n)

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : The sum of 1110101 2 and 11011 2 in decimal form will be

A: 65

B: 75

C: 85

D: 95

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : Binary 1111 when added to binary 11111, the result in binary is

A: 111111

B: 1111

C: 1000

D: 10000

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : In the 2's complement Adder-Subtractor

A: sign magnitude numbers represent negative numbers

B: the sign magnitude numbers have "1" as leading bit

C: the sign magnitude numbers have '0' as leading bit

D: 2's complement represents positive numbers

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : The widely used binary multiplication method is

A: repeated addition

B: add and shift

C: shift and add

D: any of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : Which of the following logic family is fastest of all?

A: TTL

B: RTL

C: DCTL

D: ECL

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : Assuming accumulator contain A 64 and the carry is set (1). What will register A and (CY) contain after ADI A4H?

A: 4 AH, 0

B: 4 AH, 1

C: 4 BH, 0

D: 4 BH, 1

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : In a monolithic IC, resistors are formed from

A: ceramic material

B: manganin wire

C: P-type semiconductor

D: aluminium ribbon

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : For wired AND connection we should use

A: TTL gates with active pull up

B: TTL gates with open collector

C: TTL gates without active pull up and with open collector

D: any of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : A + A B =

A: A

B: A

C: A + B

D: A + B

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : The resolution of a 12-bit D/A converter using a binary ladder with + 10V as the full scale output will be

A: 2.44 mV

B: 3.50 mV

C: 4.32 mV

D: 5.12 mV

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : In the above case the hexadecimal notation for the last memory location is

A: 0000

B: FFFF

C: 3FFF

D: 5FFF

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : What is the length of SP (Stack pointer) of 8085 µp?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : Shifting digits from left to right and vice versa is needed in

A: storing numbers

B: arithmetic operations

C: counting

D: storing and counting

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : Current requirement of a piezo buffer is about

A: 100mA

B: 20mA

C: 4mA

D: 0.4mA

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : Consider the following instruction of 8085 µp : MOV M, A AODC MVI A, FF CMP M Which of these cause change in the status of flag(s)?

A: 1 and 2

B: 1, 2 and 3

C: 3 and 4

D: 2 and 4

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : A 3 bit binary adder can add
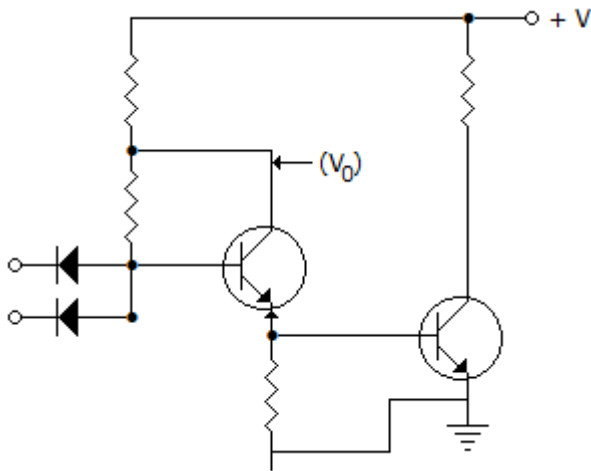
A: 2 bits

B: 2 bits

C: 3 bits

D: 8 bits

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : The logic performed by the high-noise immunity logic circuit shown below is

A: OR

B: AND

C: NOR

D: NAND

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : An 8156 has A 15 connected to its CE input. A 14 to A 8 are unconnected, and AD 7 to AC 0 are connected.Ignoring shadows, the port addresses

A: 80 H

B: 85 H

C: 82 H, 83 H

D: 80 H to 85 H

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : In 8085 microprocessor, what is the length of IR (instruction register)?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : A sequence detector is required to give a logical output of 1 whenever the sequence 1011 is detected in the incoming pulse stream. Minimum number of flip-flops needed to built the sequence detector is
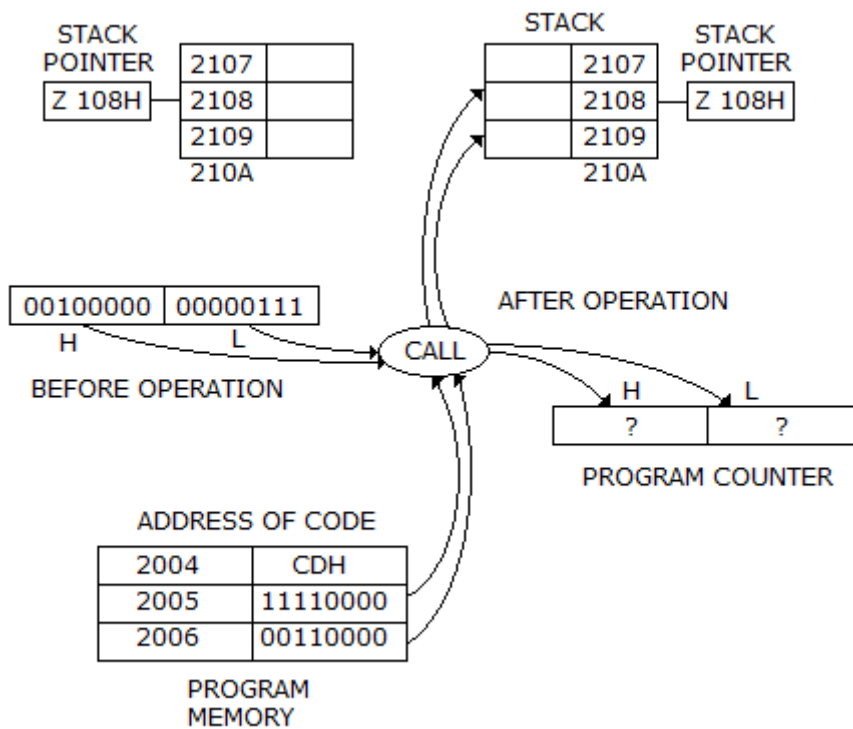
A: 4

B: 3

C: 1

D: 2

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : The contents of the program counter after the call operation will be

A: (30F0)H

B: (40F0)H

C: (50F0)H

D: (60F0)H

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : Which is correct with respect to computer memory?

A: Only a particular address can have a particular memory

B: Any address can have any memory

C: To read a word from computer memory, it is not necessary to specify a location

D: None of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : A 3 bit binary adder should use

A: 3 full adders

B: 2 full adders and 1 half adder

C: 1 full adder and 2 half adders

D: 3 half adders

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : For a depletion type NMOS, $V_p = - 4$ volts. For $V_{GS} = 0$, $I_D = 16$ mA in the pinch off region of V_{DS} . For $V_{GS} = - 2$, the value of I_D in the pinch off region of V_{DS} is given by

A: 64 mA

B: 32 mA

C: 16 mA

D: 4 mA

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : The two outputs of RS flip-flop are

A: always low

B: always high

C: either low or high

D: always complementary

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : High speed counter

A: ring counter

B: ripple counter

C: synchronous counter

D: asynchronous counter

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : Registers and counters are similar in the sense that they both

A: count pulses

B: store binary information

C: are made from an array of flip-flops and gates integrated on a single chip

D: are shift registers

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : 2's complement representation of a 16 bit number (one sign bit and 15 magnitude bit) is FFFF. Its magnitude in decimal representation is

A: 0

B: 1

C: 32676

D: 65, 535

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : A 4 line to 16 line decoder has

A: 16 inputs and 4 outputs

B: 4 inputs and 16 outputs

C: either (a) or (b)

D: neither (a) nor (b)

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Which one of the following is the correct sequence of the numbers represented in the series given below?

A: 2, 3, 4, 5, 6......

B: 2, 4, 6, 8, 10 .....

C: 2, 4, 6, 10, 12......

D: 2, 4, 6, 10, 16 .....

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : Consider the Boolean expression X = ABCD + A B CD + A BCD + A C B D The simplified form of X is

A: C + D

B: BC

C: CD

D: B

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : In floating point representation the number of bits in exponent is

A: 8

B: 7

C: 6

D: 5

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : In 8085 microprocessor, an active low signal INTA is not needed from up service which of the following interrupt request?

```
Memory      Address       Mnemonics

START :     0118 H        MOV A, C
            0119 H        LXI SP, 0550 H
            011 CH        EI
              ↓             ↓
            0134 EH       CALL 020 EH
              ↓             ↓
SUB :       020 EH        PUSH D
            0202 FH       LDA x B
            0210 H        MOV B,A
            0211 H        IN x B
              ↓             ↓
            0230          RET
```

Programme 1

A: TRAP

B: INTR

C: RST 7.5

D: RST 5.5

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : Consider the following statements: In the 2's complement representation, negative numbers are stored in sign magnitude form. Taking 2's complement is equivalent to sign change. In a 4 bit complement representation of a binary number A. In the 2's complement representation the most significant bit (MSB) is zero for a positive number. Of these, the only true statements are

A: (I) and (III)

B: (I) and (IV)

C: (II) and (III)

D: (II) and (IV)

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : Without any addition circuitry, an 8:1 MUX can be used to obtain.

