



CS302 Quiz-4 File By Vu Topper RM

Digital Logic and Design (Virtual University of Pakistan)

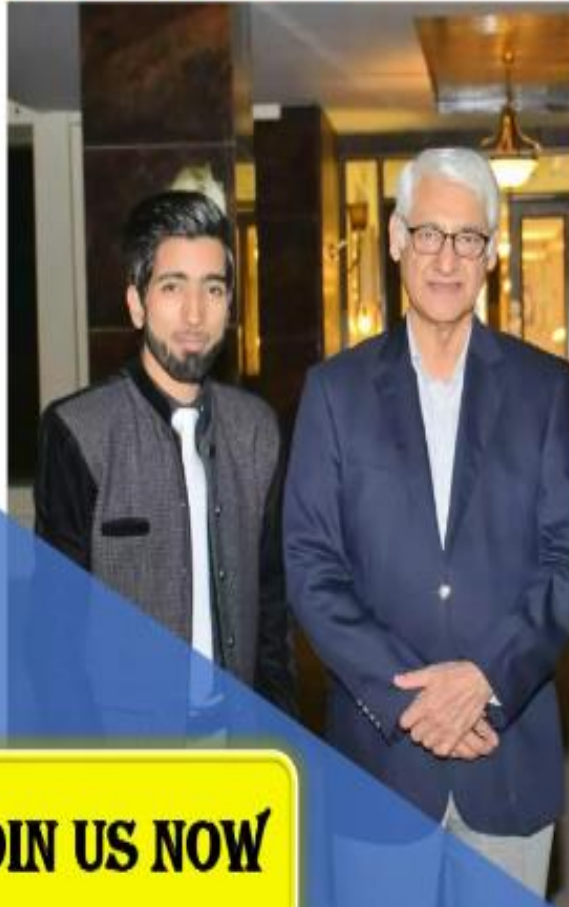
CS-302 Quiz-4 File

By Vu Topper RM!!

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Question No:1**(Marks:1)****Vu-Topper RM**

The next state table for REQ1, FLOOR1 and OPEN inputs indicates that the ____ can be pressed at any time either on the first floor or the second floor in elevator.

- A. REQ0
- B. OPEN
- C. REQ1**
- D. FLOOR1

Page 370**Question No:2****(Marks:1)****Vu-Topper RM**

A decade counter is _____

- A. Mod-3 counter
- B. Mod-5 counter
- C. Mod-8 counter

D. Mod-10 counter**Page 274****Question No:3****(Marks:1)****Vu-Topper RM**

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

- A. Doesn't have an invalid state**
- B. Sets to clear when both $J = 0$ and $K = 0$
- C. It does not accept asynchronous inputs
- D. It does not show transition on change in pulse

Page 232**Question No:4****(Marks:1)****Vu-Topper RM**

_____ Yellow signal controlling the traffic on the East-West section.

- A. EWYel**
- B. NSRed
- C. EWRed
- D. TMRST

Page 375**For More Help Contact Vu Topper RM****What's App 03224021365**

Question No:5

(Marks:1)

Vu-Topper RM

An 8-bit converter requires_____weighted resistors which have exact values otherwise the output of the converter is not accurate.

A. Seven

B. Ten

C. Eight Page 451

D. Nine

Question No:6

(Marks:1)

Vu-Topper RM

ROMs and PROMs retains information _____ even if the supply voltage is removed.

A. Two days

B. Four days

C. Permanently Page 417

D. Ten days

Question No:7

(Marks:1)

Vu-Topper RM

Two states are said to be equal if they have exactly same_____.

A. Output

B. Input Page 325

C. Both

D. None

Question No:8

(Marks:1)

Vu-Topper RM

To implement the counter using S-R flip-flops instead of J-K flip-flops, the _____ transition table is used.

A. S-R Page 316

B. D-R

C. J-K

D. None

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Question No:9

(Marks:1)

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FLASH memory cell is implemented using a single floating-gate _____ transistor.

A. POS

B. MOS Page 412

C. LOS

D. GOS

Question No:10

(Marks:1)

Vu-Topper RM

Two State variables allow a maximum of _____ states.

A. Two

B. Four Page 385

C. Six

D. Eight

Question No:11

(Marks:1)

Vu-Topper RM

There are _____ type of EPROM

A. One

B. Two Page 411

C. Three

D. Four

Question No:12

(Marks:1)

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Synchronous SRAM uses a clock signal which is used by the _____ to synchronize its activities.

A. ALU

B. Control Unit

C. Address Bus

D. Microprocessor Page 398

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Question No:13

(Marks:1)

Vu-Topper RM

Analogue signals are converted into Digital signals by _____converters.

A. Analogue to Analogue (A/A)

B. Analogue to Digital (A/D) Page 434

C. Digital to Analogue (D/A)

D. Digital to Digital (D/D)

Question No:14

(Marks:1)

Vu-Topper RM

The duration for which the elevator doors are opened, and remain open, and time it takes for the elevator to move from one floor to the next can be determined by a/an_____.

A. Input signal

B. Clock signal Page 365

C. Output signal

D. None

Question No:15

(Marks:1)

Vu-Topper RM

Memories are implemented in_____bit data unit sizes

A. 1,2 and 6

B. 1,4 and 8 Page 425

C. 2,3 and 6

D. 4,4 and 8

Question No:16

(Marks:1)

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PALs tend to execute _____ logic.

A. SPD

B. SOP

C. SAC

D. SAP

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Question No:17 (Marks:1) **Vu-Topper RM**

A counter is implemented using three (3) flip-flops, possibly it will have _____ maximum output status.

A. 2

B. 4

C. 8 Page 272

D. 10

Question No:18 (Marks:1) **Vu-Topper RM**

There are _____ possible combinations of the Simple Mode in which OLMC can be configured.

