PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR

Department: Information Technology Semester: III			Section: A/B						
CAT- II (2023-24) Subject: Digital Electronics & Fundamental of Microprocessor Subject Code: 3BEIT303 Duration: 1.5 Hrs									
2) So 3) So	elve Question 1 OR Questions No. 2. Elve Question 3 OR Questions No. 4. Elve Question 5 OR Questions No. 6. I questions carry marks as indicated.								
Q.	Question		Marks	CO	BL				
No. 1a.	i) A feature that distinguishes the JK flip flop from the SR fl flop is the A) Toggle condition B) Preset Input C) Type of clock D) Clear input	lip	1	CO4	L1				
	ii) A 4 bit counter is used to count form 0, 1, 2,n. value of is	'n'	1	CO4	L3				
	A) 16 B) 15 C) 31 D) 32								
lb.	Design Mod-5 synchronous counter using T flip flop.		5	CO4	L3				
lc.	Design lock free counter to count in the following sequence. $4 \longrightarrow 6 \longrightarrow 7 \longrightarrow 3 \longrightarrow 1 \longrightarrow 4$		7	CO4	L3				
	Use JK flip flop for design		2	~ ~					
	OR e	رم	v 2		*				
2a.	i) How many flip-flops circuits are needed to construct MOD-1 counter? A) 2 B) 3 C/4 D) 5		1	JC04	$\frac{12}{2}$				
	ii) Which of the following does not come in sequential circuit A) Flip flop B) Counter C) Latch D) Full Adder	?0	1	CO4	\times L3				
2b.	Differentiate between combinational circuits and sequential circuits.	. 1	5	co ²	ιP				
2c.	Convert the following Flip-Flop: i) S-R to J-K Flip-flop. ii) J-K flip flop to D flip-flop.		7	CO4	L3				
3a.	i) How many hardware interrupts are available in 8085? A) 4 B) 5 C) 6 D) 8		1	CO5	L1				
	ii) How many address lines are available in 8085? B) 14 B) 15 CY 16 D) 8		1	CO5	L1				

3b.	List the features of 8085 microprocessor.	5	CO5	L1	
3c.	Explain with neat sketch architecture of 8085.	7	CO5	L2	Ξ
				9	
	OR				
4a.	i) How many flags are available in 8085? C) 4 P7 5 C) 6 D) 8	1	CO5	L1	
	ii) Which hardware interrupt of 8085 has the highest priority? A) INTR B) TRAP C) RST 7.5 D) RST5.5	1	CO5	L1	244
4b.	Explain with neat sketch interrupt structure of 8085.	5	CO5	L2	
4c.	Explain addressing modes in 8085 with one example each.	7	CO5	L2	
5a.	i) Which of the following are building blocks of encoders? A) NOT gate C) AND gate D) NAME gate	1	CO3	L1	
	B) OR gate D) NAND gate ii) In a multiplexer, the number of n selected input lines is equal to 2 ^m then it requires select lines. A) 2 B) m C) n D) 2n		CO3	L3	64:1
5b.	Design 3 input priority encoder.	5	CO3	L3	24
6a.	i) How many AND, OR and EXOR gates are required for the configuration of full adder? A) 1, 2, 2 B) 2, 1, 2 D) 4, 0, 1	1	CO3	Ll	16:4
	ii) How many 4:1 multiplexer required to implement 64:1 multiplexer? A) 20 B) 21 C) 16 D)17	1	CO3	L3	
Ę.	Design full adder circuit using two half adder and one OR gate.	5	CO3	L3	
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