



Virtual University

About Us

CS302
Solved Final Terms Papers

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Year
2017

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the Name of Allāh, the Most Gracious, the Most Merciful

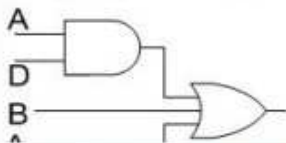
Paper Pattern

MCQS 40 each 1 mark
Short 4 each 2 marks
Short 4 each 3 marks
long 4 each 5 marks

Question No : 1 of 52

Marks: 1 (Budgeted Time 1 Min)

The diagram given below represents _____



Answer (Please select your correct option)

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- ☐ Demorgans law
- ☐ Associative law
- ☐ Product of sum form
- ☐ Sum of product form

correct

Made by: Waqar Siddhu

Question No : 2 of 52

Marks: 1 (Budgeted Time 1 Min)

The decimal "8" is represented as _____ using Gray-Code.

- ☐ 0011
- ☐ 1100
- ☐ 1000
- ☐ 1010

correct

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Made by: Waqar Siddhu

Question No : 3 of 52

Marks: 1 (Budgeted Time 1 Min)

The binary numbers $A = 1100$ and $B = 1001$ are applied to the inputs of a comparator. What are the output levels?

Answer (Please select your correct option)

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☐ $A > B = 1, A < B = 0, A = B = 1$ ☐ $A > B = 0, A < B = 1, A = B = 0$ ☐ $A > B = 1, A < B = 0, A = B = 0$ ☐ $A > B = 0, A < B = 1, A = B = 1$

Made by: Waqar Siddhu

Question No : 4 of 52

Marks: 1 (Budgeted Time 1 Min)

The simplest of the Encoders are the _____ Encoders

Answer (Please select your correct option)

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☐ 2^{n-1} -to- n ☐ n -to- 2^n ☐ 2^n -to- n

correct

☐ n -to- 2^{n-1}

Made by: Waqar Siddhu

Question No : 5 of 52

Marks: 1 (Budgeted Time 1 Min)

Using multiplexer as parallel to serial converter requires _____ connected to the multiplexer

Answer (Please select your correct option)

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☐ A parallel to serial converter circuit

correct

☐ A counter circuit☐ A BCD to Decimal decoder☐ A 2-to-8 bit decoder

Made by: Waqar Siddhu

Question No : 6 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 : 7 of 52

Marks: 1 (Budgeted Time 1 Min)

Given the state diagram of an up/down counter, we can find _____

Answer (Please select your correct option)

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☐ The next state of a given present state

☐ The previous state of a given present state

☐ Both the next and previous states of a given state

correct

☐ The state diagram shows only the inputs/outputs of a given states

Made by: Waqar Siddhu

Question No : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

A 4-bit parallel in / serial out shift register contains the value "0100", _____ clock signal(s) will be required to shift the value completely out of the register (i.e. to set the register to 0).

Answer (Please select your correct option)

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☐ 1

☐ 2

☐ 3

☐ 4

correct

Made by: Waqar Siddhu

Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

$(A + B)(A + \bar{B} + C)(\bar{A} + C)$ is an example of _____

Answer (Please select your correct option)

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☐

Product of sum form

correct

☐

Sum of product form

☐

Demorgans law

☐

Associative law

Made by: Waqar Siddhu

Question No : 10 of 52

Marks: 1 (Budgeted Time 1 Min)

The 2's complement method is used to _____

Answer (Please select your correct option)

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☐

Convert binary numbers to decimal

☐

Convert decimal numbers to binary

☐

Represent signed numbers

correct

☐

Represent positive numbers

Made by: Waqar Siddhu

Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

$1011 - 101 =$ _____

Note: both values are in binary

Answer (Please select your correct option)

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☐

1100

☐

0110

correct

☐

0011

☐

1001

Made by: Waqar Siddhu

Question No : 12 of 52

Marks: 1 (Budgeted Time 1 Min)

At J = 1, and K = 1, output of JK Flip-flop will be _____

Answer (Please select your correct option)

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☐ Set☐ Reset☐ Toggle☐ Invalid

correct

Made by: Waqar Siddhu

Question No : 13 of 52

Marks: 1 (Budgeted Time 1 Min)

When one 1 is taken as a group on a Karnaugh map, the number of variables eliminated from the output expression is/are _____

Answer (Please select your correct option)

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☐ 0☐ 1☐ 2☐ 3

correct

Made by: Waqar Siddhu

Question No : 14 of 52

Marks: 1 (Budgeted Time 1 Min)

Using 15 digits (including the sign digit) notation the largest number that can be represented is _____

Answer (Please select your correct option)

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☐ $999,999,999,999 \times 10^{100}$ ☐ $0.999,999,999,999 \times 10^{100}$ ☐ $999,999,999,999 \times 10^{99}$ ☐ $0.999,999,999,999 \times 10^{99}$

correct

Made by: Waqar Siddhu

Question No : 15 of 52

Marks: 1 (Budgeted Time 1 Min)

The _____ output of first 74HC163 counter is connected to _____ and _____ inputs of other 74HC163 counter to form a single cascaded counter

Answer (Please select your correct option)

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☐ RCO, ENT, ENP

correct

☐ ENT, RCO, ENP

☐ ENP, RCO, ENT

☐ RCO, ENI, ENC

Made by: Waqar Siddhu

Question No : 16 of 52

Marks: 1 (Budgeted Time 1 Min)

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

Answer (Please select your correct option)

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☐ Moore Machine

☐ Mealy Machine

correct

☐ Counter

☐ Flip Flop

Made by: Waqar Siddhu

Question No : 17 of 52

Marks: 1 (Budgeted Time 1 Min)

The best state assignment tends to _____.

