No. of Printeo Pages:2

SARDAR PATEL UNIVERSITY B.C.A(Sem-I)(UNDER CBCS – Regular) Digital Computer Electronics-US01EBCA01 Saturday, 16th November, 2013

Time:2:30 to 4:30

(86)

Marks :70 (10)

Q-1	Answer the following quest	tions.		
1.	Ar OR gete is physical realization of logical operation.			
•	a) Additicn	b) Multiplication		
	c) Division	d) Subtraction		
2.	In the associative laws, mini	mum how many input variables are required?		
	a) 2	b) 3		
	c) 1	d) 4		
3.	Invert gate has only	input and output.		
	a) Two, Cne	b) One, One		
~	c) One, Two	d) Two, Two		
4.	How many half adder presences in the Binary adder?			
	a) 2	b) 1		
	c) 4	d) 3		
5.	5is way to simplify the equation.			
	a) Boolean Algebra	b) K-Map		
	c) Both	d) None		
6. In D-Flip Flop, when CLK is low then input is				
	a.) High	b) Low		
•	c) Don't Care	d) Not Change		
7.	A multiplexer also called a			
	a) Data Selector	b) Data Remover		
	c) Data Multiplexer	d) Data Inverter		
8.	In half adder XOR gate's ou	tput is		
	a) carry	b) sum		
	c) reminder	d) none		
9.	If the input variable are 3 then how many possible combination of input in truth			
-	table?			
)	a) 3	b) 8		
	c) 4	d) 16		
10	A register is a group of	that work together as a unit.		
	a) flip-flop	b) Decoder		
	c) Encoder	d) Multiplexer		
0.2	A service also following array	tions (Any Ton)		
Q-2	Answer the following questions. (Any Ten)			
1.	Explain OK gate in detail with truth table and block diagram.			
2.	Draw the circuit diagram for $(A \oplus B)^{-}(BC)(A \oplus C)$			
3.	Write truth table for : A'B+.	B.C		
4.	Explain Quad k-map with example.			
5.	Simplify using k-map F(A,B,C)=E(1,2,5)			

6. Draw a circuit diagram of 4 x 1 multiplexer.

P.T.O

(20)

7.	Draw Circuit Diagram of King Counter.	
8.	Define comparator in short.	
9.	What is buffer register? Draw the circuit of it.	
10.	Explain D flip-flop.	
11.	What is shift register? Give its type.	
12.	Explain Logical Addition in Boolean algebra.	
Q-3	What is Gate? Explain NAND, NOR, AND, EX-OR with diagram and truth table.	(10)
•	OR	
Q-3	What is Truth Table? Explain Associative, Commutative low and Distributive low with Example.	
Q-4(A)	Solve below k-map and form on equation, and also find pair & quad.	(5)
	$N(A,B,C,D)=\sum m(2,4,8,10,12,14,15)$	\bigcirc
(B)	Simplify this using k-map $F(A,B,C,D)=\sum(1,3,5,6,8,11,13)$ OR	(5)
0-4(A)	Explain 8x3 line encoder in detail.	(5)
(B)	Explain Comparator with circuit and example	
Q-5(A)	Explain Full-Adder in detail.	(6)
(B)	Explain Parallel binary adder with circuit and example. OR	(4)
Q-5(A)	What is Multiplexer? Draw the logic circuit of 8 X 1 and explain with truth table.	(6)
. (B)	Explain binary adder-subtractor in detail.	(4)
0-6(A)	What is Shift-left? Explain with example.	(5)
(B)	Explain Ring-counter in details.	(5)
	OR	(-)
Q-6(A)	Write note on controlled buffer register.	(5)
(B)	Explain Edge-Trigger D-Flip Flop.	(5
		0

.

:

. .

*** ALL THE BEST ***

• •

in the second