A. Three Page 201

B. Four

C. Five

D. Six

Question No:19 (Marks:1) **Vu-Topper RM**

Once the state diagram is drawn for any sequential circuit the next step is to draw

A. Transition table

B. Karnaugh map

C. Next- state table

D. Logic expression

Question No:20 (Marks:1) **Vu-Topper RM**

In gated SR latch, what is the value of the output if $EN=1$, $S=0$ and $R=1$?

A. 0

B. 1

C. 2

D. 3

Question No:21 (Marks:1) **Vu-Topper RM**

If $S=1$ and $R=0$, then for positive edge triggered flip-flop

A. 0

B. 1 Page 230

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- C. 2
- D. 3

Question No:22 (Marks:1) **Vu-Topper**
RM According to Moore circuit, the output of synchronous sequential circuit depend/s on _____ of flip flop.

- A. Previous state
- B. Present state**
- C. Next state
- D. External state

Question No:23 (Marks:1) **Vu-Topper RM**
The outputs of SR latches in elevator state machine are feed back to the _____ gate array for connection to the D-flipflops.

- A. NOT
- B. AND** Page 372
- C. OR
- D. XOR

Question No:24 (Marks:1) **Vu-Topper RM**
In memory write cycle, the time for which the WE signal remains active is known as the _____.

- A. Write address setup
- B. Write pulse width** Page 397
- C. Write delay width
- D. Write data time

Question No:25 (Marks:1) **Vu-Topper RM**
_____ is one of the examples of synchronous inputs.

- A. J-K input** Page 235
- B. EN input
- C. Preset input (PRE)
- D. Clear Input (CL)

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Question No:26 (Marks:1) **Vu-Topper RM**
_____ occurs when the same clock signal arrives at different times at different clock inputs due to propagation delay.

A. Race condition

B. Clock Skew Page 226

C. Ripple Effect

D. None of given options

Question No:27 (Marks:1) **Vu-Topper RM**
A latch is a temporary storage device that has _____ stable states.

A. Two Page 211

B. Three

C. Four

D. Five

Question No:28 (Marks:1) **Vu-Topper RM**
A NOR based S-R latch is implemented using _____ gates instead of _____ gates.

A. XOR, NAND

B. NOR, XOR

C. NOR, NAND Page 213

D. OR, XOR

Question No:29 (Marks:1) **Vu-Topper RM**
RCO stands for _____

A. Reconfiguration Counter Output

B. Ripple Counter Output

C. Reconfiguration Clock Output

D. Ripple Clock Output Page 285

Question No:30 (Marks:1) **Vu-Topper RM**
A Divide-by-20 counter can be achieved by using _____

A. Flip-Flop and DIV 10

B. Flip-Flop and DIV 16

C. Flip-Flop and DIV 32

D. Div 10 and DIV 16

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Question No:31

(Marks:1)

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The terminal count of a modulus-13 binary counter is

- A. 0000
- B. 1111
- C. 1101**
- D. 1100

Question No:32

(Marks:1)

Vu-Topper RM

A synchronous decade counter will have _____ flipflops.

- A. 3
- B. 4 Page 281**
- C. 7
- D. 10

Question No:33

(Marks:1)

Vu-Topper RM

Divide-by-32 counter can be achieved by using-----

- A. Flip-Flop and DIV 10
- B. Flip-Flop and DIV 16**
- C. Flip-Flop and DIV 32
- D. DIV 16 and DIV 32

Question No:34

(Marks:1)

Vu-Topper RM

A 4-bit binary up/down counter is in the binary state of zero. The next state in the DOWN mode is:

- A. 1111**
- B. 1110
- C. 0001
- D. 1000

Question No:35

(Marks:1)

Vu-Topper RM

An Astable multivibrator is known as a(n) _____

- A. Oscillator Page 258**
- B. Booster
- C. One-shot

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D. Dual-shot

Question No:36 (Marks:1) **Vu-Topper RM**

Flash memory Operation are classified into _____ different operation.

A. One

B. Two

C. Three Page 413

D. Four

Question No:37 (Marks:1) **Vu-Topper RM**

In designing any counter, the transition from a current state to the next state is determined by-----

A. Current state and inputs Page 332

B. Only inputs Only current state

C. Positive-Edge triggered

D. Negative-Edge triggered

Question No:38 (Marks:1) **Vu-Topper RM**

A negative edge-triggered flip-flop changes its state when-----

A. Enable input (EN) is set

B. Preset input (PRE) is set

C. Low-to-high transition of clock

D. High-to-low transition of clock Page 228

Question No:39 (Marks:1) **Vu-Topper RM**

The S-R latch has two inputs, therefore _____ different combinations of inputs can be applied to control the operation of the S-R latch.

A. Two

B. Four Page 212

C. Eight

D. Sixteen

Question No:40 (Marks:1) **Vu-Topper RM**

Three cascaded modulus-10 counters have an overall modulus of.

A. 30

B. 100

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C. 1000

D. 10000

Question No:41

(Marks:1)

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In distributed mode, for a 1024 x 1024 DRAM memory and a refresh cycle of 8 msec, each of the 1024 rows has to be refreshed in ___ when Distributed refresh is used.

A. 4.8 microsec

B. 5.9 microsec

C. 7.8 microsec

Page 406

D. 5.5 microsec

Question No:42

(Marks:1)

Vu-Topper RM

The 64-cell array organized as 8 x 8 cell array is considered as a 64-byte memory

A. as a 16 byte memory

B. as an 8 byte memory

Page 387

C. as an 4 byte memory

Question No:43

(Marks:1)

Vu-Topper RM

___ Counters as the name indicates are not triggered simultaneously

A. Asynchronous

Page 262

B. Synchronous

C. Positive-Edge triggered

D. Negative-Edge triggered

Question No:44

(Marks:1)

Vu-Topper RM

You have to choose suitable option when your timer will reset by considering this given code:

```
TRSTATE.CLK = clk;
```

```
TMRST: = (TRSTATE == NSY2) # (TRSTATE == EWY2);
```

A. NSY2 or EWY2

B. NSSR or TMRST

C. EWSR or NSRED

D. EWRed or EWYel

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Question No:45

(Marks:1)

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

A. Set-up time **Page 234**

B. Hold time

C. Pulse Interval time

D. Pulse Stability time (PST)

Question No:46

(Marks:1)

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Which of the following is a volatile memory?

