SC

SEAT No._____ No. of Printed Pages : 2

[14/A4]

SARDAR PATEL UNIVERSITY
External Examination
F.Y.BCA (Sem-1) NC [old Course]
US01EBCA01: Digital Computer Electronics

Date:23/10/2018, Tuesday **Time: 10.00 am – 12.00 noon** **Marks: 70**

Q-1 Select the correct option from the following questions. **10**

1 The _____ gate has two or more input signals. All inputs must be high to get a high output.
A. AND B. NOT C. NOR D. NAND

2 De Morgan's first theorem says that a NOR gate is equivalent to a _____.
A. bubbled OR B. bubbled NOR C. bubbled AND D. AND bubbled

3 In Comparator, _____ gate is use for comparing bits in word.
A XOR B AND C NOR D XNOR

4 2. In k-map, quad eliminates _____ variable.
A. one B. two C. three D Four

5 A combinational circuit that performs the arithmetic addition of three bits is called _____.
A Full Half adder B Half adder C Binary adder D Decoder

6 In half adder XOR gate's output is _____.
A. carry B. sum C. reminder D. none

7 In shift right register, the arrival of the first rising clock edge sets the _____ flip-flop.
A. left B. right C. up D. down

8 Ring counter producing words with 1 high bit, which shifts _____ position per clock pulse
A. one B. two C. three D. none

9 A _____ is a memory element that stores a binary digit.
A. Binary adder B. Decoder C. Multiplexer D. Flip flop

10 A gate is a logic circuit with one or more input signals but only _____ output signal.
A. two B. one C. three D. four

Q-2 Answer the following questions. (ATTEMPT ANY TEN) **20**

1 Describe the AND, NOR gate.

2 Explain Associative low.

3 Write truth table for : ABC +A'B'C'

(P.T.O.)

4		Explain product of sum.	
5		Describe pair in k-map	
6		Define comparator in short.	
7		Draw the circuit diagram of Half Adder.	
8		Describe binary subtractor in short.	
9		Define Multiplexer. What is the use it?	
10		Define : register and shift register. What are the types of shift register?	
11		Explain D flip-flop.	
12		Draw the circuit diagram of Controlled Buffer Register.	
Q-3	**A**	Write note on: De'Morgan's first theorem.	**5**
	B	Explain AND, NOT gates.	**5**
		OR	
Q-3	**A**	Write note on: De'Morgan's second theorem.	**5**
	B	Explain Associative low.	**5**
Q-4	**A**	Explain 8x3 line Encoder in detail.	**5**
	B	What is k-map? Explain pair with example.	**5**
		OR	
Q-4	**A**	Explain 3x8 line Decoder in detail.	**5**
	B	Explain comparator.	**5**
Q-5	**A**	Explain Half adder in detail.	**4**
	B	Explain 4x1 Multiplexer.	**6**
		OR	
Q-5	**A**	Explain Full adder in detail.	**4**
	B	Explain 4 bit Binary Subtractor with circuit diagram.	**6**
Q-6		Explain Shift Left and Shift Right Registers in detail.	**10**
		OR	
Q-6		Explain Ring Counters.	**10**

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