A: some but not all Boolean functions of 3 variables

B: all functions 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

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : The internal structure of PL A is similar to

A: RAM

B: ROM

C: both RAM and ROM

D: neither RAM nor ROM

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : Start and stop bit do not contain any information but are used in serial communication for

A: error correction

B: error detection

C: synchronization

D: slowing down the communication

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : Which of the following parameters is not specified for digital ICs?

A: Gate dissipation

B: Propagation delay

C: Noise margin

D: Bandwidth

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : A binary adder has

A: one half adder

B: one half adder and 2 full adders

C: two half adders

D: one half adder and many full adders

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : Program counter in a digital computer

A: counts the number of programs run in the machine

B: counts the number of times a subroutine

C: counts the number of time the loops are executed

D: points the memory address of the current or the next instruction

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : Which are the pending interrupts?

A: 5.5

B: 6.5

C: 7.5

D: None

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : The logical expression Y = A + A B is equivalent to

A: Y = AB

B: Y = AB

C: Y = A + B

D: Y = A + B

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : A quantization error is an essential aspect of ADC

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : Schmitt trigger is used for wave shaping.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : Fundamental mode is another name for

A: level operation

B: pulse operation

C: clock operation

D: none of these

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : Assertion (A): Decoder is not a combinational circuit. Reason (R): Every memory element of semi conductor form has a decoder.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : In 8085 microprocessor, in order to enable RST 5.5, RST 6.5 and RST 7.5 interrupts, which of the following instruction are needed?

A: EI only

B: SIM only

C: EI and SIM both

D: None

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : A retriggerable one shot is one which

A: can be triggered only once

B: has two quasi stable states

C: can not be retriggered till the complete pulse appears at output

D: can be retriggered while the output is being generated

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : A(A + B) =

A: A

B: A B

C: AB

D: AB

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : For the K map in the given figure, the simplified expression is

$x_3 x_4$ \ $x_1 x_2$	00	01	11	10
00	1		d	d
01		1	d	
11		d	1	
10	1	d		d

A: xl x2 x4 + x2 x4 + x1 x3

B: x2 x4 + x2 x4 + x1 x3

C: x1 x2 x4 + xl x2 + x3 x4 + x2x4

D: x1 x2 + x2 x3 + x3x4

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : If the switch is thrown to the START position, Q and Y will be equal to

A: Q = 0, Y = 0

B: Q= 1, Y= 1

C: Q = 1, Y = CLK

D: Q = 0, Y = CLK

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : The hexadecimal number system is

A: widely used in analyzing and programming microprocessors

B: an obsolete system no more in use

C: used in calculators only

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : Mark the false statement:

A: since wave-shape of a digital signal is unimportant, linear amplifiers are not required

B: the precise amplitude of a digital signal is also unimportant provided two voltage levels (0 and 1) are quite different

C: the leading and trailing edges of a digital signal need not be sharp
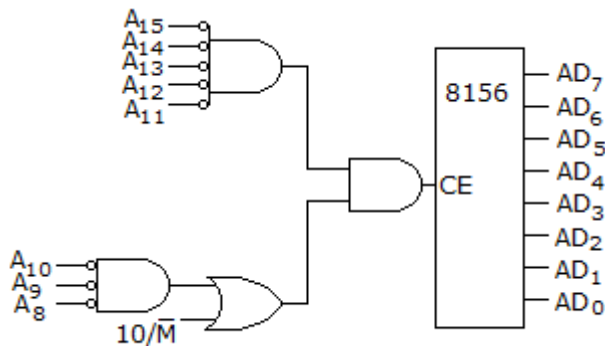
D: actual digital waves have rise and fall times of the order of a few nano seconds

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : The stack is a specialized temporary _____ access memory during _____ and _____ instructions. The 8156 of a figure has RAM locations from 2000 H to 20 FFH.

A: random, store, load

B: random, push, load

C: sequential, store, pop

D: sequential, push, pop

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : The 54/74164 chip is an 8-bit serial-input-parallel-output shift register. The clock is 1 MHz. The time needed to shift a 8-bit binary number into the chip is

A: 1 µs

B: 2 µs

C: 8 µs

D: 16 µs

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : Which material is generally used for LED?

A: Compounds of silica

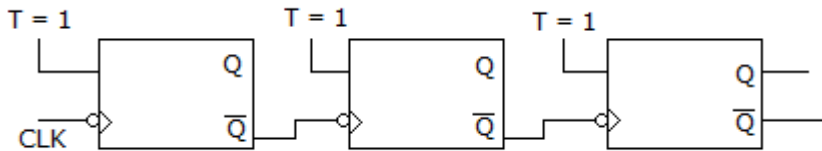B: Compounds of gallium

C: Compounds of phosphorus

D: Compounds of sulphur

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : The counter shown in the given figure is

A: Synchronous

B: Johnson

C: Ring

D: None of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : The number of bits in a nibble is

A: 8

B: 4

C: 2

D: 16

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : When all the seven segments of a display are energized, the number shown is

A: 0

B: 1

C: 7

D: 8

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : In digital computer programming, subroutines are used

A: to reduce program execution time at the expense of more memory

B: to reduce storage requirements

C: to increase programming ease and reduce storage requirements

D: because most of the functions are same

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : Equation x l0 = 11001001 2 when solved for x gives the value of x as

A: 8

B: 111

C: 152

D: 201

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : Nibble is

A: a string of 4 bits

B: a string of 8 bits

C: a string of 16 bit

D: a string of 64 bits

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : The sum S of A and B in a Half Adder can be implemented by using K NAND gates. The value of K is

A: 3

B: 4

C: 5

D: none of these

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : When a bit is 0 is a DDR, it makes the corresponding port pin an _____ On the other hand, a 1 bit programs a _____ Pin.

A: output, input

B: output, output

C: input, input

D: input, output

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : Which of the following input is not possible in case of a SR flip-flop?

A: S = 0, R = 0

B: S = 0, R = 1

C: S = 1, R = 0

D: S = 1, R = 1

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : The Truth Table shown is for a

Inputs	Outputs	
B A	sum	Carry
0 0	0 0	
0 1	1 0	
1 0	1 0	
1 1	0 1	
Digits to be added	X OR	AND

A: CMO

B: counter

C: flip-flop

D: half adder

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : The advantages of flash memory over EEPROM are

A: higher density

B: lower cost

C: both higher density and lower cost

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : In a JK flip flop output $Q_n = 1$ and it does not change when clock pulse is applied. The possible combination of J_n and K_n is (X denotes don't care)

A: X and 0

B: X and 1

C: 0 and X

D: 1 and X

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : The minimum decimal equivalent of the number 11C0 is

A: 183

B: 194

C: 268

D: 269

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : VF glows with _____ colour when activated.
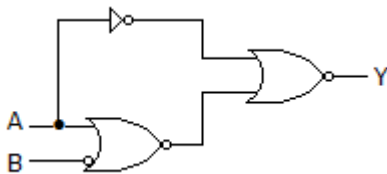
A: Red

B: Orange

C: Bluish green

D: none of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : The simplified logic expression for the circuit of the given figure is

A: Y = A

B: Y = AB

C: Y = A + B

D: Y + A + B

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : The code which provides for parity check is

A: Baudot

B: ASCII

C: EBCDIC

D: Excess-3

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : The address to which a software or hardware restart branches is known as

A: Vector location

B: SID

C: SOD

D: TRAP

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : Which device uses Pneumatic fluid?

A: LED

B: LCD

C: VF display
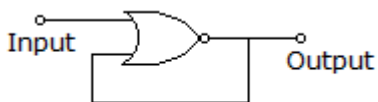
D: None of these

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : DeMorgan's first theorem is =

A: A . A = 0

B: A = A

C: A + B = A . B

D: AB = A + B

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : If we need a low noise device, we should use

A: BJT

B: FET

C: thyristor

D: UJT

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : The principal of locality of reference justifies the use of

A: interrupts

B: DMA

C: virtual memory

D: cache memory

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : The contents of the commands register are 23 H. Then port C

A: is an input port

B: is an output port

C: is both input as well as output port

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : Consider the following digital circuits: Multipliers Read only memories D-latch Circuits as shown Which of these come under the class of combinational circuit?

A: 1 and 2

B: 3 and 4

C: 1, 2 and 3

D: 1, 2, 3 and 4

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Which of the following bus is used to transfer data from main memory to peripheral device?

A: DMA bus

B: Output bus

C: Input bus

D: Data bus

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : An 8085 microprocessor based system uses a 4 k x 8 bit RAM whose address in AAOOH. The address of the last byte in this RAM is

A: OFFFH

B: 1000H

C: B9FFH

D: BA00H

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : Read the following statements: Dual slope ADC provides higher speed as compared to other ADC very good accuracy good rejection of power supply better resolutions compared to other ADC for the same number of bits Which of the above are correct?