A. DRAM

B. PROM

C. EPROM

D. EEPROM

Question No:47

(Marks:1)

Vu-Topper RM

The counter states or the range of the number of a counter is determined by the formula("n" represented the total number of flip-flops)

A. 2 raise to power n

B. (n raise to power 2)

C. (n raise to power 2 and then minus 1)

D. (2 raise to power n and then minus 1)

Question No:48

(Marks:1)

Vu-Topper RM

In DRAM read cycle R /W⁻ signal is activated to read data which is made available on the _____ data line.

A. D(IN)

B. D(OUT) **Page 405**

C. D(AB)

D. D(INT)

Question No:49

(Marks:1)

Vu-Topper RM

A SOP expression can be implemented by an _____ combination of gates.

A. AND-OR **Page 78**

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- B. OR-XOR
- C. AND-NAND
- D. XOR-NOR

Question No:50 (Marks:1) **Vu-Topper RM**

_____ is used when the output is connected back to the input of the PAL or if the output pin is used as an input only.

- A. Combinational Input/Output** **Page 185**
- B. Combinational Input/Output
- C. Combinational Output
- D. Programmable polarity

Question No:51 (Marks:1) **Vu-Topper RM**

A 3-variable Karnaugh map has

- A. Eight cells** **Page 89**
- B. three cells
- C. sixteen cells
- D. four cells

Question No:52 (Marks:1) **Vu-Topper RM**

The ABEL Input file can use a _____ instead of the equation to specify the Boolean expressions.

- A. Truth Table** **Page 370**
- B. State Diagram
- C. Karnaugh Map
- D. Logic Circuit

Question No:53 (Marks:1) **Vu-Topper RM**

In the keyboard encoder, how many times per second does the ring counter scan the key board?

- A. 650 scans/second**
- B. 600 scans/second
- C. 625 scans/second
- D. 700 scans/second

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Question No:54 (Marks:1) **Vu-Topper RM**
In NAND based S-R latch, output of each _____ gate is connected to the input of the other _____ gate.

A. NAND, NAND **Page 211**

B. NOR, NAND

C. NAND, NOR

D. NOR, NOR

Question No:55 (Marks:1) **Vu-Topper RM**
Select the mode of programming in which GAL16V8 can be programmed:

A. All of the given

B. Simple Mode

C. Complex Mode

D. Registered Mode

Question No:56 (Marks:1) **Vu-Topper RM**
Consider the sum of weight method for converting decimal into binary value, _____ is the highest weight for 411.

A. 256

B. 257

C. 258

D. 259

Question No:57 (Marks:1) **Vu-Topper RM**
GAL can be reprogrammed as instead of fuses E2CMOS logic is used which can be programmed to connect a.....with a.....

A. Column, row **Page 191**

B. column, row

C. column, column

D. row, row

Question No:58 (Marks:1) **Vu-Topper RM**
The Transition table is very similar to the _____ table.

A. State **Page 382**

B. Truth

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- C. State
- D. Transition

Question No:59 (Marks:1) **Vu-Topper RM**

Two types of memories namely the first in-first out (FIFO) memory and last in first out (LIFO) are implemented using _____.

A. Shift Registers Page 417

- B. Circular Buffers
- C. Ring Buffers
- D. Reduce Registers

Question No:60 (Marks:1) **Vu-Topper RM**

For a down counter that counts from (111 to 000), if current state is "101" the next state will be _____.

A. 110

- B. 101
- C. 100
- D. 001

Question No:61 (Marks:1) **Vu-Topper RM**

The NOR logic gate is the same as the operation of the _____ gate with an inverter connected to the output.

A. NAND

- B. AND
- C. OR
- D. NOT

Question No:62 (Marks:1) **Vu-Topper RM**

The ROM used by a computer is relatively _____ as it stores few bytes of code used to Boot the Computer system on power up.

A. Small Page 423

- B. Heavy
- C. High
- D. Normal

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Question No:63 (Marks:1)

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Cin is part of _____ Adder.

- A. Full**
- B. Half
- C. Single
- D. Double

Question No:64 (Marks:1)

Vu-Topper RM

Which one flip-flop has an invalid output state?

- A. SR**
- B. T
- C. JK
- D. DK

Question No:65 (Marks:1)

Vu-Topper RM

The maximum value, represented by a single hexadecimal digit is ____.

- A. "F"**
- B. "E"
- C. "G"
- D. "H"

Question No:66 (Marks:1)

Vu-Topper RM

As data values are written or read from the RAM Stack Pointer Register increments or decrements its contents always pointing to the stack __.

- A. Top** **Page 422**
- B. Bottom
- C. Down
- D. Vertex

Question No:67 (Marks:1)

Vu-Topper RM

8-bit parallel data can be converted into serial data by using _____ multiplexer.

- A. 8-to-1** **Page 175**
- B. 8-to-0
- C. 0-to-8
- D. 1-to-0

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Question No:68 (Marks:1) **Vu-Topper RM**
Adding two octal numbers "36" and "71" result in _____.

A. 127

B. 213

C. 123

D. 345

Question No:69 (Marks:1) **Vu-Topper RM**
The Static Ram (SRAM) is non-volatile and is not a _____ density memory as a latch is required to store a single bit of information.

