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Total Number of Pages : 02		Course: B.Tech
		Sub_Code: REC5C003
<b>6<sup>th</sup> Semester Regular/ Back Examination: 2022-23</b>		
<b>SUBJECT: Microprocessor and Micro Controllers</b>		
<b>BRANCH(S): EEE, ELECTRICAL</b>		
<b>Time: 3 Hour</b>		
<b>Max Marks:100</b>		
<b>Q.Code: M066</b>		
<b>Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.</b>		
<b>The figures in the right hand margin indicate marks.</b>		
<b>Part-I</b>		
<b>Q1</b>	<b>Answer the following questions:</b>	<b>(2 x 10)</b>
a)	What is the role of accumulator in a 8 bit microprocessor?	
b)	What is Program Counter and what is its significance in a microprocessor?	
c)	How many memory locations can be addressed by a microprocessor with 12 address lines?	
d)	What do you mean by machine cycle?	
e)	What are the assembler directives there in 8086?	
f)	Mention different types of addressing modes available in 8086 instruction set.	
g)	Mention the on-chip peripherals of 8051 microcontroller.	
h)	In what way a microcontroller is different from a microprocessor?	
i)	Explain the features of mode-I used in 8255.	
j)	What are the data bus and address bus sizes of 80286 microprocessor?	
<b>Part-II</b>		
<b>Q2</b>	<b>Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)</b>	<b>(6 x 8)</b>
a)	Explain in details about the modes of operation of Timer unit in 8051 microcontroller.	
b)	Explain the control word format of 8255 and explain in detail how each bit is programmed?	
c)	Explain in detail about the I/O port structure of 8051.	
d)	Write an assembly language program in 8086 to search the largest data in a given array.	
e)	Explain the functions of the followings: i. HLDA ii. RQ/GT0 iii. DEN iv. ALE	
f)	Explain in brief with sketch for the ADC interfacing with 8086 microprocessor.	
g)	Differentiate between program memory and data memory	
h)	Explain in detail about the special function register of 8051.	

	i)	Explain various machine cycles supported by 8085.	
	j)	Write a 8051 Assembly Language Program to find the average of given 'N' numbers.	
	k)	Write an ALP for dividing two 8-bit numbers using a 8-bit microprocessor.	
	l)	Briefly explain steps involved to fetch a byte in 8085?	
		<b>Part-III</b>	
		<b>Only Long Answer Type Questions (Answer Any Two out of Four)</b>	
<b>Q3</b>		What do you mean by pipelined architecture? How is it implemented in 8086?	<b>(16)</b>
<b>Q4</b>		Design a traffic light controller system using 8085 and 8255.	<b>(16)</b>
<b>Q5</b>		With suitable diagram explain the keyboard interfacing with 8051 microcontroller	<b>(16)</b>
<b>Q6</b>		a) Draw the timing diagram for execution of the 8086 MOV instruction. b) Explain the architecture of 80286.	<b>(16)</b>