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

May 2025

(B. Tech.) Program: B.Tech. (Artificial Intelligence and Data Science)   Scheme II & II B

Backlog   Examination: SY   Semester: IV

Course Code: AIC405   and   Course Name: Microprocessor

Date of Exam: 28-05-2025   Duration: 2.5 Hours   Max. Marks: 60

Instructions:
(1) All questions are compulsory.
(2) Draw neat diagrams wherever applicable.
(3) Assume suitable data, if necessary.

		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight:	12		
i)	What are the flag registers?		CO1	Rem
ii)	Give the coding format for immediate to register MOV instruction. Explain in brief with suitable example.		CO2	U
iii)	List types of interrupts in microprocessor 8086		CO3	U
iv)	Explain in brief ,mixed mode programming		CO4	U
v)	Give formats of Initialization Command Words(ICW)of PIC 8259		CO5	U
vi)	List registers of Pentium Processor		CO6	R
vii)	List features of 8086 microprocessors		CO1	U
viii)	Explain in brief operation of JMP command		CO2	U
Q.2	Solve any four questions out of six.	16		
i)	Write short note on BIU of microprocessor 8086		CO1	U
ii)	Write down the steps for Debugging of a Program.		CO2	U
iii)	Write short note on IVT		CO3	U
iv)	Compare I/O mapped I/O and memory mapped I/O		CO4	U
v)	Explain formats of I/O mode Control Words for PPI 8255		CO5	U
vi)	Write short note on Instruction and data cache in 32 bit microprocessors		CO6	U

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Q.3	Solve any two questions out of three.	16		
i)	Explain Minimum mode operation for microprocessor 8086. Draw a simple sketch for the same.		CO1	U
ii)	Explain with Block diagram, working of DMAC 8257		CO3	U
iii)	Design an 8086 based Minimum Mode System working at 6 MHz having following configuration: 32 KB EPROM using 16 KB chips,128 KB RAM using 64 KB chips, TWO each interrupt driven ports for 16 bit I/P & 16 bit O/P.		CO5	Ap
Q.4	Solve any two questions out of three.	16		
i)	What is an addressing mode? List and explain addressing modes supported by the 8086.		CO2	U
ii)	Discuss features of Pentium Processor		CO6	U
iii)	Describe address demultiplexing for microprocessor 8086		CO4	U

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