Answer (Please select your correct option)

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☐ Maximizes the number of state variables that don't change in a group of related states

correct

☐ Minimizes the number of state variables that don't change in a group of related states

☐ Minimizes the equivalent states

☐ Maximizes the equivalent states

Made by: Waqar Siddhu

Question No : 18 of 52

Marks: 1 (Budgeted Time 1 Min)

In _____, the \bar{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)

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☐ Moore machine

☐ Mealy machine

☐ Johnson counter

☐ Ring counter

correct

Made by: Waqar Siddhu

Question No : 19 of 52

Marks: 1 (Budgeted Time 1 Min)

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

Answer (Please select your correct option)

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☐ Moore machine

☐ Mealy machine

☐ Johnson counter

☐ Ring counter

correct

Made by: Waqar Siddhu

Question No : 20 of 52

Marks: 1 (Budgeted Time 1 Min)

Flip flops are also called _____

Answer (Please select your correct option)

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☐ Bi-stable dualvibrators

☐ Bi-stable transformer

☐ Bi-stable multivibrators

☐ Bi-stable singlevibrators

correct

Made by: Waqar Siddhu

Question No : 21 of 52

Marks: 1 (Budgeted Time 1 Min)

If $S=1$ and $R=0$, then $Q(t+1) =$ _____ for positive edge triggered flip-flop

Answer (Please select your correct option)

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☐ 0

correct

☐ 1

☐ Invalid

☐ Input is invalid

Made by: Waqar Siddhu

Question No : 22 of 52

Marks: 1 (Budgeted Time 1 Min)

The operation of J-K flip-flop is similar to that of the SR flip-flop except that the J-K flip-flop _____

Answer (Please select your correct option)

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☐ Doesn't have an invalid state

☐ Sets to clear when both $J = 0$ and $K = 0$

☐ It does not show transition on change in pulse

☐ It does not accept asynchronous inputs

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Question No : 23 of 52

Marks: 1 (Budgeted Time 1 Min)

_____ Flip-flops are obsolete now.

Answer (Please select your correct option)

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☐ Edge-triggered

☐ Master-Slave

correct

☐ T-Flip-flop

☐ D-Flip-flop

Made by: Waqar Siddhu

Question No : 24 of 52

Marks: 1 (Budgeted Time 1 Min)

Bi-stable devices remain in either of their _____ states unless the inputs force the device to switch its state.

Answer (Please select your correct option)

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☐ Ten☐ Eight☐ Three☐ Two

correct

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Question No : 25 of 52

Marks: 1 (Budgeted Time 1 Min)

The counter states can be determined by the formula: _____ ("n" represents the total number of flip-flops).

Answer (Please select your correct option)

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☐ n^2 (n raise to power 2)☐ n^2-1 (n raise to power 2 and then minus 1)☐ 2^n (2 raise to power n)☐ 2^n-1 (2 raise to power n and then minus 1)

correct

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Question No : 26 of 52

Marks: 1 (Budgeted Time 1 Min)

RCO Stands for _____

Answer (Please select your correct option)

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☐ Reconfiguration Counter Output☐ Reconfiguration Clock Output☐ Ripple Counter Output☐ Ripple Clock Output

correct

Made by: Waqar Siddhu

Question No : 27 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)

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☐ Moore Machine

correct

☐ Mealy Machine☐ Counter☐ Flip Flop

Made by: Waqar Siddhu

Question No : 28 of 52

Marks: 1 (Budgeted Time 1 Min)

A GAL is essentially a _____.

Answer (Please select your correct option)

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☐ Non-reprogrammable PAL☐ PAL that is programmed only by the manufacturer☐ Reprogrammable PAL

correct

☐ Reprogrammable PAL

Made by: Waqar Siddhu

Question No : 29 of 52

Marks: 1 (Budgeted Time 1 Min)

The output of this circuit is always _____.



Answer (Please select your correct option)

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☐ 1☐ 0☐ A

correct

☐ \bar{A}

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Question No : 30 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

Made by: Waqar Siddhu

Question No : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

A Nibble consists of _____ bits

Answer (Please select your correct option)

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☐ 2

☐ 4

correct

☐ 8

☐ 16

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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

Smallest unit of binary data is a _____

Answer (Please select your correct option)

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☐ 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)

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☐ Write Time☐ Refresh Time☐ Refresh Time☐ Access Time

correct

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Question No : 34 of 52

Marks: 1 (Budgeted Time 1 Min)

In _____, all the columns in the same row are either read or written.

