Q.P. Code: 18CS0505 **R18**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B Tech II Year I Semester Supplementary Examinations Feb-2021

COMPUTER ORGANIZATION & ARCHITECTURE

(Common to CSE & CSIT)

Time: 3 hours Max. Marks: 60

PART-A

(Answer all the Questions **5 x 2 = 10** Marks)

1	a	Define instruction cycle.	2M
	b	What are the steps for Booth's Multiplication?	2M
	c	What are the arithmetic micro operations?	2M
	d	Differentiate between SRAM & DRAM.	2M
	e	What is parallel processing?	2M

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2	a	Write in detail about the Functional Units of Computer with neat diagram.	5M
	b	What is Computer Instructions and Explain about it?	5M
		OR	
3	a	Write in detail about Data Transfer Instructions.	5M
	b	Write about input-output subsystems with neat diagrams.	5M

UNIT-II

4	a	Explain the logic behind carry look-ahead adder with its circuit diagram.	5M
	b	Draw the H/W Flowchart and H/W Algorithm for Multiplication for positive numbers with a suitable example.	5M
		OR	
5	a	Draw the H/W Flowchart and write algorithm for Division restoring with an example.	5M
	b	Explain in detail about Floating point numbers, its operations and implementing it.	5M

UNIT-III

6	a	Explain about three- state bus buffers with neat sketch.	5M
	b	Explain the way of constructing a 4-line common bus system with a neat diagram.	5M
		OR	
7	a	Explain about Address Sequencing with neat diagram.	6M
	b	Write in detail about Logic Micro Operations with neat representations.	4M

UNIT-IV

8	a	What is Main Memory and what are the types in it, Explain in detail.	6M
	b	Explain about semiconductor RAM and its types in detail.	4M
		OR	
9	a	Describe the use of DMA controllers in a computer system with a neat block diagram.	5M
	b	List out few I/O Interfaces and explain them in brief.	5M

UNIT-V

10	a	Explain about throughput and speed up of pipelining?	5M
	b	Define hazards. Explain in detail about instruction hazards.	5M
		OR	
11	a	Write about multistage network with neat sketch.	5M
	b	Explain about 4-segment Instruction Pipeline with neat diagram.	5M

END