

Set 1  
Same for  
Comp & AI-DS

**K. J. Somaiya Institute of Technology, Sion, Mumbai-22**  
**(Autonomous College Affiliated to University of Mumbai)**

~~May-June~~ July-Aug. 2024-25

(B. Tech) Program: Computer Engineering Scheme: IIB  
~~Regular~~ Supplementary Examination: SY Semester: IV  
 Course Code: CEC405 And Course Name: Microprocessor  
 Date of Exam: 06/08/2025 Duration: 02.5 Hours Max. Marks: 60

**Instructions:**

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.
- (4) Scientific Calculator is not allowed.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any <b>two</b> questions out of three: (05 marks each)	10		
a)	Differentiate between Minimum Mode and Maximum Mode of 8086		CO1	U
b)	Explain String Instructions and Logical Instructions with examples.		CO2	U
c)	List and Explain different types of interrupts in 8086.		CO3	U
Q 2	Solve any <b>two</b> questions out of three: (05 marks each)	10		
a)	Draw and explain EFLAG register format of 80386 DX 5		CO4	U
b)	Explain the MESI Protocol in detail.		CO5	U
c)	Describe Application and Features of ARM processors		CO6	U
Q.3	Solve any <b>two</b> questions out of three. (10 marks each)	20		
a)	Draw and explain Functional Pin Diagram of 8086?		CO1	U
b)	i) Describe the advantages and disadvantages of memory segmentation. [05M] ii) Elaborate Control Word register of 8255 PPI [05]		CO1, CO3	U
c)	Design following system with 8086 microprocessor. <input type="checkbox"/> 64KB EPROM using 32KB EPROM <input type="checkbox"/> 128KB RAM using 64KB RAM Interface two 4K X 8 EPROMs and two 4K X 8 RAM chips with 8086 Microprocessor Select suitable address maps.		CO3	Ap

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Q.4	Solve any <b>two</b> questions out of three. (10 marks each)	20		
a)	Describe DMA operations and transfer modes in detail.		CO2	U
b)	Explain the memory paging mechanism in detail.		CO4	U
c)	Describe Integer and Floating- Point pipeline of Pentium.		CO5	U

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Seat No.: