Question No : 1 of 52	Marks: 1 (Budgeted Time 1 Min)

Excess-8 code assigns _____ to "-8"

Answer (Please select your correct option)

- ○ 1110
- ○ 1100
- ○ 1000
- ○ 0000   *correct*

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Question No : 2 of 52	Marks: 1 (Budgeted Time 1 Min)

The Extended ASCII Code (American Standard Code for Information Interchange) represents _____ unique codes

Answer (Please select your correct option)

- ○ 256   *correct*
- ○ 255
- ○ 128
- ○ 127

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Question No : 3 of 52	Marks: 1 (Budgeted Time 1 Min)

The 3-variable Karnaugh Map (K-Map) has _____ cells for min or max terms

Answer (Please select your correct option)

- ○ 4
- ○ 8
- ○ 12
- ○ 16   *correct*

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Question No : 4 of 52   Marks: 1 (Budgeted Time 1 Min)

The active high and active low inputs of 3-to-8 Decoder are as follows:

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Answer (Please select your correct option)

○ One active-high and the remaining two are active-low.

correct

○ Two active-high and the remaining one is active-low.

○ All active high

○ All active low

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Question No : 5 of 52   Marks: 1 (Budgeted Time 1 Min)

Two 2-input, 4-bit multiplexers 74X157 can be connected to implement a ____ multiplexer.

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Answer (Please select your correct option)

○ 2-input, 4-bit

○ 4-input, 8-bit

○ 4-input, 16-bit

○ 2-input, 8-bit

correct   *Made by: Waqar Siddhu*

Question No : 6 of 52   Marks: 1 (Budgeted Time 1 Min)

GAL is an acronym for _____.

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Answer (Please select your correct option)

○ Generic Analysis Logic

○ Giant Array Logic

○ General Array Logic

○ Generic Array Logic

correct   *Made by: Waqar Siddhu*

Question No : 7 of 52 Marks: 1 (Budgeted Time 1 Min)

74HC163 has two enable input pins which are _____ and _____

Answer (Please select your correct option)

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○ ENP, ENT correct

○ ENI, ENC

○ ENP, ENC

○ ENT, ENI Made by: Waqar Siddhu

Question No : 8 of 52 Marks: 1 (Budgeted Time 1 Min)

A.(B + C) = A.B + A.C is an expression of _____

Answer (Please select your correct option) VuAnswers.com

○ Demorgan's Law

○ Commutative Law

○ Distributive Law correct

○ Associative Law Made by: Waqar Siddhu

Question No : 9 of 52 Marks: 1 (Budgeted Time 1 Min)

An 8-bit serial in / parallel out shift register contains the value "8", _____ clock signal(s) will be required to shift the value completely out of the register.

Answer (Please select your correct option) VuAnswers.com

○ 1 correct

○ 2

○ 4

○ 8 Made by: Waqar Siddhu

2's complement of -5 is _____

Answer (Please select your correct option)

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- ○ 1000
- ○ 1011   **correct**
- ○ 1100
- ○ 1110   Made by: Waqar Siddhu

The device shown here is most likely a _____

D$_0$
D$_1$
D$_2$
D$_3$
S$_0$
Y

Answer (Please select your correct option)

VuAnswers.com

- ○ Comparator
- ○ Multiplexer   **correct**
- ○ Demultiplexer
- ○ Parity generator   Made by: Waqar Siddhu

What will be output state when J = 1, K = 0 and CLR input is active?

Answer (Please select your correct option)

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- ○ Q = 1   **correct**
- ○ Q = 0
- ○ Retains previous output state
- ○ Toggle output   Made by: Waqar Siddhu

Question No : 13 of 52   Marks: 1 (Budgeted Time 1 Min)

Which of the following statement is true?

Answer (Please select your correct option)

○ Power consumption of TTL is higher than CMOS — **correct**

○ Power consumption of CMOS is higher than TTL

○ Both TTL and CMOS have same power consumption

○ Power consumption of both CMOS and TTL depends on number of gates in the circuit.

