Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – MARCH 2026

Date: 10 – 03- 2026 **Time:** 11.45am to 01.15pm

School: SOIS	**Program:** BCA/BCI/BCD	
Course Code : CSA1201	**Course Name:** Computer Organization	
Semester: II	**Max Marks**: 50	**Weightage**: 25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**26**	**24**			

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **5Q x 2M=10M**

1	Define Power Wall and give a suitable example.	**2 Marks**	**L1**	**CO1**
2	Explain about Opcode and Operand with an example.	**2 Marks**	**L2**	**CO1**
3	Name any 4 functional units of computer.	**2 Marks**	**L1**	**CO1**
4	Outline 4-bit ripple carry adder.	**2 Marks**	**L2**	**CO**
5	Apply subtract operation on 6-9 using one's complement.	**2 Marks**	**L3**	**CO**

Part B

Answer the Questions. **Total Marks 40M**

6.	**a.**	Elucidate below addressing modes with suitable syntax and example: a) Direct Addressing Mode b) Register Addressing Mode c) Implied Addressing Mode d) Auto Increment& Decrement Mode e) Base with Index and offset Addressing Mode	**10 Marks**	**L2**	**CO1**

	b.	Evaluate E=(A+B) * (C+D) using One, Two & Three Address instruction.	**10 Marks**	**L3**	**CO1**
		Or			
7.	**a.**	Illustrate the connection between processor and memory and its operating steps with a neat diagram.	**10 Marks**	**L2**	**CO1**
	b.	Register R1 and R2 of computer contain the decimal value 3000 and 1800 respectively. What is the effective address of the source/destination operand in each of the following instructions? (Assume 32 bit word length) **a)** MOV 100(R1), R3 **b)** ADD (R1,R2), R4 **c)** STORE –(R2), R5 **d)** LOAD (R1)+, R6 **e)** ADD #250, R7	**10 Marks**	**L3**	**CO1**

8.	**a.**	Apply the 2's complement technique to perform the following arithmetic operations on signed binary numbers. (Assume 5 bit binary representation) 1) (**+**4) – (+9) 2) (+2) + (+3) 3) (7) + (−5) 4) (−7) + (4) **5)** (−8) + (−6)	**10 Marks**	**L3**	**CO2**
	b.	Apply Recoded Multiplier Booth algorithm on the given operands: $(13)_{10}$*$(-6)_{10}$ and explain the advantages achieved through recoding over conventional method.	**10 Marks**	**L3**	**CO2**
		Or			
9.	**a.**	**1.**Differentiate Big Endian and Little Endian in their byte order representation with a neat diagram. 2. Assume that each character occupies 1 byte. The word "RAJU" is stored in memory starting at address 4000. Apply the concept of memory endianness to show how the word is stored in Big Endian and Little Endian format.	**10 Marks**	**L3**	**CO2**
	b.	Using the restoring division algorithm, compute the division of $(10)_{10}$ by $(3)_{10}$	**10 Marks**	**L3**	**CO2**