

(3 Hours)

Total Marks: 80

N.B.: (1) Question No.1 is compulsory.

(2) Attempt any three questions from the remaining five questions.

(3) Make suitable assumptions wherever necessary but justify your assumptions.

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| 1. | (a) Explain in brief memory mapped I/O. | 05 |
| | (b) What is meant by nano programming? | 05 |
| | (c) Write a note on interrupt execution. | 05 |
| | (d) What is associative memory? | 05 |
| 2. | (a) Explain the different addressing modes of 8086 MP with examples. | 10 |
| | (b) Explain Flynn's classification in detail. | 10 |
| 3. | (a) Explain microinstruction sequencing and execution. | 10 |
| | (b) Describe the elements of Cache memory design. | 10 |
| 4. | (a) Draw and explain internal architecture of 8086 microprocessor. | 10 |
| | (b) Draw the flowchart of Booth's algorithm and perform $-7 * 3$. | 10 |
| 5. | (a) Divide 13 by 4 using restoring division algorithm. | 10 |
| | (b) Explain DMA based data transfer techniques for I/O devices. | 10 |
| 6. | Write a short note on (Any Two) | 20 |
| | (1) Assembler directives. | |
| | (2) Programmed I/O | |
| | (3) Segmentation concept of 8086 MP | |
