

Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02] **EVENING**

Uni. Roll No. ....

Program: B.Tech. (Batch 2018 onward)

11 JAN 2023

Semester: 4<sup>th</sup>

Name of Subject: Computer Architecture and Microprocessor

Subject Code: PCCS-104

Paper ID: 16214

Scientific calculator is not allowed.

**Time Allowed: 03 Hours**

**Max. Marks: 60**

**NOTE:**

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

**Part – A**

**[Marks: 02 each]**

**Q1.**

- a) Demonstrate the arithmetic operations  $(+42) + (-13)$  in binary using 8-bit signed-2's complement representation for negative numbers.
- b) What is Priority interrupt?
- c) Explain in brief about computer registers.
- d) Explain different ways to clear the contents of accumulator.
- e) Explain DAD and ANI instruction.
- f) Compare PROCEDURE and MACRO.

**Part – B**

**[Marks: 04 each]**

- Q2. Explain different types of computer instructions with examples.
- Q3. Compare between RICS and CISC Architecture.
- Q4. "DMA controller is designed to transfer data at the faster rates." Justify the statement.
- Q5. Distinguish between memory mapped and peripheral mapped I/O with the help of diagram.
- Q6. Demonstrate various assembly language instructions of 8085 for logical operations.
- Q7. Construct an assembly language program to swap two 8 bit numbers.

Q8. What is the need of addressing in a computer system? Explain different types of addressing modes with suitable examples.

OR

What is a mapping function? Explain various mapping techniques associated with cache memory.

Q9. Design and explain the functional block diagram of 8085 microprocessor in detail.

OR

Design and explain the interfacing of keyboard and seven segment LED display.

\*\*\*\*\*