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Question No : 14 of 52   Marks: 1 (Budgeted Time 1 Min)

_____ counters as the name indicates are not triggered simultaneously.

Answer (Please select your correct option)

○ Synchronous

○ Asynchronous — **correct**

○ Positive-Edge triggered

○ Negative-Edge triggered

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Question No : 15 of 52   Marks: 1 (Budgeted Time 1 Min)

_____ is said to occur when multiple internal variables change due to change in one input variable.

Answer (Please select your correct option)

○ Race condition — **correct**

○ Propagation delay

○ Ripple effect

○ Clock skew

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A 5-bit counter has a maximum _____ modulus.

Answer (Please select your correct option)

- 10
- 16
- 25
- 32   correct

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The Sequential circuit whose output depends on the current state and the input is known as _____.

Answer (Please select your correct option)

- Moore Machine
- Mealy Machine   correct
- Counter
- Flip Flop

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In _____, the $\overline{Q}$ output of the last flip-flop of the shift register is connected to the data input of the first flip-flop.

Answer (Please select your correct option)

- Moore machine
- Mealy machine
- Johnson counter
- Ring counter   correct

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Question No : 19 of 52   Marks: 1 (Budgeted Time 1 Min)

The power consumed by a flip-flop is defined by _____

Answer (Please select your correct option)

○ $P = I_{cc} \times R_{cc}$

○ $P = V_{cc} \times R_{cc}$

○ $P = V_{cc} \times I_{cc}$.   **correct**

○ $P = M_{cc} \times V_{cc}$

Question No : 20 of 52   Marks: 1 (Budgeted Time 1 Min)

The minimum time required for the input logic levels to remain stable before the clock transition occurs is known as the _____

Answer (Please select your correct option)

○ Pulse Stability time (PST)

○ Set-up time   **correct**

○ Hold time

○ Pulse Interval time

Question No : 21 of 52   Marks: 1 (Budgeted Time 1 Min)

RCO Stands for _____

Answer (Please select your correct option)

○ Reconfiguration Counter Output

○ Reconfiguration Clock Output

○ Ripple Counter Output

○ Ripple Clock Output   **correct**

Question No : 22 of 52   Marks: 1 (Budgeted Time 1 Min)

We have a digital circuit. Different parts of circuit operate at different clock frequencies (4MHZ, 2MHZ and 1MHZ), but we have a single clock source having a fix clock frequency (4MHZ), we can get help by using _____

Answer (Please select your correct option)

VuAnswers.com

○ T-Flop-Flop

○ S-R Flop-Flop

○ D-Flop-Flop

○ J-K Flop-Flop   correct   Made by: Waqar Siddhu

Question No : 23 of 52   Marks: 1 (Budgeted Time 1 Min)

The Sequential circuit, whose output is determined by the current state only is known as _____.

Answer (Please select your correct option)

VuAnswers.com

○ Moore Machine   correct

○ Mealy Machine

○ Counter

○ Flip Flop   Made by: Waqar Siddhu

Question No : 24 of 52   Marks: 1 (Budgeted Time 1 Min)

State Machine is a generic name given to _____

Answer (Please select your correct option)

VuAnswers.com

○ Sequential circuits   correct

○ Combinational circuits

○ Flip-flops

○ Counters   Made by: Waqar Siddhu

Question No : 25 of 52   Marks: 1 (Budgeted Time 1 Min)

_____ is used to minimize the possible no. of states of a circuit.

Answer (Please select your correct option)

○ State assignment   correct

○ State reduction

○ Next state table

○ State diagram

Question No : 26 of 52   Marks: 1 (Budgeted Time 1 Min)

_____ is used to simplify the circuit that determines the next state.

Answer (Please select your correct option)

○ State diagram

○ Next state table

○ State reduction

○ State assignment   correct

Question No : 27 of 52   Marks: 1 (Budgeted Time 1 Min)

The output of this circuit is always _____.

+Vcc

A ──┤   ├── Y

Answer (Please select your correct option)

○ 1

○ 0

○ A   correct

○ $\overline{A}$

Question No : 28 of 52   Marks: 1 (Budgeted Time 1 Min)

D ——[   ]—— Q

CLK ——▷○[   ]—— Q̄
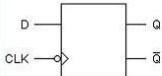
Which of the following statement is true regarding above block diagram ?

