Subject Code: 19CS304PC	SET-II	HT NO:			7	R					

CMR TECHNICAL CAMPUS

UGC AUTONOMOUS

B. Tech. III Semester Supply End Examinations, July/August-2023

Computer Organization and Architecture

Department of CSE

Time: 3 Hours **Max. Marks: 70**

Note

i. This Question paper contains Part- A and Part- B.
ii. All the Questions in Part A are to be answered compulsorily.
iii. All Questions from Part B are to be answered with internal choice among them.

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PART-A

10 X 02 = 20 Marks

			Marks	CO	BL
1.	a	Explain about central processing unit	2	CO1	L2
	b	Describe about Instruction cycle.	2	CO1	L1
	c	What is absolute addressing mode?	2	CO2	L1
	d	Write a short note on program control.	2	CO2	L1
	e	What is data representation in computer architecture?	2	CO3	L2
	f	What is overflow and how does it affect computer arithmetic?	2	CO3	L4
	g	Define Memory Access Time?	2	CO4	L1
	h	Explain the necessary for memory hierarchy?	2	CO4	L3
	i	How does RISC architecture impact the design of computer processors?	2	CO5	L3
	j	What is pipelining in computer organization and architecture and how does it impact performance?	2	CO5	L4

PART- B

5 X 10 = 50 Marks

			Marks	CO	BL
2.	a	Draw and explain Block diagram of Digital Computers	5	CO1	L3
	b	Explain the phases involved in Instruction cycle with the help of necessary timing diagrams?	5	CO1	L3
		OR			
3	a	Describe the difference between computer architecture and computer organization	5	CO1	L2
	b	Explain about Arithmetic logic shift unit with neat diagram.	5	CO1	L2
4	a	Explain about micro program with an example.	5	CO2	L2
	b	List different addressing modes with suitable examples.	5	CO2	L2
		OR			

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5	a	Explain about the address sequencing in control memory with neat diagrams?	5	CO2	L2
	b	Explain about data transfer and manipulation.	5	CO2	L2
6	a	Draw flow chart for multiplication of two floating point numbers.	5	CO3	L2
	b	Explain various Decimal arithmetic operations.	5	CO3	L2
		OR			
7	a	Explain how complement number system is useful in computer system. Discuss any one complement number system with example	5	CO3	L3
	b	Explain about the multiplication algorithms in Computer Arithmetic.	5	CO3	L2
8	a	Explain DMA Controller with the block diagram?	5	CO4	L2
	b	Define Random Access Memory and explain various types of RAMs present?	5	CO4	L2
		OR			
9	a	Explain the mapping procedures adopted in the organization of a Cache Memory?	5	CO4	L2
	b	Discuss memory mapped I/O in computer organization?	5	CO4	L2
10	a	Explain three segment instruction pipelines with the help of timing diagram.	5	CO5	L3
	b	Describe system bus structure for multiprocessors.	5	CO5	L2
		OR			
11	a	Explain pipeline for floating point addition and subtraction.	5	CO5	L2
	b	Describe cache coherence and why is it important in shared memory multiprocessor systems?	5	CO5	L4

CO : Course Outcomes

BL : Bloom's Taxonomy Levels **L 1 : Remembering** **L 2 : Understanding**

L 3 : Applying **L 4 : Analysing**

L 5 : Evaluating **L 6 : Creating**

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