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B.E.(with Credits)-Regular-Semester 2012-Electronics & Communication Engineering & (Telecom. Eng) Sem. - IV

ET 402 Microprocessor and interfacing

P. Pages : 2

Time : Three Hours Max. Marks : 80

Notes :

1. All questions carry as indicated marks.
2. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Draw and explain complete architecture of microprocessor 8085.. **8**

b) State and explain various addressing modes of μp 8085. **8**

OR

2. a) A 8-bit binary number is stared at memory location 4000H. Write an assembly language program to convert the binary number to its gray equivalent. Store the result at same memory location. **8**

b) Draw and explain the timing diagram of INR M. **8**

3. a) What is stack memory? Define stack top. Explain the role of stack pointer register related to stack memory. **8**

b) Write a program to generate a square wave with pulse width 100 μ sec on SOD pin of μp 8085. Assume clock frequency of 3 MHz. **8**

OR

4. a) Differentiate between memory mapped I/O port and I/O mapped I/O port. **8**

b) Design memory system for μp 8085 to provide storage for permanent data using 2k x 8 EPROM two ICs and 2k x 8 storage for temporary data using 4k x 4 R/W memory chips. Use fully decoded logic. **8**

5. a) Draw and explain complete block diagram of 8255 PPI. **8**

b) Write a program to rotate stepper motor clockwise by 270°. Assume 1 step = 1.8°. **8**

OR

6. a) Explain in detail internal registers of 8259 PIC. **8**

b) Draw and explain complete block diagram of 8251 USART. **8**

7. a) Write a note on interfacing of 8 bit analog to digital converter 0809 with μp 8085. **8**

b) Generate a saw tooth waveform using DAC 0808 with a resolution of 10mV, port address is OBH. **8**

OR

8. a) An ac signal sample is to be converted to digital form. Using ADC 0809, show complete interfacing and write a 8085 program for the same. Store the digital output at memory location 4000H. Use port B of 8255 to read data. **8**

b) Explain the application of ADC in measurement of temperature. **8**

9. a) Explain Register. Organization of μp 8086 in detail. **8**

b) Explain the following instructions of μp 8086. **8**
i) XLAT ii) LDS AX, [BX] iii) STOSB iv) AAM

OR

10. a) Explain the maximum mode of μp 8086. **8**

b) Write an assembly language program of 8086 for the multiplication of two 8 bit numbers. **8**

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