

QUESTION PAPER

Name of the Examination: FALL 2022-2023 – CAT-1

Course Code: ECE 2015

Course Title: Computer Architecture

Set number: 2

Date of Exam: 14-2-2023 (FN)

Duration: 90 Mins

Total Marks: 50 (Bi)

Instructions:

1. Assume data wherever necessary.
2. Any assumptions made should be clearly stated.

Q1. Develop the assembly language code for the given program and identify the data in the different CPU registers of the IAS computer at the end of the execution.

```
main () {
    int a,b, c;
    if (a >= b)
        c = a - b;
    else
        c = a +b;
}
```

Q2. Discuss the various functions of a computer. What do you understand by I/O and peripherals?

Q3 Write an IAS assembly language code for $a+b-c=d$.

Q4. What are the key elements of a computer? Discuss the need for each elements in detail.

QP Mapping

Q. No.	Module Number	CO Mapped	PO Mapped	PEO Mapped	PSO Mapped	Marks
Q1	1	CO1	PO1, PO2, PO3			20
Q2	1	CO1	PO1, PO2, PO3, PO5			10
Q3	1	CO2	PO1, PO2, PO3, PO5			10
Q4	2	CO2	PO1, PO2, PO3, PO5			10



QUESTION PAPER

Name of the Examination: FALL 2022-2023 – CAT-1

Course Code: ECE 2015

Course Title: Computer Architecture

Set number: 3

Date of Exam: 14-2-2023 (AN)

Duration: 90 Mins

Total Marks: 50 (B₂)

Instructions:

1. Assume data wherever necessary.
2. Any assumptions made should be clearly stated.

Q1 Following hexadecimal codes are loaded on the given memory locations of an IAS computer. Develop the assembly language code and calculate how many times the main memory is accessed to understand the execution and memory access respectively. Also, discuss the register transfer operation.

Memory Location	Hex code
18A	0108A 0608B
28A	1038A 0108A
38A	0508B 2108B

Q2 Express your understanding of computer evolution.

Q3 Write an IAS assembly language code for $y=2*x+3*y$

Q4. Referring to the assembly language code LOAD 300, ADD 301, STOR 302; find the content of IR and MAR, and MBR during the execution of ADD 301. Describe using register transfer operation.

QP Mapping

Q. No.	Module Number	CO Mapped	PO Mapped	PEO Mapped	PSO Mapped	Marks
Q1	1	CO1	PO1, PO2, PO3			20
Q2	1	CO1	PO1, PO2, PO3, PO5			10
Q3	1	CO2	PO1, PO2, PO3, PO5			10
Q4	2	CO2	PO1, PO2, PO3, PO5			10