		Reg. No. :							
Question Paper Code: 52208									
B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020									
Second Semester									
Computer science and Engineering									
15UCS208 - DIGITAL PRINCIPLES AND SYSTEM DESIGN									
(Common to Information Technology)									
(Regulation 2015)									
Dura	ation: 1:15hrs	num: 30 Marks							
PART A - (6 x 1 = 6 Marks)									
(Answer any six of the following questions)									
1.	A(A + B) = ?			CO1-R					
	(a) 1	(b) AB	(c) (1 + AB)	(d) A					
2.	The minterm expansion of $f(P, Q, R) = PQ + QR' + PR'$ is CO1-A								
	·								
	(a) $m2+m4+m6+m7$	(b) m0+m1+m3+m	5 (c) $m0+m1+m6+m7$	(d) $m^2+m^3+m^4+m^5$					
3.	In a comparator, if we be	e get input as A>B th	en the output will	CO2-R					
	(a) 1	(b) 0	(c) B	(d) A					
4.	The binary representa	CO2-App							
	(a) 1101001	(b) 0101011	(c) 0011101	(d) 0110101					
5.	The process of record	CO3-R							
	(a) Encoding		(b) Multiplexing						
	(c) Decoding		(d) None of the Mentior	ned					
6.	In 1-to-4 demultiplexer, how many select lines are required?								
	(a) 2	(b) 3	(c) 4	(d) 5					

7.	The logic circuit whose output at any instant of time depends only on the present input but also on the past outputs is								
	(a) Flip-flops		(b) Combinational circuits						
	(c) Latches		(d) Sequential circuits						
8.	UP-DOWN counter is	s also known as	·		CO4-R				
	(a) Dual counter		(b) Multi counter						
	(c) Multimode counte	er	(d) None of the Mentioned						
9.	Table that is not a par		CO5-R						
	(a) flow table	(b) excitation table	(c) state table	(d) transitio	n table				
10.	Asynchronous sequer		CO5-R						
	(a) clock pulses	(b) time	(c) outputs	(d) inputs					
	PART – B (3 x 8= 24 Marks)								
	(Answer any three of the following questions)								
11.	Define K-map and simplify $F(A,B,C,D)=\sum(0,1,2,5,8,9,10)$ in sum of products and product of sum using K-map.			CO1-U	(8)				
12.	Explain BCD adder.			CO2-U	(8)				
13.	Explain a combination binary number and our input number.	CO3-App	(8)						
14.	Design a synchrono 000,001,010,011,100	CO4-App	(8)						
15.	Design and demonstring inputs x1 and x2 and inputs are 0, output becomes 1, z become the output stays at 0 u	CO5-App	(8)						