A. High Page 417

B. Low

C. Medium

D. Hot

Question No:70 (Marks:1) **Vu-Topper RM**
If two numbers in BCD representation generate an invalid BCD number then the binary _____ is added to the result.

A. 1001

B. 1000

C. 1111

D. 0011

Question No:71 (Marks:1) **Vu-Topper RM**
A multiplexer with a register circuit converts

A. Parallel data to serial Page 356

B. Serial data to parallel

C. Serial data to serial

D. Parallel data to parallel

Question No:72 (Marks:1) **Vu-Topper RM**
Implementation of Latch is required almost _____ transistor.

A. Six Page 417

B. Two

C. Three

D. Four

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Question No:73 (Marks:1) **Vu-Topper RM**

The Synchronous SRAM also has a Burst feature which allows the Synchronous SRAM to read or write up to _____ location(s) using a single address.

- A. One
- B. Two
- C. Three

D. Four **Page 399**

Question No:74 (Marks:1) **Vu-Topper RM**

The _____ input overrides the _____ input.

A. Asynchronous, synchronous **Page 369**

- B. Synchronous, asynchronous
- C. Preset input (PRE), Clear input (CLR)
- D. Clear input (CLR), Preset input (PRE)

Question No:75 (Marks:1) **Vu-Topper RM**

The Test Vector definition defines the test vectors for all the three counter inputs and _____ counter output/outputs.

A. Three **Page 362**

- B. Four
- C. Five
- D. One

Question No:76 (Marks:1) **Vu-Topper RM**

Subtractors also have output to check if 1 has been _____.

A. Primed

- B. Shifted
- C. Complemented
- D. Borrowed

Question No:77 (Marks:1) **Vu-Topper RM**

The terminal count of a 4-bit binary counter in the DOWN mode is

A. 0000

- B. 0011
- C. 1100

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D. 1111

Question No:78

(Marks:1)

Vu-Topper RM

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

A. $P = V_{cc} \times I_{cc}$ Page 235

B. $P = I_{cc} \times R_{cc}$

C. $P = V_{cc} \times R_{cc}$

D. $P = M_{cc} \times V_{cc}$

Question No:79

(Marks:1)

Vu-Topper RM

The low to high or high to low transition of the clock is considered to be a(n) _____

A. Edge Page 228

B. Add

C. Odd

D. Out

Question No:80

(Marks:1)

Vu-Topper RM

Flip flops are also called _____.

A. Bi-stable multivibrators Page 228

B. Bi-stable single vibrators

C. Bi-stable dual vibrators

D. Bi-stable transformer

Question No:81

(Marks:1)

Vu-Topper RM

A flip-flop is connected to +5 volts and it draws 5 mA of current during its operation, the power dissipation of the flip-flop is

A. 25 mW Page 242

B. 10 mW

C. 64 mW

D. 1024 mW

Question No:82

(Marks:1)

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The diagram above shows the general implementation of _____ form

A. POS Page 122

B. COS

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- C. GOS
- D. FOS

Question No:83 (Marks:1) **Vu-Topper RM**

If the voltage drop across the active load is 0 volts due to absence of current the comparator output is a _____.

A. 0

B. 1 Page 417

C. 2

D. 3

Question No:84 (Marks:1) **Vu-Topper RM**

A 4- bit UP/DOWN counter is in DOWN mode and in the 1010 state. on the next clock pulse, to what state does the counter go?

A. 1001

B. 1011

C. 0011

D. 1100

Question No:85 (Marks:1) **Vu-Topper RM**

A standard interface for programming the In-System PLD consists of

A. 2 wire

B. 4 wire Page 194

C. 8 wire

D. 16 wire

Question No:86 (Marks:1) **Vu-Topper RM**

In designing any synchronous counter a modulus number is used which determine the number of..... used in a counter.....

A. Registers

B. Flip Flops

C. Counters

D. Latches

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Question No:87 (Marks:1) **Vu-Topper RM**

A positive edge-triggered flip-flop changes its state when _.

- A. Enable input (EN) is set
- B. Preset input (PRE) is set
- C. Low-to-high transition of clock**
- D. High-to-low transition of clock

Question No:88 (Marks:1) **Vu-Topper RM**

The asynchronous inputs are normally labeled _____ and _____, and are normally active_____ inputs.

- A. PRE, CLR, LOW**
- B. ON, OFF, HIGH
- C. START, STOP, LOW
- D. SET, RESET, HIGH

Question No:89 (Marks:1) **Vu-Topper RM**

Assume a J-K flip-flop has 1s on the J and K inputs. The next clock pulse will cause the output to _____.

- A. set
- B. reset
- C. latch
- D. Toggle**

Question No:90 (Marks:1) **Vu-Topper RM**

In synchronous systems, the exact times at which any output can change state are determined by a signal commonly called the _____.

- A. traffic
- B. D
- C. flip-flop
- D. Clock**

Question No:91 (Marks:1) **Vu-Topper RM**

Which is not an example of a truncated modulus?

