B.E. Electrical (Electronics & Power) Engineering (Model Curriculum) Semester-V
TE106 - Microprocessors

P. Pages : 2

Time : Three Hours

7456

Max. Marks : 80

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Notes :
1. All questions carry marks as indicated.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answers wherever necessary with the help of neat sketches.
5. Use of slide rule, Logarithmic tables, Steam tables, Mollier's chart, Drawing instruments, Thermodynamic tables for moist air, Psychrometric charts and Refrigeration charts is permitted.
6. Non programmable calculator is permitted.

1.	a)	Draw the architecture of Intel 8085 microprocessor. Discuss function of ALU of 8085.	**8**
	b)	What are various status flags provided in 8085? Discuss their roles.	**8**

OR

2.	a)	Draw the pin diagram of intel 8085 microprocessor. Discuss control and status signals used in it.	**8**
	b)	Discuss the function of the following signals of 8085. *RESET OUT*, $\overline{\text{WR}}$, *ALE*, S_0, S_1.	**8**

3.	a)	What are various types of data formats for intel 8085 instructions? Give examples for each type of data format.	**8**
	b)	Explain what is subroutine. What instruction is used to call a subroutine.	**8**

OR

4.	a)	Explain what operation will take place when the following instructions are executed.	**8**

i)   DAD rp   ii)   PUSH rp

iii) LHLD addr   iv)   CMP M

v)   RAR

	b)	What is stack? What is the function of stack pointer? Discuss PUSH and POP operation.	**8**
5.	a)	If the speed of I/O devices do not match the speed of the microprocessor what type of data transfer techniques are used? Describe them briefly.	**8**
	b)	Discuss with the help of suitable diagram how memory chips and I/O devices are interfaced to microprocessor.	**8**

OR

6.	a)	Explain what is (a) Memory mapped I/O scheme (b) I/O mapped I/O scheme.	**8**
	b)	Explain Handshaking mode of data transfer with suitable example.	**8**
7.	a)	What is a 7- segment LED display? Discuss its application.	**8**
	b)	Discuss a microprocessor based scheme to measure and display frequency.	**8**

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OR

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8.	a)	Draw internal architecture of PPI 8255. Explain different operating modes of 8255.	**8**
	b)	Discuss how an A/D converter can be realized employing a D/A converter. And state applications of D/A converter.	**8**
9.	a)	Draw and explain in detail the pin diagram of Intel 8254. What are its areas of application.	**8**
	b)	Discuss any four operating modes of 8254.	**8**

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OR

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10.	a)	What is the function of a counter? Discuss the principle of a binary counter with neat sketches. Draw its timing diagram.	**8**
	b)	Discuss how 8253 is used to generate square waves with suitable example.	**8**

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