

**BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)**  
**B. Tech. Sem - III Computer Science & Engineering AI & ML : WINTER: 2025**  
**SUBJECT: COMPUTER ORGANIZATION & MICROPROCESSOR**

Day : Monday  
Date : 15/12/2025

**W-23938-2025**

Time : 10:00 AM-01:00 PM  
Max. Marks : 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat labeled diagrams **WHEREVER** necessary.

**Q.1** Explain with the help of labelled diagram the architecture of 8086 microprocessor. (10)

OR

**Q.1** List any 5 instruction supported by 8086 and explain them briefly. (10)

**Q.2** Draw the flowchart of Non-Restoring Division Algorithm and solve for (6) / (2) using the Non - Restoring algorithm. (10)

OR

**Q.2** Draw the flowchart of Booth's Algorithm and solve for (-7) \* (3) using the booth's algorithm. (10)

**Q.3** Differentiate between Hardwired Control Unit and Microprogrammed Control Unit. (10)

OR

**Q.3** What is a micro- operations? Illustrate the micro- operations for the following operation. ADDRI Mem. (10)

**Q.4** Write short note on cache coherency. (10)

OR

**Q.4** Explain the different memory allocation policies. (10)

**Q.5** Write short note on Programmed I/O. (10)

OR

**Q.5** Differentiate between Memory Mapped I/O and I/O Mapped I/O. (10)

**Q.6** Differentiate between Tightly Coupled and Loosely Coupled Microprocessor System. (10)

OR

**Q.6** Explain the Instruction cycle with the help of state transition diagram. (10)

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