

School of Computer Science & Engineering B.Tech (H) Program Internal Assessment - 1 - Set 2 Academic Year: 2023 - 24 Term: Jan to May 24 Semester 2 Sections: All (A - I)

Date: 05-03-2024 Duration: 1 hour 30 min

Course Code: CS1120

Course Name: Embedded Systems & Microcontroller

Max Marks: 20

Mobile Phones, Smart Watches or any other internet enabled devices are treated as malpractice.

Student Name: USN: Section:

Instructions:

- 1. All questions are compulsory. Part A has 4 questions of 2 Marks and Part B has 3 Questions of 4 Marks
- 2. Total weightage is 20 Marks

Sl.	Questions	Marks	CO
No.			
PART A			
1	Illustrate the layers of abstraction of a computing system with a neat diagram.	2	CO1
2	Illustrate the concept of spatial and temporal locality and how they are related to addressing the CPU-DRAM performance gap.	2	CO1
3	Identify the Architecture Category according to Flynn's classification . Explain it. M CU P Memory Instruction Stream	2	CO2
4	Mention the contents of R2 in Hexadecimal & Binary Format for the following assembly instruction with the data given in source registers R2=0x25, R1=0x26. Add R2,R2,R1	2	CO3
PART B			
_		1	CO1
5	Discuss the importance of the following in Data Processing unit of a computer system.	4	CO1
	1. Program Counter 3. Instruction register		
	2. Memory Address Register 4. Memory Buffer Register		
6	With respect to the given diagram comprehend the sequence of instruction cycle for the assembly instruction of 64 bits	4	C02
	SUB R1, R2, [R3+R4] with Program Counter as 104H		