A: 1 and 2

B: 2 and 3

C: 1, 2, 3

D: 1, 2, 3, 4

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : In 8085 microprocessor, how many I/O ports can be accessed by memory mapped method?
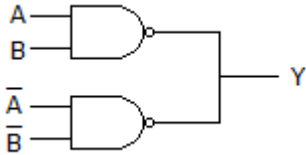
A: 8

B: 256

C: 32 K

D: 64 K

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : The open wired circuit in the given figure works as a

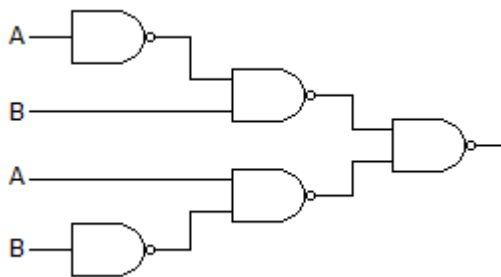A: EX - NOR gate

B: AND gate

C: XOR gate

D: NOR gate

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : The circuit shown below is functionally equivalent to

A: NOR gate

B: OR gate

C: EX-OR gate

D: NAND gate

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : In an R-S latch, to set the output to high

A: R is low and S is high

B: R and S are high

C: R and S are low

D: R is high and S is low

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : The amplifier used in miller voltage sweep should have a gain of

A: -∞

B: +1

C: +∞

D: -1

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : How many different binary numbers can be stored in a register consisting of six switches?

A: 16

B: 32

C: 64

D: 128

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : In one of the codes for transfer of numbers the code for the succeeding number differs from that of the number only in the change of a single digit. The code is

A: ASCII

B: Excess 3 CODE

C: Gray CODE

D: none of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : Assertion (A): TTL uses multiple emitter transistor. Reason (R): Multiple emitter transistors with about 60 emitters have been developed.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : "Micro-program" is

A: the name of the source program in microcomputer

B: the set of instructions indicating the primitive operations in 1 system

C: the general name of 'MACRO's' in assembly language programming

D: the name of programs of very small size

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : The number of programmable 16 bit registers of 6800 are

A: 2

B: 3

C: 4

D: 5

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : In 8085 microprocessor, if interrupt service requests have been received from all of the following interrupts, then which one will be serviced first?

A: RST 5.5

B: RST 6.5

C: RST 7.5

D: None

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : In floating point representation, the number of bits of mantissa is
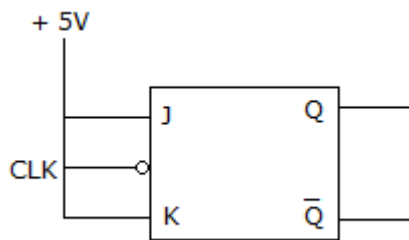
A: 10

B: 9

C: 8

D: 7

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : The clock shown in figure has a frequency of 6 MHz. The frequency of the Q output will be

A: 12 MHz

B: 24 MHz

C: 3 MHz

D: 1.5 MHz

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : Which of the following can provide a digital signal?

A: Slow change in the value of a resister
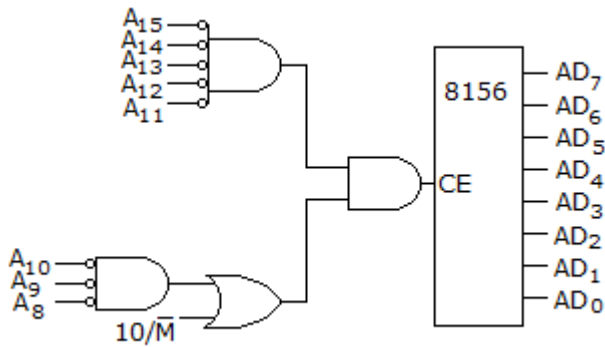
B: Sine wave

C: Square wave

D: Gradual turning of a potentiometer

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : If all bubbles are removed, what are the new RAM locations? The 8156 of a figure has RAM locations from 2000 H to 20 FFH.

A: (8000)H - (83FF)H

B: (80AA)H - (80FF)H

C: (FF00)H - (FFFF)H

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : Data are recorded on a 2, 400 ft reel of magnetic tape at a density of 556 characters per inch. If the record length is of 100 characters and 0.75 inch of record gap, the tape utilization factor is

A: 0.85

B: 0.67

C: 0.19

D: 0.08

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : Some of MOS families are PMOS, CMOS, the family dominating the LSI field, where low power consumption is necessary is

A: NMOS

B: CMOS

C: PMOS

D: both NMOS, CMOS

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : For a particular type of memory the access time and cycle time are 200 ns each. The maximum rate at which data can be accessed by

A: 2.5 x 106/s

B: 5 x 106/s

C: 0.2 x l06/s

D: 106/s

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : Which of the following binary product is incorrect?

A: 1100 x 1010 = 1111000

B: 1.01 x 10.1 = 11.001

C: 1100110 x 1000 = 1100110000

D: None of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : Assertion (A): The advantages of totem pole output are fast switching and low power consumption. Reason (R): IC packages available are DIP, surface mount and J lead surface mount.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : In DTL the junction transistor serves as

A: inverter

B: buffer amplifier

C: both (a) and (b)

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : A 16 x 8 ROM stores these words in its first four locations, as given below. Which of this represents 3 CH in hexadecimal?

A: R0 = 1110 0010

B: R1 = 0101 0111

C: R2 = 0011 1100

D: R3 = 1011 1111

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : Decade counter has 4 flip flops and skips states 10 to 15.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : Assertion (A): The output of an 8 bit ADC is 80 H if input is 2.5 V Reason (R): ADC has an output range of 00 to FF H if input range is - 5 to + 5 V

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : A parity detector can detect

A: single error only

B: single error or odd number of errors

C: two errors

D: single or two errors

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : Which of the- following display consumes least amount of power?

A: LCD

B: LED

C: Fluorescent display

D: All display consume same power

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : The converter whose conversion time is independent of number of bits is

A: dual stope

B: counter type

C: parallel conversion

D: successive approximation

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : Serial input data of 8085 can be loaded into bit-7 of the accumulator by

A: executing a RIM instruction

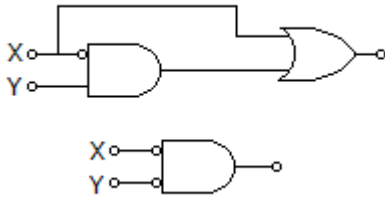B: executing RSTI

C: using TRAP

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : The logic operations of the two circuits given below are

A: complementary

B: identical

C: entirely different

D: none of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : Which of the following is incorrect?

A: $(111)_2 + (10)_2 = 9$

B: $(111)_2 + (2)_{10} = (9)_{16}$

C: $7 + 2 = (1001)_2$

D: None of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : A register is

A: a group is memories

B: a group of devices that store digital data

C: a chip used in computers

D: a pure silica piece used in digital systems

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : In 8085 microprocessor, when TRAP interrupt is triggered program control is transferred to location

A: 0020 H

B: 0024 H

C: 0028 H

D: 002 CH

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : In 8085 microprocessor, what is the length of SP (stack) pointer?

A: 6 bits

B: 8 bits

C: 12 bits

D: 16 bits

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : A crystal is frequently used in digital circuits for timing purpose because of its

A: low cost

B: high frequency stability

C: simple circuitry

D: ability to set frequency at desired value

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : The value of program counter of 6800 at power on are after reset is

A: 000

B: FFFE

C: User Programmable

D: FFFF

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : The Boolean expression for the sub-class (Q) of all electronic instruments which are measuring instruments or are non-digital instruments with battery supply is

A: Q = X(Y + Z)

B: Q = X + YZ

C: Q = XY + Z

D: Q = XY + Z

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : Serial in-serial out shift register can be built using D flip flops.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : A binary ladder network D/A converter requires

A: resistors of one value only

B: resistors of many different values

C: resistors of two different values

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : Data from a satellite is received in serial form (1 bit after another). If this data is coming at a 5 MHz rate and if the clock frequency is 5 MHz how long will it take to serially load a word in a 32-bit shift register?

A: 1.6ms

B: 3.2ms

C: 6.4ms

D: 12.8ms

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : Assuming accumulator contain A 64 and the carry is set (1). What will register A and (CY) contain after CMA?

