Code No: **R32024** **R10** **Set No. 1**

III B.Tech II Semester Supplementary Examinations, Dec - 2015

MICROPROCESSORS AND MICRO CONTROLLERS

(Electrical and Electronics Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1	a)	Draw and explain the flag register of 8085 micro processor.	[8]
	b)	List and explain the addressing modes of 8086 microprocessor with suitable examples.	[7]
2	a)	Explain different data transfer instructions of 8086 microprocessor.	[7]
	b)	Draw and explain the read cycle timing diagrams of 8086 microprocessor in minimum mode of operation.	[8]
3	a)	Write an assembly language program to find the sum of first 15 decimal numbers.	[8]
	b)	Write an assembly language program to find the factorial of a given number (number>8).	[7]
4		Interface an Analog to Digital converter ADC 0808 with an 8086 microprocessor using 8255 ports. Use port A of 8255 for transferring digital data output of ADC to the CPU and port C for control signals. Assume that an analog input is present at input 5 of the ADC and a clock input of suitable frequency in available for ADC. Draw the schematic and write the required assembly language program.	[15]
5	a)	What is an interrupt? What are different interrupts available in 8086?	[5]
	b)	What is the need for interrupt controller? With a neat block diagram, explain the architecture of PIC 8259A.	[10]
6		Why a microcontroller is also called a microcomputer? Explain in detail the internal and external memories of 8051 microcontroller.	[15]
7	a)	Explain *mov, movc* and *movx* instructions of 8051 with examples.	[8]
	b)	Write an assembly language program in 8051 to find the largest in an array of 8-bit numbers.	[7]
8	a)	List different applications of microcontrollers.	[6]
	b)	With a neat schematic, explain the interfacing of A to D converters with 8051 microcontroller.	[9]

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