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**Presidency University**

**Bengaluru**

**SCHOOL OF ENGINEERING**

**MAKE UP FINAL EXAMINATION**

**Semester**: I & II

**Course Code**: CSA-2002

**Course Name**: Computer Organization

**Program**: BCA

**Date**: 1ST July 2024

**Time**: 9:30 AM -12:30 PM

**Max Marks**: 100

**Weightage**: 50%

**Instructions:**

1. ***Read the Questions Properly and answer accordingly.***
2. ***Question paper consists of three parts and all questions are compulsory.***
3. ***Scientific and nonprogrammable calculators are permitted.***

**Part A**

**Answer all the Questions. (4Qx5M=20M)**

1. Explain how the computer performance can be measured. (CO2) [Knowledge]
2. Differentiate between the ONE address and TWO address instruction formats with suitable example. (CO1) [Knowledge]
3. With a neat diagram explain memory hierarchy. (CO3) [Knowledge]
4. Explain how the performance of cache memory can be improved. (CO4) [Knowledge]

**Part B**

**Answer all the Questions. Each question carries 10 marks. (4Qx10M=40M)**

1. Explain 4-bit carry look-ahead adder with proper diagram. (CO3) [Comprehension]
2. Explain the entire process of accessing a word by CPU in the memory hierarchy (CO4) [Comprehension]
3. Explain 4-bit ripple carry adder with a neat diagram and compute the delay for all the sum and carry bits(CO2) [Comprehension]
4. Explain the different types of instructions and the different ways of representing the instruction(CO2) [Comprehension]

**Part C**

**Answer all the Questions. Each question carries 20 marks. (2Qx20M=40M)**

1. Explain the execution of below mentioned instruction with control sequence and proper execution phases- "ADD (R3), R1". (CO3) [Application]
2. Perform the restoring division of +4(divisor) and +12(dividend). (CO4) [Application]