A: 6 AH, 1

B: 6 AH, 0

C: 59 H, 0

D: 9 H, 0

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : The minimum number of 2 input NAND gates required to implement Boolean function A B C is A, B, C are available is

A: 2

B: 3

C: 5

D: 6

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : Single parity check is not reliable in case of

A: paper tape

B: magnetic tape

C: magnetic drum

D: cores

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : A 0 to 6 counter consist of 3 flip-flop and a combinational circuit of 2 input gates. The combinational circuit consist of

A: one AND gate

B: one OR gate

C: one AND and One OR

D: two AND gate

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : For an N bit ADC, the percentage resolution is [1/2 N - 1)] 100.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : Commercial ECL gates use two ground lines and one negative supply to

A: reduce power consumption

B: increase fan out

C: reduce loading effect

D: eliminate the effect of power line glitches on the biasing circuit

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : Dynamic memory cells are constructed using

A: FETs

B: MOSFETs

C: Transistors

D: Flip flops

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : Which of the following is incorrect?
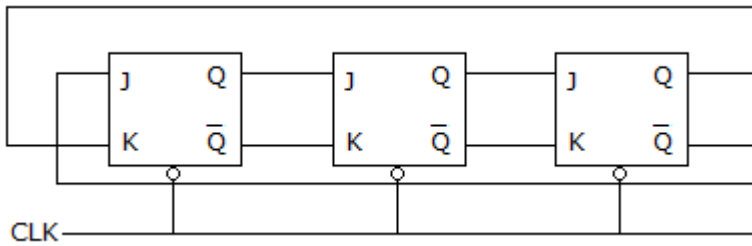
A: (8)16 = (8)8

B: (5)16 = (5)8

C: (8)2 = (2)10

D: (2)16 = (2)10

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : A 3 stage Johnson counter (ring) shown in figure is clocked at a constant frequency of fc from the starting state of $Q_0 Q_1 Q_2 = 101$. The frequency of output $Q_0 Q_1 Q_2$ will be

A:

B:

C:

D:

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : A depletion type NMOS is operated in enhancement mode. $V_p = -4$ volts. For $V_{GS} = +3$ volts as V_{DS} is increased, I_D becomes nearly constant when V_{ps} equals

A: 1 volt

B: 3 volts

C: 4 volt

D: 7 volts

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : Which one of the following is D/A conversion technique?

A: Successive approximation

B: Weighted resistor

C: Dual slope

D: Single slope

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : Assuming accumulator contain A 64 and the carry is set (1). What will accumulator (A) and carry (CY) contain after ANA A?

A: A 6 H, 1

B: A 6 H, 0

C: 00 H, 0

D: 00 H, 1

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : A number is expressed in binary 2's complement as 10011 decimal equivalent value is

A: 19

B: 13

C: -19

D: -13

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : In INHIBIT operation

A: output is 1 when both inputs are 0

B: output is 0 when blocking input is 1

C: output is 0 when blocking input is 0

D: output is 1 when blocking input is either 0 or 1

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : The product of which of the following gives the figure of merit of a logic family?

A: Gain and bandwidth

B: Propagation delay time and power dissipation

C: Fan-out and propagation delay time

D: Noise margin and power dissipation

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : A JK flip flop can be converted to D flip flop by

A: Connecting both J and K terminals to D

B: Connecting J terminal to D and leaving K open

C: Connecting K terminal to D and leaving J open

D: Connecting J terminal to D and K terminal to D through an inverter

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : In a 4 bit parallel in parallel out shift register A = 1, B = 1, C = 0, D = 1. The data output after 3 clock pulses is

A: 1101

B: 1001

C: 0101

D: 0001

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : Assertion (A): A 4 input variable logic circuit can be implemented using a 8 : 1 multiplexer. Reason (R): When a multiplexer is used as a logic function generator, the logic design is simple.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : A 6 MHz channel is used by a digital signalling system initializing four-level signals. The maximum possible transmission rate is

A: 6M bands/s

B: 12M bands/s

C: 6 M bits/s

D: 12M bits/s

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : Data can be changed from spatial code to temporal code and vice-versa by using

A: ADC and DAC

B: shift Register

C: synchronous counter

D: timers

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : Precisely 1 K byte means

A: 1000 bits

B: 1012 bits

C: 1020bits

D: 1024 bits

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : In 8156, the lower times byte is addressed with 24 H, and the upper times byte with

A: 20 H

B: 23 H

C: 24 H

D: 25 H

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : In the CMOS inverter

A: one transistor is N channel and the other P channel

B: one is enhancement type and other depletion type

C: both are N channel with one enhancement and the other depletion type

D: none

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : Which of the following is incorrect?

A: 11101 + 10 = 11111

B: (8)8 + (2)8 = (11)8

C: (8)16 + (7)16 = E

D: All of them are incorrect

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : Which one of the following is used to change data from spatial code to temporal code?

A: Shift register

B: Counter

C: A/D converters

D: Combinational circuits

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : Which of the following needs DC forward voltage to emit light?

A: LED

B: LCD

C: Both LED as well as LCD

D: None of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : If a microcomputer has a 64 K memory; what is the hexadecimal notations for the last memory location?
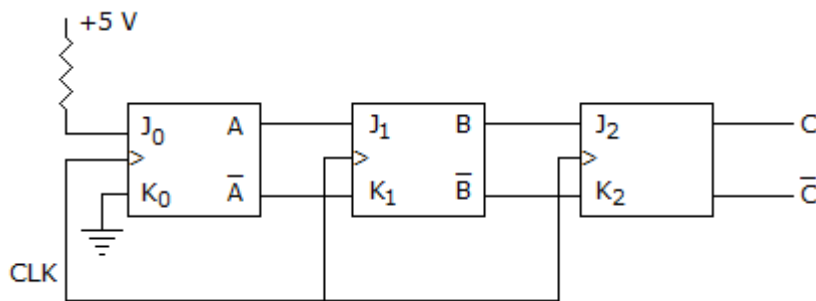
A: 1111

B: 1A1A

C: EEEF

D: FFFF

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : In the given figure shows a 3 bit shift register using TTL flip flops. Initially all the flip flops are set to 0 state. After 8 clock pulses

A: A = 1, B = 1, C = 1

B: A = 1, B = 1, C = 0

C: A = 0, B = 1, C = 1

D: A = 0, B = 0, C = 1

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : Recommended fanout for ECL is

A: 5

B: 10

C: 15

D: 25

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : Race condition occurs in

A: synchronous circuit

B: asynchronous circuit

C: combinational circuit

D: all the Digital circuit

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : What does the B register contain after the first MOV B, A has been executed?

A: 40 H

B: 60 H

C: 80 H

D: 80 D

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : Among the logic families, the family which can be used at very high frequency greater than 100 MHz in a 4 bit synchronous counter is

A: TTL

B: CMOS

C: ECL

D: TTLLS

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : Which of the following is a self-complementing code?

A: 8421 code

B: Excess 3 codes

C: Pure binary code

D: Gray code

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : ALU processes

A: decimal numbers

B: binary numbers

C: hexadecimal numbers

D: all of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : In an op-amp a virtual ground is a ground for

A: voltage only

B: current only

C: both voltage and current

D: neither voltage nor current

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : Assuming accumulator contain A 64 and the carry is set (1). What will register A and (CY) contain after SBI 0B7H?
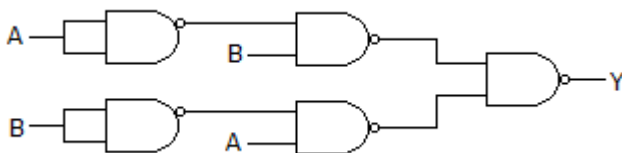
A: 12 H, 0

B: 12 H, 1

C: DDH, 0

D: DDH, 1

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : The Central Processing Unit (CPU) of the 16-processor system developed by hardware and software teams of C-DOT, Bangalore is configured around

A: Motorola 68020

B: Motorola 68040

C: Intel 80386

D: Intel 80486

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : Figure shows an 8-bit LED display. A light circle means that a LED is ON (binary 1) and a dark circle means a LED is OFF (binary 0). What is the decimal equivalent of the binary number displayed?

A: 100

B: 121

C: 144

D: 172

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : For NOR gate SR flip-flop, the 'no change' condition is

A: S = 0, R = 0

B: S = 1, R = 0

C: S = 0, R = 1

D: S = 1, R = 1

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : Which type of gate is in the given figure?

A: NOR

B: OR

C: NAND

D: EX-OR

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : Which of the following will be hexadecimal number just for prior to F52B?

A: E 51 A

B: F 51 B

C: E 52 B

D: F 52 A

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : A pair of 21114s can store _____ words of _____ bits each.

A: 2114, 8

B: 1024, 8

C: 4228, 16

D: 2114, 16

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : In hexadecimal number system, A is equal to decimal number

A: 10

B: 11

C: 17

D: 18

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : Which binary addition is incorrect?

A: 1001.1 + 1011.01 = 10100.11

B: 100010 + 1000101 = 1001010

C: 0.0011 + 0.1110 = 1.1

D: 1011.01 + 1001.11 = 10111

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : How many interrupts are there in 8085 microprocessor?

A: 4

B: 5

C: 6

D: 8

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : 1111 + 11111 =

A: 101111

B: 101110

C: 111111
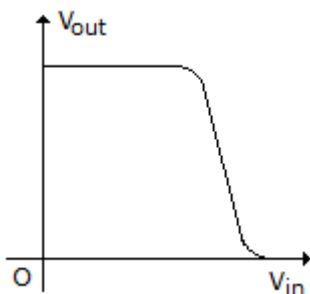
D: 011111

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : Given figure is the voltage transfer characteristic of

A: an N MOS inverter with enhanced mode transistor as load

B: an N MOS inverter with depletion mode transistor as load

C: a CMOS inverter

D: BJT inverter

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : If one wants to design a binary counter, preferred type of flip-flop is

A: D-type

B: SR type

C: Latch

D: JK type

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : (100101) 2 is

A: (37)10

B: (69)10

C: (41)10

D: (5)10

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : In which function is each term known as maxterm?