Answer (Please select your correct option)

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○ Triggering takes place on the negative-going edge of the CLK pulse

○ Triggering takes place on the positive-going edge of the CLK pulse   **correct**

○ Triggering can take place anytime during the LOW level of the CLK waveform

○ Triggering can take place anytime during the LOW level of the CLK waveform

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Question No : 29 of 52   Marks: 1 (Budgeted Time 1 Min)

Which is not characteristic of a shift register?

Answer (Please select your correct option)

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○ Serial in/parallel in   **correct**

○ Serial in/parallel out

○ Parallel in/serial out

○ Parallel in/parallel out

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Question No : 30 of 52   Marks: 1 (Budgeted Time 1 Min)

Assume that a 4-bit serial in/serial out shift register is initially clear. We wish to store the nibble 1100. What will be the 4-bit pattern after the second clock pulse? (Right-most bit first.)

Answer (Please select your correct option)

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○ 1100

○ 0011

○ 0000   **correct**

○ 1111

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Question No : 31 of 52   Marks: 1 (Budgeted Time 1 Min)

A bidirectional 4-bit shift register is storing the nibble 1110. Its RIGHT/LEFT input is LOW. The nibble 0111 is waiting to be entered on the serial data-input line. After two clock pulses, the shift register is storing _____.

Answer (Please select your correct option)

○ 1110

○ 0111

○ 1000

○ 1001   *correct*   *Made by: Waqar Siddhu*

Question No : 32 of 52   Marks: 1 (Budgeted Time 1 Min)

Smallest unit of binary data is a _____

Answer (Please select your correct option)

○ Bit   *correct*

○ Nibble

○ Byte

○ Word   *Made by: Waqar Siddhu*

Question No : 33 of 52   Marks: 1 (Budgeted Time 1 Min)

The _____ of a ROM is the time it takes for the data to appear at the Data Output of the ROM chip after an address is applied at the address input lines

Answer (Please select your correct option)

○ Write Time

○ Refresh Time

○ Refresh Time

○ Access Time   *correct*   *Made by: Waqar Siddhu*

Question No : 34 of 52　　　Marks: 1 (Budgeted Time 1 Min)

The high density FLASH memory cell is implemented using _____

Answer (Please select your correct option)

○ 1 floating-gate MOS transistor

○ 2 floating-gate MOS transistors

○ 4 floating-gate MOS transistors

○ 6 floating-gate MOS transistors

Question No : 35 of 52　　　Marks: 1 (Budgeted Time 1 Min)

The total amount of memory that is supported by any digital system depends upon _____

Answer (Please select your correct option)

○ The size of the address bus of the microprocessor

○ The organization of memory

○ The structure of memory

○ The size of decoding unit

Question No : 36 of 52　　　Marks: 1 (Budgeted Time 1 Min)

The voltage gain of the Inverting Amplifier is given by the relation _____

Answer (Please select your correct option)

○ $V_{out} / V_{in} = - R_f / R_i$

○ $V_{out} / R_f = - V_{in} / R_i$

○ $R_f / V_{in} = - R_i / V_{out}$

○ $R_f / V_{in} = R_i / V_{out}$

The process of converting the analogue signal into a digital representation (code) is known as _____

Answer (Please select your correct option)

○ Strobing

○ Amplification

○ Quantization   correct

○ Digitization

A flash A/D converter uses :

Answer (Please select your correct option)

○ Counters

○ Flip-flops

○ Op-amps   correct

○ An integrator

_____ of a D/A converter is determined by comparing the actual output of a D/A converter with the expected output.

Answer (Please select your correct option)

○ Resolution

○ Accuracy   correct

○ Quantization

○ Missing Code

Question No : 40 of 52   Marks: 1 (Budgeted Time 1 Min)

In a binary-weighted D/A converter, the resistors on the inputs :

Answer (Please select your correct option)

○ Limit the power consumption

○ Prevent loading on the source

○ Determine the weights of the digital inputs   *correct*

○ Determine the amplitude of the analog signal

Question No : 41 of 52   Marks: 2 (Budgeted Time 4 Min)

