

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****1154 B.Tech. CBCS****Sub. Name: Microprocessors****Sub. Code: 63528/73280****Day and Date: Wednesday, 10-12-2025****Total Marks: 70****Time: 02:30 PM To 05:00 PM****Instructions: 1. All questions are compulsory
2. Figures to the right indicate full marks**

- Q1)** Solve any two questions [12]
- Explain the architecture of 8085 with a neat block diagram. [6]
 - Explain arithmetic instructions of 8085 - [6]
 - ADD
 - ADC
 - SUB
 - SBB
 - INR
 - DCR
 - Explain stack, machine control instructions used in 8085. [6]
- Q2)** Solve any two questions [12]
- Explain the role of BIU and EU in microprocessor internal architecture. [6]
 - What is Real Mode Addressing? Explain how physical addresses are calculated in Real Mode with suitable examples [6]
 - Explain Program Memory Addressing Mode [6]
- Q3)** Solve any two questions [12]
- What is Load Effective Address (LEA)? Explain its use with examples. [6]
 - Explain the concept of labels, comments, and segments in assembly language. [6]
 - Explain multiplication and division instructions in 8086 with examples [6]
- Q4)** Solve any two questions [12]
- Explain rotate instructions ROL, ROR . [6]
Write the result of the following operation (8-bit):
ROL AL, 1 when AL = 1101 0010₂
 - Describe the concept of hardware interrupts in 8086. [6]
 - Explain the role of LOCK, STC, CLC, CMC, HLT NOP instructions [6]

- Q5)** Solve any two questions **[12]**
- a. Explain the paging mechanism of the 80386 microprocessor with a neat diagram. **[6]**
 - b. What are the special registers used in 80386? Explain any four registers in simple words. **[6]**
 - c. Describe the memory system of the Pentium Pro microprocessor with a neat block diagram **[6]**
- Q6)** Solve any two questions **[10]**
- a. Explain the main features and advantages of the Pentium Pro microprocessor **[5]**
 - b. What is multiple-core technology? Explain its need and advantages. **[5]**
 - c. Explain the role of Control Registers (CR0, CR2, CR3, CR4) in 80386. **[5]**

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

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1] (1154) B.Tech. CBCS (73280) Microprocessors Part 2 SEM 3

2] (101) Bachelor of Engineering (63528) Microprocessors Part 2 SEM 3