A: SOP

B: POS

C: Hybrid

D: SOP and Hybrid

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : For a NOR SR latch the normal resting state of inputs is

A: S = R = 1

B: S = 0, R = 1

C: S = 0, R = 0

D: S = 1, R = 0

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : Decimal 18.29 when converted int 10's complement will become
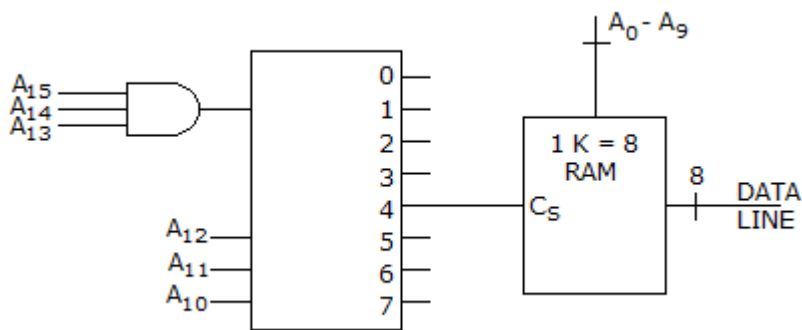
A: 81.7707

B: 81.700

C: 81.777

D: 81.077

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : An 8-bit microprocessor has 16 bit address bus $A_0 - A_{15}$. The processor addresses a 1-K byte memory chip as shown. The address range for the chip is

A: (F00F)H TO (F40E)H

B: (F000)H TO (F3FF)H

C: (F100)H TO (F4FF)H

D: (F700)H TO (FAFF)H

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : The complement of Boolean expression AB (B C + AC) is

A: (A + B) + (B + C) + (A + C)

B: A B + (B + C)(A + C)

C: (A + B) + (B + C) (A + C)

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : A decade counter

A: counts for ten days

B: counts ten times faster than a binary counters

C: counts to 9 and reset on the next pulse

D: reverts on the pulse after the tenth

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : The range of signed decimal number that can be represented by 6 bit in complement number is

A: -31 to +31

B: -63 to +64

C: -64 to +63

D: -32 to +31

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : Schottky clamping is resorted to in TTL gates

A: to reduce propagation delay

B: to increase noise margin

C: to increase packing density

D: to increase fan out

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : In 8085 microprocessor, which of the following interrupts has the highest priority?
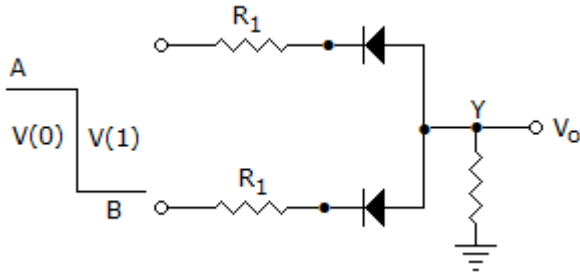
A: RST 5.5

B: RST 7.5

C: TRAP

D: INTR

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : The circuit shown in the figure is a

A: positive logic OR circuit

B: negative logic OR circuit

C: positive logic AND circuit

D: negative logic AND circuit

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : Assertion (A): An SR latch has the problem of RAC condition Reason (R): While designing a digital circuit RAC condition should be avoided.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : In a clocked NAND latch, race condition occur when

A: R and S are high CLK is low

B: R and CLK are high and S is low

C: R, S, CLK are high

D: R, S, CLK are low

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : In Von-Neumann-or Princeton-type computers, the program

A: can appear any where within the memory

B: memory and data memory are clearly distinguished

C: data and instructions are distinguished at the first stage

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : In a digital system there are three inputs ABC. Output should be high when atleast two inputs are high. Then output =

A: AB + BC + AC

B: ABC + ABC + A BC + ABC

C: AB + BC + AC

D: AB + BC + AC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : Which of them radiates emission?

A: LED only

B: LCD only

C: Both LED and LCD

D: Neither LED nor LCD

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : A full adder has two outputs SUM and CARRY.
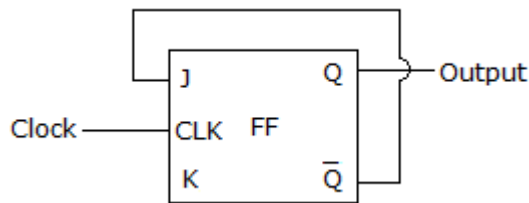
A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : For the circuit shown in the figure, what is the frequency of the output Q?

A: Twice the input clock frequency

B: Half the input clock frequency

C: Same as input clock frequency

D: Inverse of the propagation delay of the FF

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : Which two rows represent identical binary numbers?

A: A second and fourth

B: Fifth and eight

C: Third and seventh

D: Second and third

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : How many input-output ports can be accessed by direct method of 8085 µp?

A: 8

B: 256

C: 32 K

D: 64 K

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : The binary equivalent of 4096.90625 is

A: 1000000000000.11101

B: 10000000000001.10101

C: 1000000000001.10001

D: 1000000000000.10011

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : When two 16-input multiplexers drive a 2-input MUX, what is the result?

A: 2-input MUX

B: 4-input MUX

C: 16-input MUX

D: 32 input MUX

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : Two voltages are -5 V and -10 V. In positive logic

A: -5 V is 1 and -10 V is 0

B: -10 V is 1 and -5 V is 0

C: -5 V is 1 in some circuits and 0 in others

D: -10 V is 1 in some circuits and 0 in others

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : In floating point number 0110100000010101, the exponent is equal to _____ 10
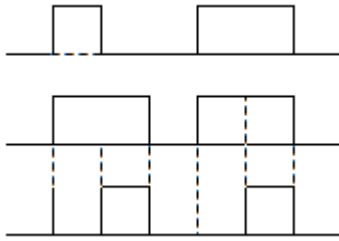
A: 11

B: -11

C: 10

D: -10

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : figure shows three pulse train inputs to a 3-input OR gate. Assuming positive logic, the output pulse rate train in figure (b) would be

A:

B:

C:

D:

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : The advantage of using dual slope ADC in digital voltmeter is that

A: its conversion time is small

B: its accuracy is high

C: its output is in BCD

D: it does not require a comparator

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : Which multivibrator can be used as a clock timer?

A: Astable multivibrator

B: Bistable multivibrator

C: Any of the above

D: None of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : T-flip-flop is commonly used as

A: a delay switch

B: a digital counter only

C: a digital counter and frequency divider

D: any of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : In the NMOS inverter

A: the driver and achieve load are enhancement type

B: the driver is enhancement type and load depletion type

C: both driver and load are depletion type

D: the driver and load are depletion type

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : For the switch circuit, taking open as 0 and closed as 1, the expression for the circuit is Y. Y is given by
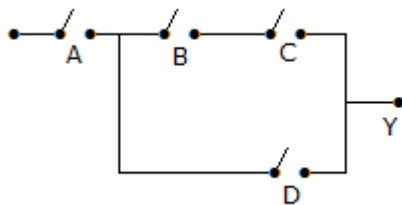
A: A + (B + C) D

B: A + BC + D

C: A(BC + D)

D: none of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : Assuming accumulator contain A 64 and the carry is set (1).What will register A and (CY) contain after RAR?

A: 4 DH, 0

B: D 3H, 0

C: 4 DH, 1

D: 53 H, 0

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : Equipment using BCD numbers

A: pocket calculators

B: electronic counter

C: digital voltmeters

D: all of the above

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : If number of bits is N, the % resolution in analog to digital conversion is

A:

B:

C:

D:

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : In a microprocessor system the stack is used for

A: starting the program return address whenever a subroutine jump instruction is execute

B: transmitting and receiving input and output data

C: starting all important CPU register contents whenever an interrupt is to be serviced

D: storing program instructions for interrupt service routine

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : In N channel MOSFET with gate reverse biased, the gate current is of the order

A: 10-3 amp

B: 10-6 amp

C: 10-9 amp

D: 10-12 amp

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : In 8085 microprocessor, a RIM instruction is used to

A: disable the interrupts 7.5, 6.5, 5.5

B: enable the interrupts 7.5, 6.5, 5.5

C: read in the serial input data

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : The digit F in hexadecimal system is equivalent to number _____ in decimal system.

A: 16

B: 15

C: 17

D: 8

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : In level clocking the output can change

A: on rising edge of clock cycle

B: on falling edge of clock cycle

C: during entire half cycle of the clock

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : Which family of logic circuits uses field effect transistors?

A: TTL

B: CMOS

C: Both LED and well as LCD

D: None of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : An encoder converts decimal numbers to binary and other codes.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : Examine the following truth table. The product of sum from this truth table is

X	Y	Z
0	0	1
0	1	0
1	0	1
1	1	0

A: (X + Y) (X + Y)

B: (X + Y) (X + Y)

C: (X + Y) (X + Y)

D: (X + Y) (X + Y)

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : K maps can be drawn

A: only for 2 variables

B: only for 3 variables

C: only for 4 variables

D: for any number of variables

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : When a TTL is driving an CMOS gates it is necessary to ensure that

A: VOL(for TTL) ≤ VIL (for CMOS) and V0H (for TTL) ≥ VIH (for CMOS)

B: V0L (for TTL) ≥ VIL (for CMOS)

C: V0H (for TTL) ≤ VIH (for CMOS)

D: V0L (for TTL) ≥ VIL (for CMOS) and V0H (for TTL) ≤ VIH (for CMOS)

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : Which of the following statement is correct?

A: Decimal 9 is represented as 1011 in Excess-3 code

B: Decimal 9 is represented as 1001 is BCD code

C: Decimal 10 is represented as 1100 is Gray code

D: Decimal 10 is represented as 1001 in binary code

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : For emitter-couple logic, the switching speed is very high because

A: negative logic is used

B: the transistors are not saturated when conducting

C: emitter-coupled transistors are used

D: multi-emitter transistors are used

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : Subroutines are used in larger programs not

A: to increase the programming case

B: to reduce storage equipment
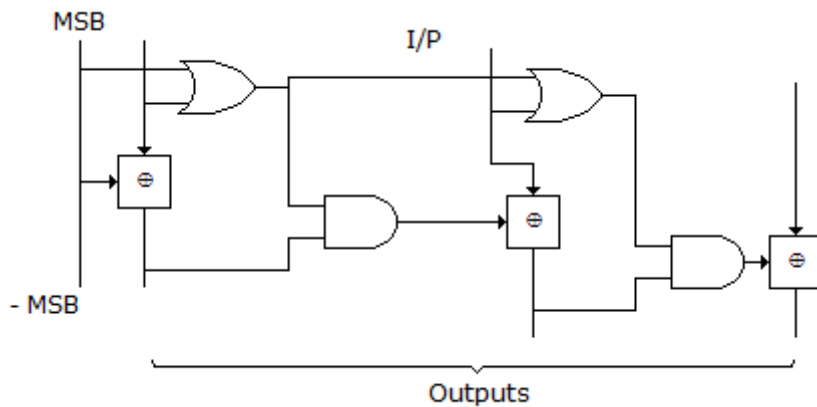
C: to reduce program extension time

D: for ease of program testing at the program development time

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : The circuit shown in figure converts

A: BCD to binary code

B: binary to excess-3 code

C: excess-3 to Gray code

D: gray to binary code

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : The microprograms provided by a manufacturer to be used on his microprogrammed computer are generally called

A: software

B: network

C: firmware

D: hardware

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : Out of multiplexer and demultiplexer, which has select inputs?

A: Multiplexer only

B: Demultiplexer only

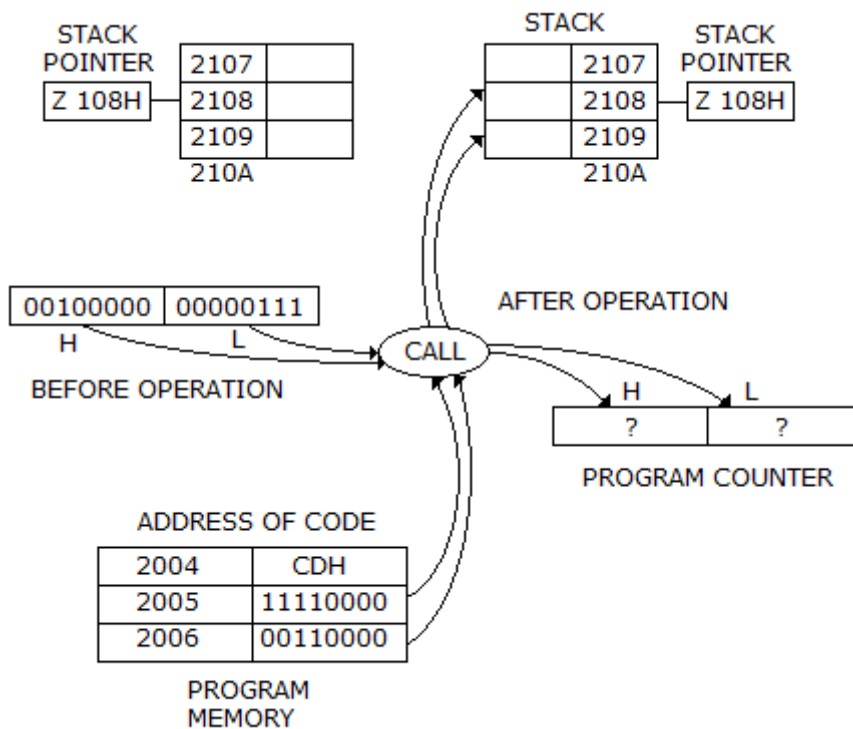C: Both multiplexer and demultiplexer

D: None

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : What is the direction of address bus?

A: Unidirectional into µp

B: Unidirection out of µp

C: Bidirectional

D: Mixed direction, i.e., some lines into up and some others out of µp

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : Direct-memory-access channel facilitates data to move into and out of the system.

A: without subroutine

B: with equal time delay

C: without programme intervention

D: on first come first serve basis

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : The basic circuit configuration for TTL resembles that of a

A: AND gate

B: NAND gate

C: NOR gate

D: OR gate

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : Time delay of a TTL standard family is about

A: 180 ns

B: 50 ns

C: 18 ns

D: 3 ns

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : Assertion (A): Boolean expressions can be easily simplified using Karnaugh map. Reason (R): Karnaugh map can be drawn for minterms as well as max terms.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : In a flip flop which input determines the state to which output will transistion?

A: Control input

B: Clock input

C: Both control and clock input

D: Either control or clock input

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : In a synchronous counter all flip flops are clocked together.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : Assertion (A): The TTL output acts as a current sink in low state Reason (R): The TTL input current is largest in low state.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : The number of LED display indicators in logic probe are

A: 1

B: 2

C: 1 or 2

D: 4

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : The time needed by a TTL circuit to switch from 0 to 1 or 1 to 0 is about

A: 10 μs

B: 10 ns

C: 100 µs

D: 50 ns

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : Assertion (A): R-2R ladder type DAC has higher speed of operation than weighted resistor DAC Reason (R): R-2R ladder type DAC uses only two different values of resistor network uses many different values of resistors

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Which of the following circuits can be used as parallel-to-series converter?

A: Digital counter

B: Decoder

C: Demultiplexer

D: Multiplexer

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : RAM can be expanded to

A: increase word size

B: increase word number

C: either increase word size or increase word number

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : Large scale integration refers to

A: more than 50 gates on the same chip

B: more than 80 gates on the same chip

C: more than 100 gates on the same chip

D: none of the above

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : Which of the following statements is not true in regard to storage time of a diode?

A: During this time, the diode is reverse-biased

B: The diode conducts during this time

C: It is due to the time taken by carriers to depart from the function when the diode is reverse-biased

D: During this time the diode current is zero

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : Suppose a microprocessor has memory locations from 0000 to 3FFF, each storing I byte. How many bytes the memory can storing I bytes the memory can store?

A: 4384

B: 8644

C: 12688

D: 16384

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : If the number of information bits is m, the number of parity bits p in the Hamming code is given by equation

A: $2p = m + p + 1$

B: $2p \geq m + p + 1$

C: $2P = m + p$

D: $2p \geq m + p$

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : Which of the following is the least important consideration while selecting a logic technology?

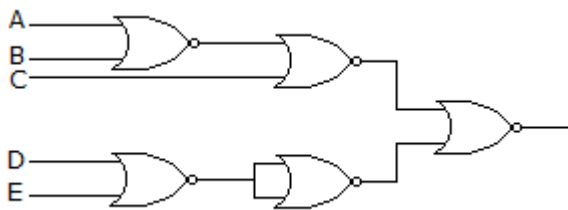A: Power dissipation

B: Noise immunity

C: Number of pins

D: Cost

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : The logic circuit of the given figure realizes the function

A: (A + B + C)(D)(E)

B: (A + B + C) (D)(E)

C: (A + B = C) (D)(E)

D: (A + B + C)(D)(E)

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : Is Schottky TTL, Schottky diode is used primary to

A: prevent saturation of the transistor

B: saturate the transistor

C: act as a switch

D: act as a controlling switch

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : What is the maximum output voltage from the 741 op-amp?

