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B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2014

ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH

Fifth Semester

EC 372 - MICROPROCESSOR AND ITS APPLICATION

(Regulations :2004)

Duration: 3 Hrs. **Maximum Marks 100**

Answer All Questions

Part A **10 X 2 = 20 Marks**

1 What is the function of SID and SOD pin in 8085 processor?

2 Define instruction cycle and machine cycle

3 Differentiate between maskable and non maskable interrupts

4 What does the NEG instruction do?

5 What are the advantages of microcontroller based systems over microprocessor based systems?

6 What is the difference between LJMP and SJMP?

7 What are the registers available in 8257? How is the 8257 is initialized?

8 What is serial data transfer?

9 Write any two industrial applications of microprocessor

10 How do you interface high power devices to microprocessor?

Part B **5 X 16 = 80 Marks**

11 i) Draw the 8085 microprocessor architecture and explain each block (12 marks)

ii) What are the addressing modes available in 8085? Explain with example (4 marks)

12 a) i) Draw and explain how maximum mode of operation done in 8086? (8 marks)

ii) Explain the interrupt structure of 8086 microprocessor (8 marks)

(or)

b) i) Write a program to find out the largest number from an array of 100 numbers (8 marks)

ii) Write a program to transfer a block of data from one section of memory to the other section of memory (8 marks)

13 a) i) What are the ports used for external memory access in 8051? How can an I/O pin be used as both input and output? (8 marks)

ii) Explain briefly various timer modes of 8051 microcontroller? What is the auto-reload mode? (8 marks)

(or)

b) i) Write 8051 code to arrange a series of ten numbers in descending order (8 marks)

ii) List out different types of interrupt present in 8051 and explain (8 marks)

14 a) Draw a functional block diagram of 8279 and explain each block. Discuss the keyboard interface of 8279

(or)

b) What are the different operating modes of 8255? Write down the difference between each mode. Explain the mode 2 operation with timing diagram

15 a) Draw the circuit diagram to interface stepper motor with microprocessor. Write the assembly language program for this above scheme.

(or)

b) Write a short notes on the following

i) Microcomputer based smart scale (8 marks)

ii) Alpha numeric display interface (8 marks)