- A. 8**
- B. 9
- C. 11

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D. 15

Question No:92 (Marks:1) **Vu-Topper RM**

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

- A. Ten
- B. Eight
- C. Three

D. Two Page 255

Question No:93 (Marks:1) **Vu-Topper RM**

A Nibble consists of _____ bits

- A. 4** Page 394
- B. 6
- C. 8
- D. 10

Question No:94 (Marks:1) **Vu-Topper RM**

_____ flip-flops are obsolete now.

- A. Edge-triggered
- B. Master-Slave** Page 257
- C. T-Flipflop
- D. D-Flipflop

Question No:95 (Marks:1) **Vu-Topper RM**

If the S and R inputs of the gated S-R latch are connected together using a.....gate then there is only a single input to the latch. The input is represented by D instead of S or R (A gated D-Latch)

- A. AND
- B. OR
- C. NOT** Page 226
- D. XOR

Question No:96 (Marks:1) **Vu-Topper RM**

When an eight bit serial in/serial out shift register is used for a 24 micro seconds time delay, the clock frequenct must be Select correct option:

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- A. 41.67 KHz
- B. 333 KHz**
- C. 125 KHz
- D. 8 MHz

Question No:97 (Marks:1) **Vu-Topper RM**

A modulus-14 counter has fourteen states requiring_____

- A. 14 Flip Flops**
- B. 14 Registers
- C. 4 Flip Flops
- D. 4 Registers

Question No:98 (Marks:1) **Vu-Topper RM**

Karnaugh map is used in designing Select correct option:

- A. a clock
- B. a counter
- C. an UP/DOWN counter
- D. All of the above**

Question No:99 (Marks:1) **Vu-Topper RM**

Divide-by-160 counter is achieved by using

- A. Flip-Flop and DIV 10
- B. Flip-Flop and DIV 16
- C. DIV 16 and DIV 32
- D. DIV 16 and DIV 10**

Question No:100 (Marks:1) **Vu-Topper RM**

A 4-bit binary up/down counter is in the binary state of zero. The next state in the UP mode is:

- A. 1111**
- B. 1110
- C. 0001
- D. 1000

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Question No:101

(Marks:1)

Vu-Topper RM

A divide-by-10 ring counter requires a minimum of

- A. Twelve flip-flops
- B. Four flip-flops
- C. Ten flip-flops**
- D. Five flip-flops

Google

Question No:102

(Marks:1)

Vu-Topper RM

A 32-bit data word consists of:

- A. 2 Byte
- B. 4 Byte**
- C. 6 Byte
- D. 8 Byte

Google

Question No:103

(Marks:1)

Vu-Topper RM

Which of the following memories uses one transistor and one capacitor as basic memory unit?

- A. ROM
- B. PROM
- C. RAM
- D. DRAM**

Google

Question No:104

(Marks:1)

Vu-Topper RM

When the _____ Hz sampling interval is selected, the signal at the output of the J-K flip-flop has a time period of _____ seconds.

- A. 1,2**
- B. 3,4
- C. 5,6
- D. 8,7

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Question No:105

(Marks:1)

Vu-Topper RM

Each stage of Master-slave flip-flop works at _____ of the clock signal

A. One half

B. Full

C. Center

D. None

Question No:106

(Marks:1)

Vu-Topper RM

In memory read cycle, the read cycle is initiated by

A. Applying the address signals Page 397

B. Digital

C. Analog

D. None

Question No:107

(Marks:1)

Vu-Topper RM

The chip enable access time which is the time for the valid data to appear after the _____ transition of the chip select signal \bar{CS} .

A. High-to-low Page 397

B. Low -to-high

C. High

D. Low

Question No:108

(Marks:1)

Vu-Topper RM

The FAST Model Page Access allows _____ memory read and access times when reading successive data values stored in consecutive locations on the same row.

A. Faster Page 406

B. Slow

C. High

D. None

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Question No:109

(Marks:1)

Vu-Topper RM

A modulus-14 counter has fourteen states requiring

A. 4 flip flops

B. 6 flip flops

C. 8 flip flops

D. 2 flip flops

Question No:110

(Marks:1)

Vu-Topper RM

A memory organized to store nibble data values requires a _____ wide data bus.

A. 4-bit Page 390

B. 2

C. 3

D. 1

Question No:111

(Marks:1)

Vu-Topper RM

If the number of samples that are collected is reduced by half, the reconstructed signal will be _____ from/to the original.

A. Very different Page 1

B. Simple

C. Slow

D. Difficult

Question No:112

(Marks:1)

Vu-Topper RM

A 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.

A. 8 Page 356

B. 6

C. 4

D. 2

Question No:113

(Marks:1)

Vu-Topper RM

The terminal count of a modulus -13 binary counter is

A. 1101

B. 1111

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- C. 0000
- D. 1100

Question No:114 (Marks:1) **Vu-Topper RM**

THE FOUR OUTPUTS OF TWO 4-INPUT MULTIPLEXERS, CONNECTED TO FORM A 16-INPUT MULTIPLEXER, ARE CONNECTED TOGETHER THROUGH A 4-INPUT _____

- A. NOT
- B. XOR
- C. GATE

D. OR Page 171

Question No:115 (Marks:1) **Vu-Topper RM**

Number of states in an 8-bit Johnson counter sequence are:

- A. 16**
- B. 12
- C. 8
- D. 4

Question No:116 (Marks:1) **Vu-Topper RM**

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

- A. Invalid** Page 233
- B. Direct
- C. Valid
- D. Indirect

Question No:117 (Marks:1) **Vu-Topper RM**

Consider $A=1, B=0, C=1$. A, B and C represent the input of three-bit NAND gate, the output of the NAND gate will be _____.

- A. One** Page 46
- B. Two
- C. Three
- D. Four

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Question No:118 (Marks:1) **Vu-Topper RM**

The 74HC163 is a 4-bit Synchronous counter, it has _____ data output pins.

A. 4 Page 278

B. 6

C. 2

D. 8

Question No:119 (Marks:1) **Vu-Topper RM**

For a Standard SOP expression, a _____ is placed in the cell corresponding to the product term (Minter) present in the expression.

A. 1 Page 90

B. 2

C. 3

D. 4

Question No:120 (Marks:1) **Vu-Topper RM**

Two signals _____ and _____ provide the timing inputs to the State Machine.

A. LTIME and STIME Page 374

B. NSSR and EWSR

C. LTIME and STIME

D. PTIME and QTIM

Question No:121 (Marks:1) **Vu-Topper RM**

Which signal must remain valid in memory write cycle after data is applied at the data input lines and must remain valid for a minimum time duration t_{WD} ?

