

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

July/Aug ~~May-June~~ 2024

B. Tech. Program: AI-DS Scheme I/II/III/IV:
~~Supplementary~~ Regular Examination: SY Semester: IV
 Course Code: AIC405 and Course Name: Microprocessor
 Date of Exam: 03-08-2024 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.

	K. J. Somaiya Institute of Technology, Sion, Mumbai-22 (Autonomous College Affiliated to University of Mumbai)	Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight:	12		
i)	Consider following contents of various registers in 8086: CS=4321H; DS=5678H; IP=0015H, BX=0213H Calculate the physical address of next instruction		CO1	Ap
ii)	What are the memory banks in 8086		CO2	U
iii)	List lowest and second lowest priority interrupts in 8086		CO3	U
iv)	What are the function-of-the BIU?		CO4	U
v)	What is the function of DMAC		CO5	U
Q 1	Solve any six questions out of eight:	12		
vi)	What is the flag register size of Pentium microprocessor: CS=4321H; DS=5678H; IP=0015H, BX=0213H		CO6	UAs
vii)	Describe stack operation in 8086		CO1	U
viii)	List memory segments in 8086		CO2	U
Q.2	Solve any four questions out of six:	16		
i)	List and explain in brief the arithmetic commands for 8086.		CO2	U
ii)	What is the function of DMAC		CO5	U
iii)	What is the flag register size of Pentium microprocessor		CO6	U
iv)	Describe stack operation in 8086		CO1	U

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ii)	List components of BIU in 8086 Microprocessors, give typical use of each of them		CO1	Rem
iii)	Write a short note on Hardware interrupts		CO2	U
iv)	What is ISR in 8086 programming, and how is it executed?		CO3	U
v)	What are the memory banks in 8086		CO4	U
vi)	Explain in brief pipeline stages in Pentium microprocessor		CO6	U
Q.3	Solve any two questions out of three.	16		U
i)	Design 8086 based system with following specifications: a. 8086 in minimum mode b. 256-KB RAM using 64 KB devices	CO2	CO1	Ap
ii)	Explain the working of math coprocessor 8087	CO5	CO2	U
iii)	Differentiate between memory-mapped I/O and port-mapped I/O?	CO4	CO3	U
Q.4	Solve any two questions out of three.	16	CO4	U
i)	Describe the function of EU of 8086 microprocessor with help of a neat sketch	CO1	CO6	U
ii)	List the types of interrupts and compare them	CO3		U
iii)	Discuss branch prediction logic in Pentium	CO2 CO6		Ap U
