Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year I Semester Supplementary Examinations August-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	What are the types of Addressing modes?	2M
	b	Write memory reference instructions.	2M
	c	Define hardwired control unit.	2M
	d	What is the role DMA in peripheral devices?	2M
	e	Define pipelining.	2M

PART-B

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

UNIT-I

2	a	Explain about the Structure of Bus and types of Bus with neat diagram.	5M
	b	What is Computer Registers and explain the types in it.	5M

OR

3	a	Write in detail about Addressing Modes and its types.	5M
	b	Explain about Instruction set architecture of a CPU with neat diagram.	5M

UNIT-II

4	a	Write the Booth multiplication algorithm. Draw the flowchart and explain with an example?	5M
	b	Explain the logic behind carry look-ahead adder with its circuit diagram.	5M

OR

5	a	Draw the H/W Flowchart and write algorithm for Division non-restoring with an Example.	5M
	b	Explain the carry save multiplier with neat sketch.	5M

UNIT-III

6	a	Show that the block diagram of the hardware that implements the following register transfer statement P: R2←R1.	5M
	b	Explain about the applications of Logic Micro Operations.	5M

OR

7	a	Explain about Micro Programmed Control with neat sketch.	6M
	b	Explain shift micro operations and draw 4-bit combinational circuit shifter.	4M

UNIT-IV

8	a	Explain about Memory Management Requirements.	6M
	b	Explain about Secondary Storage Devices in detail.	4M

OR

9	a	What is Virtual Memory? Discuss how paging helps in implementing virtual memory.	5M
	b	List out some differences between RAM & ROM.	5M

UNIT-V

10	a	Define parallel processing. How one can achieve parallel processing with single CPU.	5M
	b	Explain about characteristics of Multiprocessor.	5M

OR

11	a	Write about hyper cube network with neat sketch.	5M
	b	List out the conflicts in pipelining and explain about it.	5M

END