

Code No.: AD305PC

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CMR ENGINEERING COLLEGE: : HYDERABAD

UGC AUTONOMOUS

II–B.TECH–I–Semester End Examinations (Supply) – June - 2025

COMPUTER ORGANIZATION AND MICROPROCESSOR

(AI&DS)

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit.

Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) Define computer organization. [2M]
- b) What is address sequencing? [2M]
- c) What are the various registers present in 8086? [2M]
- d) Which type of operation indicated by status lines of 8086? [2M]
- e) What is the difference between machine language and assembly language. [2M]
- f) What is the use of Interrupt service routine? [2M]
- g) Define Priority interrupt? [2M]
- h) What is the function of Intel 8089 IOP? [2M]
- i) What is the need of Cache Memory? [2M]
- j) Define Arithmetic Pipelining? [2M]

PART-B

(50 Marks)

- 2.a) Draw the block diagram of digital computer and explain? [5M]
 - b) Explain design of control unit in detail. [5M]
- OR**
- 3.a) Explain briefly timing and control in basic computer design. [5M]
 - b) Explain micro program example with neat diagram. [5M]
4. Draw the architecture of 8086 processor and explain in brief the execution unit and bus interface unit. [10M]
- OR**
5. List and explain the instruction set of 8086 with examples. [10M]
 6. What is an interrupt? Explain about different types of interrupts. [10M]
- OR**
7. Explain the Stack Structure Of 8086. [10M]
 8. Explain Booth Multiplication algorithm with an example. [10M]
- OR**
9. Discuss Direct Memory Access (DMA) in detail. [10M]
 10. With a neat diagram explain about Memory Hierarchy. [10M]
- OR**
11. Explain four possible hardware schemes that can be used in an instruction pipeline in order to minimize the performance degradation caused by instruction branching. [10M]
