PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

MAKEUP EXAMINATION- JAN 2023

Course Code: CSE 2009

Course Name: Computer Architecture and Organization

Program   : B. Tech

Date: 23-JAN-2023

Time: 01.00 PM – 04.00 PM

Max Marks: 100

Weightage: 50 %

Instructions:

(i) Read all the questions carefully and answer accordingly.

(ii) Question paper consists of 3 parts.

(iii) Scientific and Non-programmable calculators are permitted.

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries FOUR marks.   (8Qx 4M= 32M)

1. State the difference between Big-Endian and Little-Endian representation.

(C.O.No.1) [Knowledge Level]

2. Define Full Adder? Write the equation for sum and carry.   (C.O.No.2) [Knowledge Level]

3. State the Basic performance equation. Describe factors that affect the performance of the

Computer.   (C.O.No.1) [Knowledge Level]

4. Discuss the functional units of a computer.   (C.O.No.1) [Knowledge Level]

5. Mention the various special purpose registers of a Processor.   (C.O.No.1) [Knowledge Level]

6. Differentiate between the two address and three address instruction formats with suitable

  examples.   (C.O.No.2) [Knowledge Level]

7. What are the different cache mapping techniques?   (C.O.No.3) [Knowledge Level]

8. State the difference between EPROM and EEPROM.   (C.O.No.3) [Knowledge Level]

Part B [Thought Provoking Questions]

Answer all the Questions. Each question carries TWELVE marks.   (3Qx12M=36M)

9. Explain 4-bit ripple carry adder with a neat diagram and compute the delay for all the sum and carry bits.   (C.O.No.2) [Comprehension]

10. Explain the internal organization of 32*8 Memory chip. State the external connections are required for the chip.   (C.O.No.3) [Comprehension Level]

11. Data can be transferred between the memory and I/O devices without the active intervention of the processor. Explain the mechanism behind this in detail.

(C.O.No.3) [Comprehension Level]

Part C [Problem Solving Questions]

Answer all the Questions. Each question carries SIXTEEN marks. (2Qx16M=32M)

12. Apply Booth algorithm to multiply signed integers of 8 and 3.

(C.O.No.2) [Application Level]

13. Explain the restoring division algorithm in computer arithmetic. Apply restoring division on 8 and 3.Write the flow chart for restoring division algorithm?

(C.O.No.2) [Application Level]