Answer (Please select your correct option)

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☐ Sequential Access☐ MOS Access☐ FAST Mode Page Access☐ None of given options

correct

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Question No : 35 of 52

Marks: 1 (Budgeted Time 1 Min)

FIFO is an acronym for _____

Answer (Please select your correct option)

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☐ First In, First Out☐ Fly in, Fly Out☐ Fast in, Fast Out☐ None of given options

correct

Made by: Waqar Siddhu

Question No : 36 of 52

Marks: 1 (Budgeted Time 1 Min)

If the FIFO Memory output is already filled with data then _____

Answer (Please select your correct option)

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☐

It is locked, no data is allowed to enter

☐

It is not locked, the new data overwrites the previous data

☐

Previous data is swapped out of memory and new data enters

correct

☐

None of given options

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Question No : 37 of 52

Marks: 1 (Budgeted Time 1 Min)

Stack is a _____

Answer (Please select your correct option)

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☐

Bust Flash Memory

☐

FIFO memory

☐

LIFO memory

correct

☐

Flash Memory

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Question No : 38 of 52

Marks: 1 (Budgeted Time 1 Min)

A flash A/D converter uses :

Answer (Please select your correct option)

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☐

Counters

correct

not sure

☐

Flip-flops

☐

Op-amps

☐

An integrator

Made by: Waqar Siddhu

Question No : 39 of 52

Marks: 1 (Budgeted Time 1 Min)

LUT is an acronym for _____

Answer (Please select your correct option)

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- ☐ Look Up Table
- ☐ Local User Terminal
- ☐ Least Upper Time Period
- ☐ None of given options

correct

Made by: Waqar Siddhu

Question No : 40 of 52

Marks: 1 (Budgeted Time 1 Min)

According to the sampling theorem, the sampling frequency should be :

Answer (Please select your correct option)

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- ☐ Greater than the lowest signal frequency
- ☐ Less than half the lowest signal frequency
- ☐ Greater than twice the highest signal frequency
- ☐ Less than half the highest signal frequency

correct

Made by: Waqar Siddhu

Question No : 41 of 52

Marks: 2 (Budgeted Time 4 Min)

Divide binary number "1101" by binary number "101", write down all the steps.

Answer (Please [click here](#) to Add Answer)

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Normal Arial 12 B I U

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Question No : 42 of 52

Marks: 2 (Budgeted Time 4 Min)

Name the single change which can be made to convert a combinational circuit to a sequential circuit?

Answer ([Please click here to Add Answer](#))

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Normal Arial 12 B I U

Made by: Waqar Siddhu

Question No : 43 of 52

Marks: 2 (Budgeted Time 4 Min)

Write down the names of two basic operations which are performed on memory?

Answer ([Please click here to Add Answer](#))

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Normal Arial 12 B I U

Made by: Waqar Siddhu

Question No : 44 of 52

Marks: 2 (Budgeted Time 4 Min)

What is the function of row and column decoders?

Answer ([Please click here to Add Answer](#))

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Normal Arial 12 B I U

Large memories such as the 16 KB memory have row and column decoders that split the input address into a row address and a column address and activate a row and column select lines respectively.

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Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

Following two waves are applied at 2-input AND gate, Draw the output waveform of this gate.

A: 0 1 0 1 0 1 0 1 0
B: 0 0 1 1 0 0 1 1 0

Answer ([Please click here to Add Answer](#))

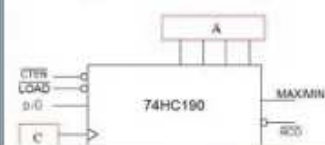
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**Made by: Waqar Siddhu**

Question No : 46 of 52

Marks: 3 (Budgeted Time 6 Min)

You are given the block diagram of 74HC190 integrated circuit of 4-bit synchronous up/down counter, Name the pins which are under red boxes.

Answer ([Please click here to Add Answer](#))

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**Made by: Waqar Siddhu**

Question No : 47 of 52

Marks: 3 (Budgeted Time 6 Min)

Write down three characteristics of serial in / serial out 4-bit left shift register.

Answer ([Please click here to Add Answer](#))

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**Made by: Waqar Siddhu**

Question No : 48 of 52

Marks: 3 (Budgeted Time 6 Min)

Draw the circuit diagram of operational amplifier used as an inverting amplifier.

Answer ([Please click here to Add Answer](#))

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Made by: Waqar Siddhu

Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

Convert the following Boolean expression into standard SOP form:

$$ABC + \bar{A}B + ABCD$$

Answer ([Please click here to Add Answer](#))

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Made by: Waqar Siddhu

Question No : 50 of 52

Marks: 5 (Budgeted Time 10 Min)

Draw the next-state table of a 3-bit Up Counter.

Answer ([Please click here to Add Answer](#))

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Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

Draw a complete test vector table for a 3-bit up/down counter using the following information.

- X is excitation input (if X=0, counter counts upward and vice versa).
- When the Clear input is 0 the output is cleared to 000 irrespective of the X.
- When the Clear input is set to 1 counter functions normally.
- Clear, Clock and X are inputs for up-down counter.

Answer ([Please click here to Add Answer](#))

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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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