

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

May-June 2024

B. Tech. Program: AIDS Scheme I/II/IIB/III: IB  
Regular Examination: SY Semester: IV  
Course Code: AIC405 and Course Name: Microprocessor

Date of Exam: 24.05.24 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
<b>Q 1</b>	<b>Solve any six questions out of eight:</b>	<b>12</b>		
i)	How to calculate Microprocessor maximum memory capacity from address lines?	<b>2</b>	CO1	U
ii)	What is meant by backward compatibility of 8086?	<b>2</b>	CO2	U
iii)	List Highest and second highest priority interrupts in 8086	<b>2</b>	CO3	U
iv)	What is the function of the system clock signal in the 8086 microprocessor, and how is it generated?	<b>2</b>	CO4	U
v)	What is the function of PPI	<b>2</b>	CO5	UBT level
vi)	What is the memory capacity of Pentium microprocessor	<b>2</b>	CO6	U
vii)	Describe instruction que in 8086	<b>2</b>	CO1	U
viii)	What is mixed mode programming ability of 80386?	<b>2</b>	CO2	U
<b>Q.2</b>	<b>Solve any four questions out of six:</b>	<b>16</b>	CO3	U
i)	List and explain in brief the data movement commands for 8086.	<b>4</b>	CO2	U
ii)	List registers in 8086 Microprocessors, give typical use of each of them	<b>4</b>	CO1	Rem
vi)	What is the memory capacity of Pentium microprocessor		CO6	U
vii)	Describe instruction que in 8086		CO1	U
vii)	What is mixed mode programming		CO2	U

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iii)	Write a short note on IVT	4	CO2	U
iv)	What are procedures and macros in programming, and how do they differ?	4	CO3	U
v)	What is the superscalar architecture of the Pentium microprocessor?	4	CO4	U
vi)	How handshaking is achieved in PPI	4	CO5	U
<b>Q.3</b>	<b>Solve any two questions out of three.</b>	16		U
i)	Design 8086 based system with following specifications: a. 8086 in minimum mode b. 64 KB RAM using 32-KB devices	8	CO2	Ap
ii)	Explain operating modes of PIC <del>8259</del> 8259	8	CO5	U
iii)	What are the advantages and disadvantages of using memory-mapped I/O compared to port-mapped I/O?	8	CO4	U
<b>Q.4</b>	<b>Solve any two questions out of three.</b>	16		U
i)	Describe the architecture of 8086 microprocessor with help of a neat sketch	8	CO1	U
ii)	How do interrupts operate in the 8086 processor architecture, and what role do they play in program execution?	8	CO3	U
iii)	Discuss the concept of pipelining and how it is implemented in Pentium microprocessor	8	CO6	Ap U

ii)	Explain operating modes of PIC 8259		CO5	U
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iii)	What are the advantages and disadvantages of using memory-mapped I/O compared to port-mapped I/O?		CO4	U

<b>Q.4</b>	<b>Solve any two questions out of three.</b>	16		U
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i)	Describe the architecture of 8086 microprocessor with help of a neat sketch		CO1	U
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ii)	How do interrupts operate in the 8086 processor architecture, and what role do they play in program execution?		CO3	U
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iii)	Discuss the concept of pipelining and how it is implemented in Pentium microprocessor		CO6	U
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