A. WE Page 397

B. CS

C. VS

D. OE

Question No:122 (Marks:1) **Vu-Topper RM**

Implementation of the FIFO buffer in _____ is usually takes the form of a circular buffer.

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A. RAM Page 420

- B. ROM
- C. Both
- D. None

Question No:123 (Marks:1) **Vu-Topper RM**

The output of a NAND gate is _____ when all the inputs are one.

A. Zero Page 47

- B. One
- C. Available
- D. Not available

Question No:124 (Marks:1) **Vu-Topper RM**

Implementing the Adjacent 1s detector circuit directly from the function table based on the SOP form requires _____ gates for the 8 product terms (minterms) with an 8-input OR gate.

A. 8 AND

- B. 8 OR
- C. 8 NOT
- D. 8 XOR

Question No:125 (Marks:1) **Vu-Topper RM**

In Master-Slave flip-flop the clock signal is connected to slave flip-flop using gate.

A. NOT

- B. OR
- C. AND
- D. XOR

Question No:126 (Marks:1) **Vu-Topper RM**

For a gated D-Latch if $EN=1$ and $D=1$ then $Q(t+1)=$

A. 1

- B. 0
- C. 2
- D. 3

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Question No:127 (Marks:1)

Vu-Topper RM

Smallest unit of binary data is a _____

A. Bit Page 387

- B. Byte
- C. Char
- D. None

Question No:128 (Marks:1)

Vu-Topper RM

To parallel load a byte of data into a shift register, there must be

A. One clock pulse

- B. Two clock pulse
- C. Three clock pulse
- D. Four clock pulse

Question No:129 (Marks:1)

Vu-Topper RM

Stack is an acronym for _____

A. LIFO memory Page 429

- B. FIFO memory
- C. Both
- D. None

Question No:130 (Marks:1)

Vu-Topper RM

The 4-bit 2's complement representation of "+5" is _____

A. 0101

- B. 1010
- C. 0011
- D. 1000

Question No:131 (Marks:1)

Vu-Topper RM

The OR gate performs Boolean _____.

A. Addition Page 42

- B. Old
- C. Multiply
- D. Sub

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Question No:132

(Marks:1)

Vu-Topper RM

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

A. Ring counter **Page 355**

- B. Star counter
- C. Bus counter
- D. System counter

Question No:133

(Marks:1)

Vu-Topper RM

When the control line in tri-state buffer is high the buffer operates like a _____ gate

A. NOT **Page 196**

- B. AND
- C. OR
- D. XOR

Question No:134

(Marks:1)

Vu-Topper RM

Following Is the circuit diagram of mono-stable device which gate will be replaced by the red colored rectangle in the circuit.

A. XNOR **Page 262**

- B. NOT
- C. OR
- D. AND

Question No:135

(Marks:1)

Vu-Topper RM

With a 100 KHz clock frequency, eight bits can be serially entered into a shift register in

A. 80 micro seconds

- B. 20 micro seconds
- C. 40 micro seconds
- D. 60 micro seconds

Question No:136

(Marks:1)

Vu-Topper RM

The design and implementation of synchronous counters start from ____.

A. State diagram **Page 319**

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B. level diagram

Question No:137 (Marks:1) **Vu-Topper RM**

In Synchronous systems, the output of all the digital circuits changes when an enable signal is applied instead of the clock signal.

A. True

B. False Page 228

Question No:138 (Marks:1) **Vu-Topper RM**

The glitches due to "Race Condition" can be avoided by using a _____

A. Negative-Edge triggered flipflops

B. Positive -Edge triggered flipflops

Question No:139 (Marks:1) **Vu-Topper RM**

A mono-stable device only has a single stable state-----

A. True Page 262

B. False

Question No:140 (Marks:1) **Vu-Topper RM**

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), to supply the required frequency to each part of circuit, we can get help by using _____

A. J-K flip-flop

B. J-d flip-flop

Question No:141 (Marks:1) **Vu-Topper RM**

A decade counter can be implemented by truncating the counting sequence of a MOD-20 counter.

A. True

B. False

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Question No:142 (Marks:1) **Vu-Topper RM**

When an Op-Amp is used as an inverting amplifier, the input signal is applied at its Inverted input through a _____resistance.

A. Parallel

B. Series Page 439

Question No:143 (Marks:1) **Vu-Topper RM**

In asynchronous digital systems all the circuits change their state with respect to a common clock

A. False Page 245

B. True

Question No:144 (Marks:1) **Vu-Topper RM**

State of flip-flop can be switched by changing its

A. Input signal

B. Output signal

Question No:145 (Marks:1) **Vu-Topper RM**

3-to-8 decoder can be used to implement Standard SOP and POS Boolean expressions

A. True Page 161

B. False

Question No:146 (Marks:1) **Vu-Topper RM**

Memory is arranged in _____.

A. Two-dimensional manner Page 396

B. linear fashion

Question No:147 (Marks:1) **Vu-Topper RM**

A FIELD-PROGRAMMABLE LOGIC ARRAY CAN BE PROGRAMMED BY THE USER AND NOT BYTHE MANUFACTURER.

A. TRUE Page 182

B. False

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Question No:148 (Marks:1) **Vu-Topper RM**

A _____ can not operate without a memory element.

A. Counter Page 211

B. Register

Question No:149 (Marks:1) **Vu-Topper RM**

In case of cascading Integrated Circuit counters, the enable inputs and RCO of the Integrated Circuit counters allow cascading of multiple counters together.

A. True

B. False

Question No:150 (Marks:1) **Vu-Topper RM**

A complete unit of information is sometimes called a _____.

A. Word Page 387

B. Byte

Question No:151 (Marks:1) **Vu-Topper RM**

If a circuit suffers “Clock Skew” problem, the output of circuit can’t be guaranteed.

