Register Number | | | | | | | | | |

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Department of Computer Science and Engineering

Continuous Assessment Test – II

Question Paper

Degree & Branch	B.E. & Computer Science and Engineering				**Semester**	IV
Subject Code & Name	UCS1401 & Computer Organization and Architecture				**Regulation:**	**2018**
Academic Year	2021-2022	**Batch**	2020-2024	**Date**	**3-05-2022**	**FN**
Time: 90 Minutes	**Answer All Questions**				**Maximum: 50 Marks**	

Part – A (6×2 = 12 Marks)

Knowle-dge Level	Question	Course Outcome	Performa-nce Indicator
K1	1. What are the advantages of bit pair recoding in multiplication?	CO2	1.3.1
K2	2. How PCSrc control signal in MIPS data path is generated?	CO2	1.4.1
K2	3. During the multiplication process of single precision floating point numbers, Which operation needs to be performed for biasing the exponent of result.	CO2	1.3.1
K1	4. What are the bias values for IEEE single precision and double precision floating point representations?	CO2	1.4.1
K2	5. Explain is need for sign bit extension in MIPS architecture?	CO3	1.3.1
K1	6. List the merits of pipelining.	CO3	1.3.1

Part – B (3×6 = 18 Marks)

K3	7. Construct a sequential circuit for binary multiplication and solve 13 x 11	CO2	2.1.3 2.2.2
K2	8. Explain with neat block diagram, Floating point addition/subtraction.	CO2	2.1.3 2.2.2 13.3.1
K2	9. Explain MIPS Pipeline architecture with a diagram	CO3	2.2.2 3.2.2 3.3.1 13.3.1 13.3.2

Part – C (2×10 = 20 Marks)

K3	10. Apply Booth multiplication and bit pair recoding methods to multiply (+13) x (-6).	CO2	1.3.1 2.1.3
	(OR)		
K3	11. Apply restoring division method to divide 1010 by 0011.	CO2	1.3.1 2.1.3

K3	12.Construct a complete data path and control path implementation of MIPS Architecture that supports store word operations	CO3	2.2.2 2.2.3 3.2.2
(OR)			
K3	13. Construct a complete data path and control path implementation of MIPS Architecture that supports unconditional branch	CO3	2.2.2 2.2.3 3.2.2