Name:
Student University Roll No.:

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School of Engineering
Second Sessional Examination, Odd Semester (AS: 2023-24)

B. Tech: CSE **Year: 3rd** **Semester: V**

Course Title: Microprocessor & Interfacing **Max Marks: 60**
Course Code: BCS3502 **Time: 3hrs**

Instructions if any: Read the question Carefully.

SECTION 'A'		Course Objective	Marks
Q.N.1. Attempt all parts of the following:			
a)	What is ADI and LDA instruction?	CO5	1
b)	Write basic five features of Intel PentiumPro.	CO1	1
c)	What is min and max mode?	CO2	1
d)	How BIU of 8086 generates 20 bit address to access external memory?	CO1	1
e)	What do you understand by the Peripheral Devices?	CO3	1
f)	What is the purpose of Branch operations?	CO4	1
g)	What is the function of USART?	CO3	1
h)	What is pipelining in 8086? Explain.	CO4	1

SECTION 'B'		Course Objective	Marks
Q.N.2. Attempt any two parts of the following:			
a)	1. Define counter in microprocessor. 2. Explain looping and its types.	CO2	6
b)	Explain in detail about the Architecture of 8086 microprocessor with the help of a neat diagram.	CO1	6
c)	Differentiate between 8085 and 8086 microprocessor.	CO1	6
d)	Explain instruction set used in 8086 microprocessor.	CO4	6

SECTION 'C'		Course Objective	Marks
Q.N.3. Attempt any two parts of the following:			
a)	What is memory segmentation and the functions of Execution Unit in 8086 microprocessor?	CO1	5
b)	What is macros and procedures?	CO4	5
c)	Add the content of memory location 4000 H and 4001 H and store the result in 4002 H.	CO5	5
Q.N.4. Attempt any two parts of the following:			
a)	Explain the types of interrupts in 8086 microprocessor.	CO4	5
b)	WAP to Subtract two 16 bit numbers using 8085 microprocessor.	CO5	5
c)	Discuss in detail about the Conditional call and Return instructions.	CO5	5
Q.N.5. Attempt any two parts of the following:			
a)	1. Draw and explain the memory and I/O read cycle of 8085. 2. Write a program to exchange the content of one memory location to another memory location in 8085.	CO4	5
b)	Draw the neat diagram of 8237 DMA Controller and explain it in detail.	CO3	5
c)	Give a detailed explanation about the 8253/8254 programmable counters.	CO3	5
Q.N.6. Attempt any two parts of the following:			
a)	Discuss in detail about the different Addressing Modes of 8086. Give Example for each type.	CO2	5
b)	1. What is the role of 6 byte queue in 8086 microprocessor? 2. Define flag registers in 8086.	CO1	5
c)	Explain Programmable Peripheral Interface 8255 with 8086 to work as an I/O port.	CO6	5

Table 1: Mapping between COs and questions
(Number of COs may vary from course to course)

COs	Questions Numbers	Total Marks
CO1	QN1(b,d) QN2(b,c), QN3(a), QN6(b)	24
CO2	QN1(c), QN2(a), QN6(a)	12
CO3	QN1(e, g), QN5(b,c)	12
CO4	QN1(f, h), QN2(d), QN3(b), QN4(a), QN5(a)	25
CO5	QN1(a), QN3(c), QN4(b,c)	16
CO6	QN6(c)	5