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

May-June 2024-25	
(B. Tech) Program:Computer Engineering Scheme: IIB	
Backlog Regular Examination: SY Semester: IV	
Course Code: CEC405 And Course Name: Microprocessor	
Date of Exam: 28-05-2025 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 **two** questions out of three: (05 marks each)	10		
a)	Describe the advantages and Disadvantages of memory segmentation.		CO1	
b)	Explain addressing modes of 8086?		CO2	
c)	What are the advantages and Disadvantages of DMA		CO3	
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Describe memory banking of 8086 with suitable diagram		CO1	
b)	Describe Architecture of 8257 DMA Controller.		CO3	
c)	What are the advantages of ARM processor.		CO6	
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Describe Architecture of 8086 with its component and suitable diagram.		CO1	
b)	Explain Arithmetic, Logical and Processor Control Instructions of 8086		CO2	
c)	Design an interface between 8086 CPU and two chips of 16K × 8 EPROM and two chips of 32K × 8 RAM select the starting address of EPROM suitably. The RAM address must start at 00000H.		CO3	Ap
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Explain descriptors and paging mechanism in protected mode of 80386?		CO4	

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b)	i) Draw and Explain Control registers of 80386 DX. ii) Explain the MESI Protocol in detail.	CO4, CO5	
c)	Explain different stages of the Integer pipeline in Pentium processor.	CO5	

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