A: Zero

B: Approximately 1 V

C: Approximately 3 V

D: Approximately 5 V

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : A full adder is to be implemented using half adders and OR gates. A 4 bit parallel adder without any initial carry requires

A: 8 half adders and 4 OR gates

B: 8 half adders and 3 OR gates

C: 7 half adders and 3 OR gates

D: 7 half adders and 4 OR gates

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : The main advantage of hexadecimal numbers is

A: ease of conversion from hexadecimal to binary and vice-versa

B: ease of conversion from hexadecimal to decimal and vice-versa

C: ease of conversion from gray code to binary and vice-versa

D: the use of numbers and alphabets

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : T- FF used as a

A: transfer Data switch

B: toggle switch

C: time delay switch

D: none

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : A pulse train can be delayed by a finite number of clock periods by using

A: serial in-serial out shift register

B: parallel in serial out shift register

C: serial in-parallel out shift register

D: parallel in parallel out shift register

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : The disadvantage of counter type ADC as compared to comparator ADC is that

A: resolution is low

B: conversion time is more

C: circuit is more complex

D: stability is low

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : In 8421 Binary coded Decimal system the decimal number 237 is represented by

A: 1000110111

B: 1000111110

C: 001000110111

D: 10010010011
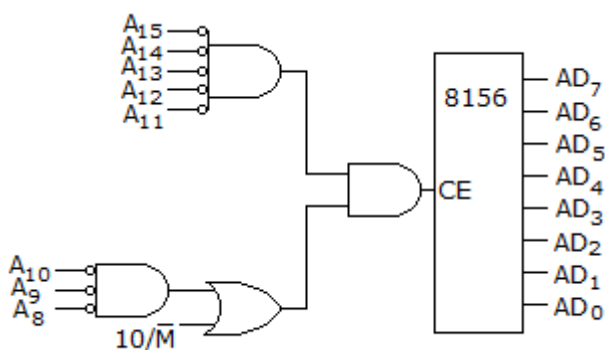
Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : For the given truth table, the correct Boolean expression is

X	Y	Z	F
1	1	1	1
0	0	0	1
1	0	0	1

A: XYZ + X YZ + X Y Z

B: X Y Z + XYZ + X YZ

C: X Y Z + XYZ + XY Z

D: XYZ + XYZ + XY Z

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : The race condition in NOR SR latch occurs when

A: S = R = 1

B: S = 0, R = 1

C: S = 0, R = 0

D: S = 1, R = 0

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 23.

Question : Flag bits in arithmetic unit provide

A: status type information

B: repeatability

C: facilities for rechecks

D: all of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 24.

Question : The generic microprocessor contains a zero and a carry flag. These are located on the The 8156 of a figure has RAM locations from 2000 H to 20 FFH.

A: interrupt control

B: status register

C: either (a) or (b)

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 25.

Question : How many interrupts are there of 8085 μP?

A: 4

B: 5

C: 6

D: 8

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 26.

Question : Multiplexer can be used as logic function generator.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 27.

Question : 74HCT00 series is

A: NAND IC

B: interface between TTL and CMOS

C: inverting IC

D: NOR IC

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 28.

Question : The output of a full adder is

A: SUM

B: CARRY

C: SUM and CARRY

D: none of the above

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 29.

Question : Number of cards read per minute by a card reader may be of the order of
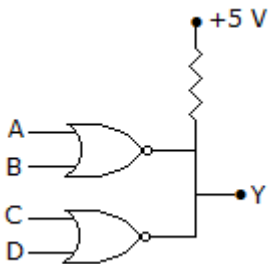
A: 20

B: 1

C: 10000

D: 300

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 30.

Question : The open collector gates in the given figure are tied together. The output Y =

A: A + B + C + D

B: A + B + C + D

C: (A + B) (C + D)

D: AB + CD

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 31.

Question : The dual of the function A(B C + BC + B C) is

A: A + (B + C) (B + C) (B + C)

B: A (BC + BC + BC)

C: C(BA + CA + CA)

D: ABC + ABC + ABC

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 32.

Question : Assuming accumulator contain A 64 and the carry is set (1). What will register A and (CY) contain after ACI 0 A4 H?
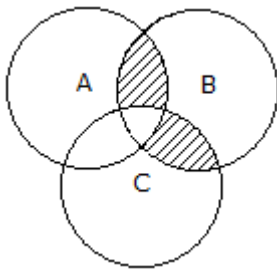
A: 4 AH, 0

B: 4 AH, 1

C: 4 BH, 0

D: 4 BH, 1

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 33.

Question : For the shaded area in Venn diagram of the given figure, the Boolean expression is

A: AB + BC + CA

B: ABC + A B C

C: ABC + A B C

D: ABC+AB

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 34.

Question : If an inverter is placed at the input to an SR flip-flop, the result is
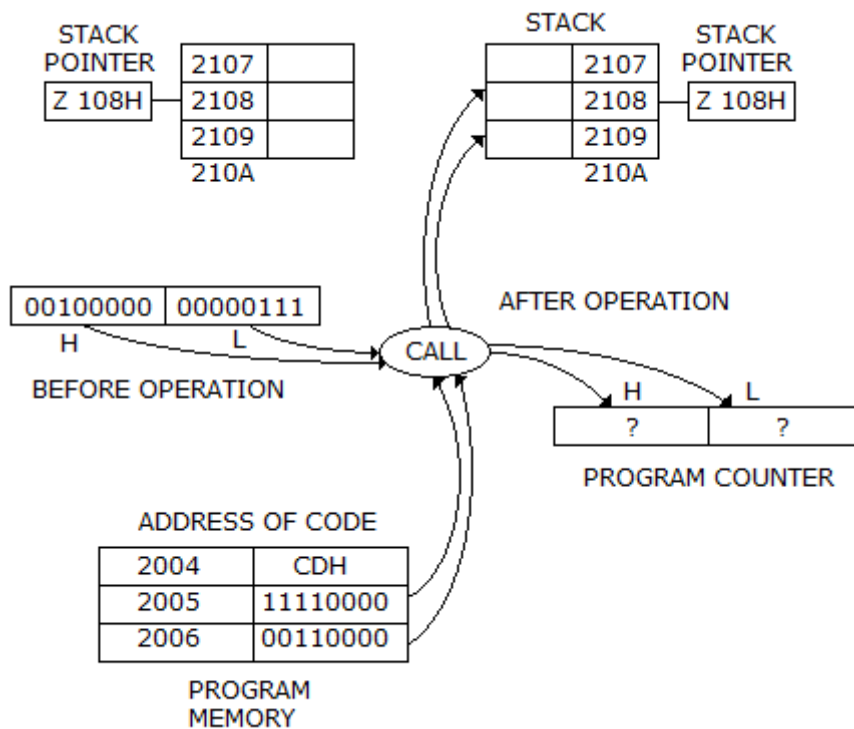
A: T flip-flop

B: D flip-flop

C: JK flip-flop

D: BCD decade counter

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 35.

Question : What is the direction of control bus?

A: Unidirectional into μp

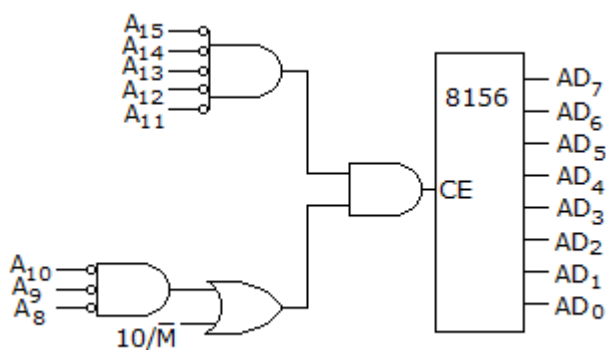B: Unidirection out of μp

C: Bidirectional

D: Mixed direction, i.e., some lines into μp an some others out of μp

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 36.

Question : How many zone bits are there? The 8156 of a figure has RAM locations from 2000 H to 20 FFH.

A: 2

B: 4

C: 8

D: 16

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 37.

Question : Which of the following is equivalent to AND-OR realization?

A: NAND-NOR

B: NOR-NOR

C: NOR-NAND

D: NAND-NAND

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 38.

Question : How many different BCD number can be stored in a register containing 12 switches using an 8, 4, 2, 1 code?

A: 99

B: 100

C: 999

D: 1000

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 39.

Question : An SR flip flop can be built using

A: NOR gate only

B: NAND gate only

C: either NOR or NAND gates

D: neither NOR nor NAND gates

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 40.

Question : Which one of the following is correct?

A: RAM is a volatile memory but ROM is non-volatile memory

B: RAM is non-volatile memory but ROM is volatile memory

C: Both ROM and RAM are volatile but in ROM data is not lost when power is switched off

D: Both ROM and RAM are non-volatile but in RAM data is lost when power is switched off

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 41.

Question : TTL XOR gate is very suitable as LCO driver.

A: True

B: False

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 42.

Question : A typical microcomputer has 65, 536 registers in its memory. It will be specified as

A: 65.536 memory

B: 65.536 K memory

C: 64 K memory

D: 8 K memory

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 43.

Question : A function table is required in very large numbers the memory most switched for this purpose would be

A: ROM

B: PROM

C: EPROM

D: EAROM

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 44.

Question : What kind of signal does the times produce?

A: Single pulse

B: Square wave

C: Continuous pulse

D: No signal

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 45.

Question : Assertion (A): A presettable counter can be preset to any desired starting point Reason (R): The maximum frequency of a ripple counter depends on the modulus.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 46.

