SNS College of Technology, Coimbatore-35.
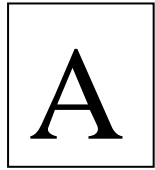**(Autonomous)**

A

B.E/B.Tech- Internal Assessment -II
Academic Year 2023-2024(ODD)
Third Semester
Computer Science and Engineering

19ITT202 Computer Organization and Architecture
[Common to CSE & IT]

Time: 1.5 Hours   Maximum Marks: 50
Answer All Questions

PART - A (5x 2 = 10 Marks)	**CO**	**Blooms**
1. List out the advantages of Booth Algorithm	CO2	Und
2. Define floating point number representation and Recall value representation equation for single precision	CO2	Rem
3. Consider the instruction Add (R3),R1 & write the action required to execution of the above mentioned complete instruction	CO2	Ana
4. What are the 4 different phases of Pipelining	CO3	Rem
5. Classify the different types of pipeline hazards	CO3	Und

PART – B (13+13+14 = 40 Marks)

6.	(a)	Multiply the following pair of signed 2's complement numbers using the Booth algorithm. Assume that A is the multiplicand & B is the multiplier. A=01101 & B=11010. Compare it with normal multiplication and explain how the concept of Booth recoding of multiplier is effective.	13	CO2	App
		(or)			
	(b)	Elaborate the concept of Integer division. Describe and analyze the difference between restoring and non-restoring division algorithm & apply any one algorithm execution for Dividend value 1000 and Divisor value 11.	13	CO2	App

7.	(a)	Illustrate the architectural organization of a processor and elaborate the steps needed for execution of a complete instruction.	13	CO3	Und

<div align="center">(or)</div>

	(b)	Summarize the processor execution of Hard-wired Control and Microprogrammed control instruction execution. Consider executing the instruction Add (R3),R1 by the processor. analyse the actions and control instructions needed for execution.	13	CO3	App

8.	(a)	Illustrate the advantages of fast multiplication over other multiplication algorithms and apply the two types of fast multiplication concept for the following values. Assume that A is the multiplicand & B is the multiplier. A=01101 & B=11010.	14	CO2	App

<div align="center">(or)</div>

	(b)	Analyze the execution of processor instructions in pipelining and how the performance got affected on the occurrence of Data and Instruction Hazards in pipelining, along with methods of handling its delay	14	CO3	Ana

<div align="center">

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(Note: Und-Understand   Rem-Remember   Ana-Analyze App-Apply   Cre- Create)

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Prepared By   Verified By   HoD