20CB/CS/DS/IT305

Hall Ticket Number:

II/IV B.Tech (Supplementary) DEGREE EXAMINATION

July/August,2023 — **Common to CB,CS,DS & IT Branches**

Third Semester — **Computer Organization**

Time: Three Hours — **Maximum:** 70 Marks

Answer question 1 compulsory. **(14X1 = 14Marks)**

Answer one question from each unit. **(4X14=56 Marks)**

			CO	BL	M
1	a)	Perform the subtraction with the following unsigned binary numbers using 2's complement. 11010 - 10000	CO1	L2	1M
	b)	Convert $(41.6875)_{10}$ into binary.	CO1	L2	1M
	c)	List various basic symbols for register transfers.	CO1	L1	1M
	d)	Write various phases of instruction cycle.	CO1	L1	1M
	e)	What are the various basic instruction formats?	CO2	L1	1M
	f)	Define microinstruction.	CO2	L1	1M
	g)	List various typical shift instructions.	CO2	L1	1M
	h)	Write different program control instructions.	CO2	L1	1M
	i)	List parts of division algorithm.	CO3	L1	1M
	j)	What is an algorithm?	CO3	L1	1M
	k)	How do you represent + 33 and – 33 with signed-2's complement data.	CO3	L2	1M
	l)	Distinguish between RAM and ROM.	CO4	L1	1M
	m)	Give example for auxiliary memory devices.	CO4	L1	1M
	n)	What is a priority interrupt?	CO4	L1	1M
		Unit-I			
2	a)	Explain floating point Representation with examples.	CO1	L2	7M
	b)	Discuss various categories of arithmetic microoperations.	CO1	L2	7M
		(OR)			
3	a)	Construct a bus system using four registers and function table for bus using selection lines.	CO1	L3	7M
	b)	Describe various logic microoperations.	CO1	L2	7M
		Unit-II			
4	a)	Describe input-output configuration and input-output instructions.	CO2	L2	7M
	b)	Illustrate various memory Reference instructions with examples.	CO2	L3	7M
		(OR)			
5	a)	Illustrate design of control unit with relevant figures.	CO2	L2	14M
		Unit-III			
6	a)	Explain about addressing modes with examples.	CO3	L3	14M
		(OR)			
7	a)	Evaluate (3 * 4) + (5 * 6) using stack operations.	CO3	L5	4M
	b)	Explain booth multiplication algorithms along with flow chart.	CO3	L3	10M
		Unit-IV			
8	a)	Describe set associative mapping cache in detail.	CO4	L2	7M
	b)	Illustrate segmented page mapping with figures.	CO4	L2	7M
		(OR)			
9	a)	Describe about DMA transfer with relevant figure.	CO4	L2	7M
	b)	Discuss daisy-chain priority interrupt in detail.	CO4	L2	7M