Identify the following quantities as analog and digital.

a) Pressure in a bicycle tire
b) Number of students in a class
c) Speed of a car
d) Temperature

Answer (Please click here to Add Answer)
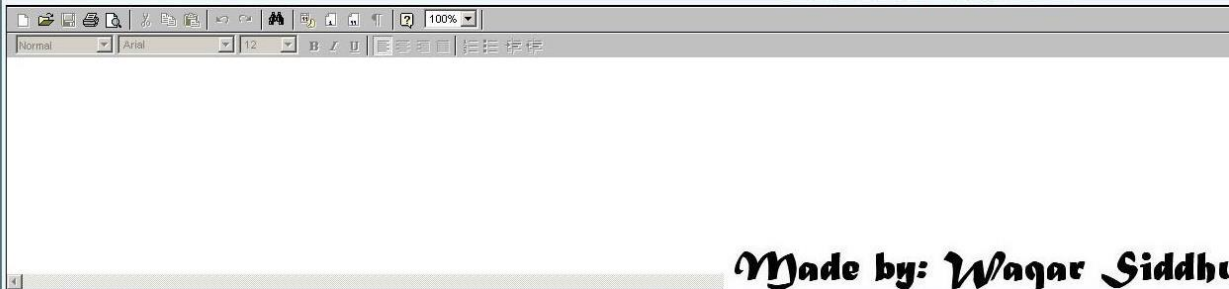
Question No : 42 of 52   Marks: 2 (Budgeted Time 4 Min)

What is strobing method?

Answer (Please click here to Add Answer)

Write down any two applications of shift registers.

Answer (Please click here to Add Answer)

How many address bits are required for a 2048-bit memory organized as a 256 x 8 memory?

Answer (Please click here to Add Answer)

Express each decimal number in binary as an 8-bit sign-magnitude number:
(a) +29
(b) -85

Answer (Please click here to Add Answer)

Question No : 46 of 52   Marks: 3 (Budgeted Time 6 Min)

How can we calculate the frequency of an unknown signal?

Answer (Please click here to Add Answer)

Question No : 47 of 52   Marks: 3 (Budgeted Time 6 Min)

Suppose a 2 bit up-down counter having states "A, B, C, D". The counter counts upward when X=1 and downward when X=0. Write down IF-THEN-ELSE statements to show how present states change to next states and previous states.

Answer (Please click here to Add Answer)

Question No : 48 of 52   Marks: 3 (Budgeted Time 6 Min)

Answer (Please click here to Add Answer)

Question No : 48 of 52   Marks: 3 (Budgeted Time 6 Min)

A 4-bit flash A/D converter is tested for faults. The resulting reconstructed analog output is shown below. Identify the problem and the most probable reason due to which this fault is occurred.

Answer (Please click here to Add Answer)

Question No : 49 of 52   Marks: 5 (Budgeted Time 10 Min)

Convert the following caveman numbers into decimal numbers, perform all the steps.
a) $\Omega\uparrow\sum$
b) $\uparrow\triangle\triangle\sum$

Answer (Please click here to Add Answer)

Question No : 50 of 52   Marks: 5 (Budgeted Time 10 Min)

You are given the Next-state table of a moor machine, using this information draw the state diagram of the machine.

Present State			Next State		
Q_2	Q_1	Q_0	Q_2	Q_1	Q_0
0	1	1	1	1	1
1	1	1	0	0	1
1	0	0	1	0	0

Answer (Please click here to Add Answer)

Question No : 51 of 52   Marks: 5 (Budgeted Time 10 Min)

Make block diagram of Rotate Left Operation of a shift register and explain its working.

Answer (Please click here to Add Answer)

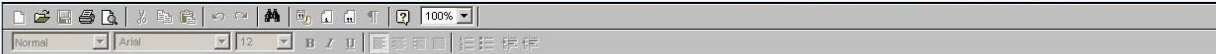VuAnswers.com

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Question No : 52 of 52   Marks: 5 (Budgeted Time 10 Min)

Analog to Digital converters exhibit different types of errors during their conversion operation. Explain at least two.

Answer (Please click here to Add Answer)

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