Sub Code: R2331055C

R23

Set No. 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURUJADA VIZINAGARAM
III B. Tech I Semester Regular Examinations November -2025
COPMUTER ORGANIZATION
(ECE)

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

The Question paper consists of Part A & Part B.
Part A is compulsory, Answer all questions. Part B Answers any one question from each unit.
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1		PART-A	(20Marks)
	a)	What are the basic functional units of a computer system?	[2]
	b)	Define fixed-point and floating-point representation.	[2]
	c)	What are addressing modes? Give two examples.	[2]
	d)	Write short notes on Register Transfer Notation (RTN).	[2]
	e)	Differentiate between interrupt-driven I/O and programmed I/O.	[2]
	f)	What is cache memory and why is it used?	[2]
	g)	Define ROM and Flash Memory.	[2]
	h)	What is the role of a bus in a computer system?	[2]
	i)	Distinguish between hardwired and microprogrammed control.	[2]
	j)	What is the function of a control unit in a CPU?	[2]
		PART-B	(50Marks)
		Question from **Unit - I**	
2	a)	Explain the basic operational concepts of a computer system with a neat block diagram	[5]
	b)	Describe different types of data representation methods with examples.	[5]
		(OR)	
3	a)	What are error detection codes? Explain the concept of parity and Hamming code.	[5]
	b)	Discuss the performance parameters of a computer system.	[5]
		Question from **Unit - II**	
4	a)	Explain different types of addressing modes used in computer instructions with examples.	[5]
	b)	Discuss the different types of instruction formats.	[5]
		(OR)	
5	a)	Explain the use of stacks and queues in computer programming with examples.	[5]
	b)	Describe the role of instruction sequencing and control flow in CPU operations	[5]
		Question from **Unit - III**	
6	a)	Describe the process of handling multiple interrupts in a computer system.	[5]
	b)	Explain the working of Direct Memory Access (DMA) with a neat diagram.	[5]
		(OR)	

7	a)	Explain different types of buses used in computer systems (Synchronous and Asynchronous)	[5]
	b)	Describe the architecture and working of USB and PCI interfaces	[5]
		Question from **Unit - IV**	
8	a)	Explain the organization and working of cache memory using mapping techniques.	[5]
	b)	Describe different types of Read-Only Memory (ROM, PROM, EPROM, EEPROM, Flash).	[5]
		(OR)	
9	a)	Discuss memory system considerations and interleaving techniques.	[5]
	b)	Compare magnetic and optical storage devices based on their performance and applications.	[5]
		Question from **Unit - V**	
10	a)	Explain the concept of register transfers and microoperations in the processing unit	[5]
	b)	Discuss the sequence of steps involved in the execution of a complete instruction.	[5]
		(OR)	
11	a)	Compare and contrast hardwired control and microprogrammed control units.	[5]
	b)	Explain the structure and sequencing of microinstructions with next-address field	[5]

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