A. True

B. False

Question No:152 (Marks:1) **Vu-Topper RM**

The combinational digital circuits have _____ storage element; therefore, combinational circuits handle only instantaneous inputs.

A. No Page 210

B. Yes

Question No:153 (Marks:1) **Vu-Topper RM**

Following is standard POS expression

A. True

B. False

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Question No:154 (Marks:1) **Vu-Topper RM**

The inputs can be directly mapped to Karnaugh maps.

A. J-K Page 300

B. J-G

Question No:155 (Marks:1) **Vu-Topper RM**

The synchronous counters are also known as Ripple Counters:

A. True

B. False

Question No:156 (Marks:1) **Vu-Topper RM**

To write data to the memory the memory the write cycle is initiated by

A. Applying the address signals Page 397

B. Applying the digital address

Question No:157 (Marks:1) **Vu-Topper RM**

The minimum time for which the input signal has to be maintained at the input of flip-flop is called _____ of the flip-flop.

Hold time Page 242

Question No:158 (Marks:1) **Vu-Topper RM**

A-stable multi-vibrator is an Oscillator which does not have any___

Astable Multivibrator Google

Question No:159 (Marks:1) **Vu-Topper RM**

The normal data inputs to a flip-flop (D, S and R, J and K, T) are referred to as _____ inputs.

Synchronous

Question No:160 (Marks:1) **Vu-Topper RM**

UVEPROM is stands for-----

Ultra-Violet Erasable Programmable Read Only Memory.

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Question No:161 (Marks:1) **Vu-Topper RM**
-----are implemented by combining combinational circuits with memory elements.

Sequential circuits **Page 211**

Question No:162 (Marks:1) **Vu-Topper RM**
The EPROM uses _____array with an isolated-gate structure.

NMOSFET **Page 411**

Question No:163 (Marks:1) **Vu-Topper RM**
A one-shot mono-stable device contains _

NOR gate, Resistor, Capacitor and NOT Gate

Question No:164 (Marks:1) **Vu-Topper RM**
In sequential circuits memory elements are connected with_____.

Common clock

Question No:165 (Marks:1) **Vu-Topper RM**
The alternate solution for a multiplexer and a register circuit is _____.

Parallel in / Serial out shift register **Page356**

Question No:166 (Marks:1) **Vu-Topper RM**
Which of the following output equations determines the output of the state machine?

Max-Q0Q1EN **Page 382**

Question No:167 (Marks:1) **Vu-Topper RM**
The CONSTATE.CLK = Clock is used to indicate that the _____ state variables change on a clock transition.

CONSTATE

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Question No:168 (Marks:1)

Vu-Topper RM

The n flip-flops store _____ states.

2^n

Question No:169 (Marks:1)

Vu-Topper RM

Why demultiplexer is called a data distributor?

Single input to Single Output

Question No:170 (Marks:1)

Vu-Topper RM

The AND Gate performs a logical _____ function.

Multiplication Page 40

Question No:171 (Marks:1)

Vu-Topper RM

The _____ gate and _____ gate implementation connected at the B input of the 4-bit Adder is used to allow Complemented or Un-Complemented B input to be connected to the Adder input.

AND,OR Page 146

Question No:172 (Marks:1)

Vu-Topper RM

The domain of the expression $AB'CD + AB' + C'D + B$ is

A, B, C and D

Question No:173 (Marks:1)

Vu-Topper RM

When the transmission line is idle in an asynchronous transmission

It is set to logic high Page 349

Question No:174 (Marks:1)

Vu-Topper RM

PLDs have In-System Programming (ISP) capability that allows the _____ to be programmed after they have been installed on a circuit board.

PLDs Page 194

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Question No:175 (Marks:1) **Vu-Topper RM**
Demorgan's two theorems prove the equivalency of the NAND and _____ gates and the NOR and _____ gates respectively.
Negative-OR, Negative-AND Page 74

Question No:176 (Marks:1) **Vu-Topper RM**
An Asynchronous Down-counter is implemented (Using J-K flip-flop) by connecting _____.
Q output of all flip-flops to clock input of next flip-flops

Question No:177 (Marks:1) **Vu-Topper RM**
WHEN BOTH THE INPUTS OF EDGE-TRIGGERED J-K FLOP-FLOP ARE SET TO LOGIC ZERO -----
THE OUTPUT OF FLIP-FLOP REMAINS UNCHANGED

Question No:178 (Marks:1) **Vu-Topper RM**
The _____ Encoder is used as a keypad encoder.
Decimal-to-BCD Priority Page 166

Question No:179 (Marks:1) **Vu-Topper RM**
NOR gate is formed by connecting _____.
OR Gate and then NOT Gate Page 47

Question No:180 (Marks:1) **Vu-Topper RM**
A particular half adder has
2 INPUTS AND 2 OUTPUT Page 134

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Question No:181 (Marks:1) **Vu-Topper RM**
Assume a J-K flip-flop has 1s on the J and K inputs. The next clock pulse will cause the output to .
Toggle

Question No:182 (Marks:1) **Vu-Topper RM**
A stage in the shift register consists of
A flip flop

Question No:183 (Marks:1) **Vu-Topper RM**
flip-flops are obsolete now.
Master-Slave

Question No:184 (Marks:1) **Vu-Topper RM**
In Master-Slave flip-flop setup, the master flip-flop operators at
Both Master-Slave operator simultaneously **Page 230**

Question No:185 (Marks:1) **Vu-Topper RM**
The 3-bit up counter can be implemented using flip-flop(s).
S-R flip-flops and D-flip-flops **Page 316**

Question No:186 (Marks:1) **Vu-Topper RM**
A transparent mode means _____
The changes in the data at the inputs of the latch are seen at the output **Page 245**

Question No:187 (Marks:1) **Vu-Topper RM**
In _____ outputs depend only on the current state.
Moore Machine **Page 332**

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Question No:188 (Marks:1) **Vu-Topper RM**

Which mechanisms allocate the binary values to the states in order to reduce the cost of the combinational circuits?

