PVP 20

Code: 20CS3303

II B.Tech - I Semester –Regular / Supplementary Examinations
DECEMBER 2023

COMPUTER ORGANIZATION AND ARCHITECTURE
(COMPUTER SCIENCE & ENGINEERING)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
		UNIT-I			
1	a)	Build a digital circuit that performs arithmetic micro operations.	L3	CO2	7 M
	b)	With the help of block diagram, explain a 4-bit binary adder.	L2	CO2	7 M
		OR			
2	a)	What is the need of a common bus system? Draw and explain the diagram of bus system constructed using multiplexers.	L3	CO2	7 M
	b)	Discuss in details various types of shift micro operations.	L2	CO2	7 M
		UNIT-II			
3	a)	Construct and explain a flow chart for Instruction cycle.	L3	CO2	7 M

	b)	List and explain different types of computer instructions. Also provide their formats.	L4	CO2	7 M
OR					
4	a)	List and explain the register reference instructions.	L2	CO2	7 M
	b)	Describe various steps involves when an interrupt occur.	L2	CO2	7 M
UNIT-III					
5	a)	Explain different types of addressing modes.	L2	CO3	7 M
	b)	Develop a program to execute Y=(A-B)/(C+D*E) using one-address, two-address and three-address instructions.	L3	CO3	7 M
OR					
6	a)	Illustrate various data transfer and manipulation instructions.	L2	CO3	7 M
	b)	List and explain conditional branch instructions.	L4	CO3	7 M
UNIT-IV					
7	a)	Discuss the hardware implementation of signed-magnitude addition and subtraction.	L3	CO2	7 M
	b)	Draw and explain the implementation of Booth's multiplication algorithm.	L4	CO2	7 M
OR					
8	a)	What is cache memory? Also, explain its operation.	L4	CO4	7 M
	b)	Analyze the concept of virtual memory with the help of an example.	L4	CO4	7 M

UNIT-V					
9	a)	What do you mean by strobe control? Explain its data transfer from source and destination initiation.	L2	CO4	7 M
	b)	Demonstrate daisy chaining priority method.	L3	CO4	7 M
OR					
10	a)	What is pipelining? Explain how processing is done in the pipelining.	L3	CO4	7 M
	b)	Explain how the instruction pipeline works.	L4	CO4	7 M