VIT

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

School of Computer Science and Engineering

Winter Semester 2023-2024 Continuous Assessment Test – I

Program Name &Branch: BCB, BCE, BCI, BCT, BDS, BKT **SLOT: D1+TD1**

Course Name & code: Computer Architecture and Organization-BCSE205L

Class Number (s): Common to all

Exam Duration: 90 Min. **Maximum Marks: 50**

General instruction(s):

Answer all five questions

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Q.No.	Question	Max Marks
1.	Write an Assembly language programming for the following expression using the IAS computer Instruction set and interpret the flow of the IAS computer (Register flow of operations). R = P – Q Assume the memory locations 800, 801, and 802 for P, Q, and R respectively.	10
2.	a. Show the bit pair recoded table for three-bit combinations. (3 Marks) b. Perform the multiplication with the numbers -12 and 6(i.e.-12*6) using the Modified Booth's algorithm. Description of each step is required. (7 Marks)	10
3.	a. Identify the most widely used signed number representation among the available representations. Justify your answer. (3 Marks) b. Perform the division with the numbers 14 and 6 (ie. 14/6,) using the restoring algorithm. Description of each step is required. (7 Marks)	10
4.	a. Compare and Contrast RISC with CISC (5 Marks) b. Perform arithmetic shift right operations one time on the following decimal number. (i) 13 (ii) 27 Represent the above numbers in 8-bit binary form (5 Marks)	10
5.	a. Evaluate the following expression in 3-address and 2-address instruction formats. A = (B * C) + (D * E) (4 Marks) b. Elucidate various addressing modes with examples. (6 Marks)	10