Question : A digital clock uses _____ chip
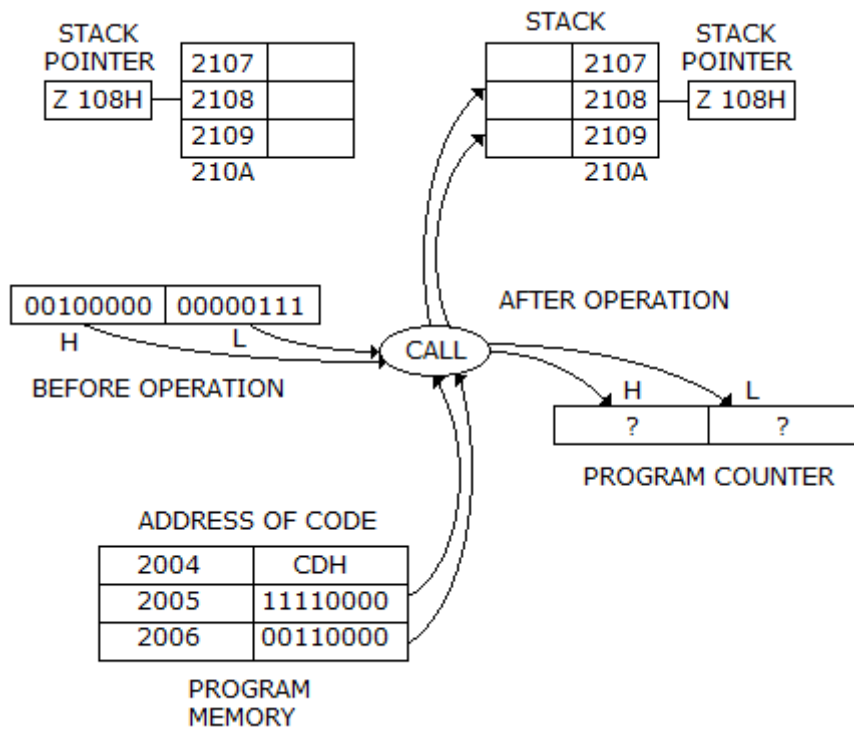
A: SSI

B: LSI

C: VLSI

D: MSI

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 47.

Question : The contents of stack location 2109 H after the call operation will be

A: 00001111

B: 01010101

C: 00100000

D: 00100010

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 48.

Question : Which of the following conversion is incorrect?

A: 1111101112 = 7678

B: 110110103 = 6658

C: 1011.11112 = 13.748

D: 10101.112 = 26.58

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 49.

Question : In a flip-flop with RS latch a high S and a low R set the output to _____ and a low S and a high R set the output _____ .
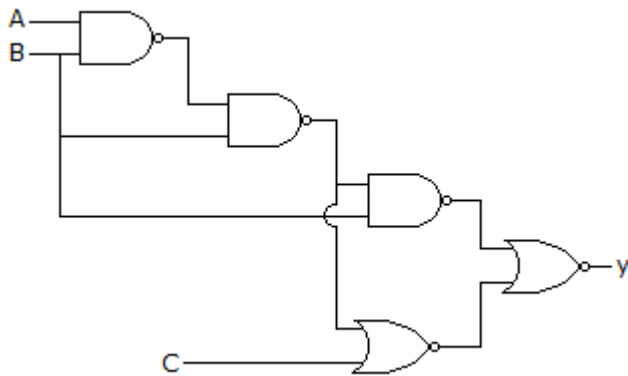
A: low, low

B: high, high

C: low, high

D: high, low

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 50.

Question : For the logic circuit shown in figure, the simplified Boolean expression for the output Y is

A: A + B + C

B: AB

C: B

D: C

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 1.

Question : What is the direction of control bus?

A: Unidirection into µp

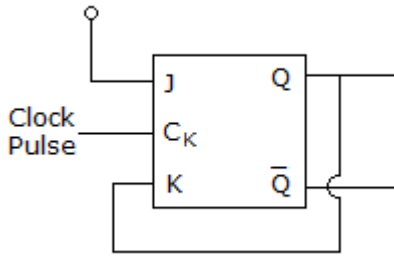B: Unidirection out of up

C: Bidirectional

D: Mixed direction i.e., some lines into µp and some other out of µp

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 2.

Question : In the given figure assume that initially Q = 1 with Clock Pulses being given, the subsequent states of Q will be

A: 1, 0, 1, 0, 1......

B: 0, 0, 0, 0, 0......

C: 1, 1, 1, 1, 1......

D: 0, 1, 0, 1, 0......

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 3.

Question : The Boolean expression (A + B) (A + C) (B + C) simplifies to

A: (A + B) C

B: (A + B) C

C: (A + B) C

D: none of these

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 4.

Question : If V in is 0.99 V, what is the digital output of the ADC 0801 after INTER goes low?

A: 0011 0011

B: 0101 1111

C: 0111 1100

D: 1111 1111

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 5.

Question : Which of the following operation are performed on linear queues? Testing a linear queue for underflow Enqueue operation Dequeue operation Testing a linear queue for overflow. Select the correct answer using the codes given below the lists

A: 1, 2 and 3

B: 2, 3 and 4

C: 1, 3 and 4

D: 1, 2, 3 and 4

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 6.

Question : As access time is decreased, the cost of memory

A: remains the same

B: increases

C: decreases

D: may increase or decrease

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 7.

Question : Assertion (A): Hamming code is commonly used for error correction Reason (R): In Hamming code the number of parity bits increases as the number of information bits increases.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A

C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 8.

Question : A 2 bit binary multiplier can be implemented using

A: 2 inputs ANDs only

B: 2 I/P XOR and 4 I/P AND gate only

C: two 2 inputs NORs and One XNOR gate

D: XOR gates and shift registers

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 9.

Question : A microcomputer has memory locations from 0000 to FFFF, each storing 1 byte. How many bytes can be the memory store?

A: 12333

B: 14666

C: 16384

D: 16655

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 10.

Question : Typical size of digital IC is about

A: 1″ x 1″

B: 2″ x 2″

C: 0.1″ x 0.1″

D: 0.001″ x 0.001″

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 11.

Question : A clock signal coordinates the working of different flip flops.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 12.

Question : In 8085, usually the vector location and the next two memory location contain a JMP instruction. This allows the programs to branch to

A: a longer subroutine

B: a shorter subroutine

C: a subroutine free path

D: none of the above

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 13.

Question : In which of these does thermionic emission occur?

A: LED

B: LCD

C: VF display

D: None

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 14.

Question : In a positive-edge-triggered JK flip-flop, a low J and a low K produce _____ state. A high _____ on the rising edge of the clock.

A: inactive, reset

B: active, reset

C: active, toggle

D: inactive, toggle

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 15.

Question : The rate of change of digital signals between High and Low level is

A: very fast

B: fast

C: slow

D: very slow

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 16.

Question : 39.12 10 = _____ 10

A: 10111.0001111

B: 100011.0001111

C: 100001.0001111

D: 001111.0001111

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 17.

Question : Which of the following is best suited for parity checking and parity generation?

A: AND, OR, NOT gates
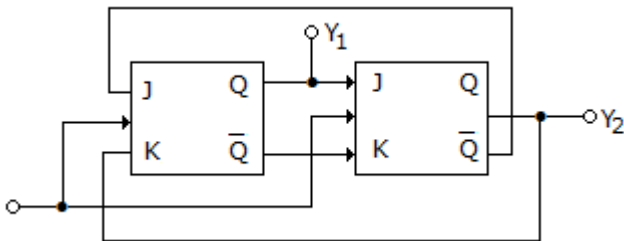
B: XOR, Exclusive NOR gate

C: NAND gates

D: NOR gates

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 18.

Question : In the circuit shown below, the outputs Y 1 and Y 2 for the given initial condition Y 1 = Y 2 = 1 and after four input pulses will be

A: Y1 = 1, Y2 = 0

B: Y1 = 0, Y2 = 0

C: Y1 = 0, Y2 = 1

D: Y1 = 1, Y2 = 1

Answer: D

explanation: No answer description available for this question. Let us discuss .

NO : 19.

Question : The op amp is used in

A: A/D converters

B: D/A converters

C: both (a) and (b)

D: shift registers

Answer: C

explanation: No answer description available for this question. Let us discuss .

NO : 20.

Question : Assertion (A): Power drain of CMOS increases with operating frequency Reason (R): All unused CMOS inputs should be tied either to a fixed voltage level (0 or V DD) or to another input.

A: Both A and R are correct and R is correct explanation of A

B: Both A and R are correct but R is not correct explanation of A
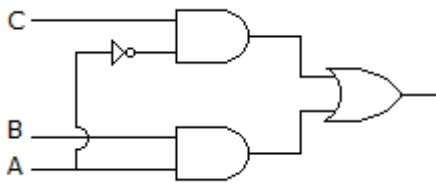
C: A is true, R is false

D: A is false, R is true

Answer: B

explanation: No answer description available for this question. Let us discuss .

NO : 21.

Question : For the logic circuit of the given figure the simplified Boolean expression is

A: Y = AB + A C

B: Y = (AB) (A C)

C: Y = ABC

D: Y = A B + A C

Answer: A

explanation: No answer description available for this question. Let us discuss .

NO : 22.

Question : In two level logic, logic race does not occur.

A: True

B: False

Answer: A

explanation: No answer description available for this question. Let us discuss .