State assignment

Question No:189 (Marks:1) **Vu-Topper RM**

Design of state diagram is one of many steps used to design

A truncated counter

Question No:190 (Marks:1) **Vu-Topper RM**

The term hold always means.

No change

Question No:191 (Marks:1) **Vu-Topper RM**

A flip-flop is presently in SET state and must remain SET on the next clock pulse. What must j and k be?

J=X(Don'tcare),K=0

Question No:192 (Marks:1) **Vu-Topper RM**

Invalid state of NOR based SR latch occurs when _____.

S=1, R=1

Question No:193 (Marks:1) **Vu-Topper RM**

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

ENP, ENT

Question No:194 (Marks:1) **Vu-Topper RM**

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

Race condition **Page 267**

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Question No:195 (Marks:1) **Vu-Topper RM**
In asynchronous transmission when the transmission line is idle, ____
It is set to logic high **Page 356**

Question No:196 (Marks:1) **Vu-Topper RM**
LUT is acronym for _____
Look Up Table **Page 439**

Question No:197 (Marks:1) **Vu-Topper RM**
The three fundamental gates are _____
NOT, OR, AND **Page 40**

Question No:198 (Marks:1) **Vu-Topper RM**
The total amount of memory that is supported by any digital system depends upon _____
The size of the address bus of the microprocessor **Page 430**

Question No:199 (Marks:1) **Vu-Topper RM**
In order to synchronize two devices that consume and produce data at different rates, we can use _____
Fist In First Out Memory **Page 425**

Question No:200 (Marks:1) **Vu-Topper RM**
A flip-flop changes its state when _____
Low-to-high transition of clock **Page 228**

Question No:201 (Marks:1) **Vu-Topper RM**
In a sequential circuit the next state is determined by ____ and -----
Input and clock signal applied **Page 305**

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Question No:202 (Marks:1) **Vu-Topper RM**
_____ of a D/A converter is determined by comparing the actual output of a D/A converter with the expected output.

Accuracy **Page 460**

Question No:203 (Marks:1) **Vu-Topper RM**
Above is the circuit diagram of _____.

Asynchronous up-counter **Page 270**

Question No:204 (Marks:1) **Vu-Topper RM**
The sequence of states that are implemented by a n-bit Johnson counter is

$2n$ (n multiplied by 2) **Page 354**

Question No:205 (Marks:1) **Vu-Topper RM**
" $A + B = B + A$ " is _____

Commutative Law

Question No:206 (Marks:1) **Vu-Topper RM**
An alternate method of implementing Comparators which allows the Comparators to be easily cascaded without the need for extra logic gates is _____

Using Iterative Circuit based Comparators **Page 155**

Question No:207 (Marks:1) **Vu-Topper RM**
DE multiplexer is also called

Data distributor **Page 178**

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Question No:208 (Marks:1) **Vu-Topper RM**

In a state diagram, the transition from a current state to the next state is determined by

Current state and the inputs Page 332

Question No:209 (Marks:1) **Vu-Topper RM**

The alternate solution for a demultiplexer-register combination circuit is

Serial in / Parallel out shift register Page 356

Question No:210 (Marks:1) **Vu-Topper RM**

The storage cell in SRAM is

A capacitor Page 407

Question No:211 (Marks:1) **Vu-Topper RM**

What is the difference between a D latch and a D flip-flop?

The D flip-flop has a clock input.

Question No:212 (Marks:1) **Vu-Topper RM**

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

Access Time Page 417

Question No:213 (Marks:1) **Vu-Topper RM**

THE HOURS COUNTER IS IMPLEMENTED USING _____

A SINGLE DECADE COUNTER AND A FLIP-FLOP

Question No:214 (Marks:1) **Vu-Topper RM**

The high density FLASH memory cell is implemented using _____

1 floating-gate MOS transistor Page 419

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Question No:215 (Marks:1) **Vu-Topper RM**
Q2 :=Q1 OR X OR Q3 The above ABEL expression will be
Q2:= Q1 # X # Q3 **Page 210**

Question No:216 (Marks:1) **Vu-Topper RM**
The output of an AND gate is one when _____
All of the inputs are one **Page 40**

Question No:217 (Marks:1) **Vu-Topper RM**
The binary numbers A = 1100 and B = 1001 are applied to the inputs of a comparator. What are the output levels?
A > B = 1, A < B = 0, A = B = 0 **Page 109**

Question No:218 (Marks:1) **Vu-Topper RM**
The device shown here is most likely a
Multiplexer

Question No:219 (Marks:1) **Vu-Topper RM**
DE multiplexer converts _____ data to _____ data
Serial data, parallel data **Page 356**

Question No:220 (Marks:1) **Vu-Topper RM**
The capability that allows the PLDs to be programmed after they have been installed on a circuit board is called _____
In-System Programming (ISP) **Page 194**

Question No:221 (Marks:1) **Vu-Topper RM**
In _____ outputs depend only on the combination of current state and inputs.
Mealy machine **Page 332**

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Question No:222

(Marks:1)

Vu-Topper RM

In the following statement Z PIN 20 ISTYPE „reg.invert“;

Active-low Registered Mode output

Question No:223

(Marks:1)

Vu-Topper RM

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

Quantization Page 445

Question No:224

(Marks:1)

Vu-Topper RM

In elevator circuit, the floor display circuit is a combinational circuit which uses the _____ and _____ inputs two determine the floor number and the direction of the display arrow.

MOTION and DIR Page 374

Question No:225

(Marks:1)

Vu-Topper RM

The characteristic equation of D-flip-flop implies that _____.

The next state is independent of the present state. Page 381

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