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10EC62

**Sixth Semester B.E. Degree Examination, June/July 2018**  
**Microprocessors**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting at least TWO questions from each part.**

**PART – A**

- 1 a. Draw the internal architecture of the 8086 and explain. (10 Marks)  
b. What is addressing mode? Explain the different addressing mode of 8086? Explain each with examples. (10 Marks)
- 2 a. Explain the following instructions :  
i) LEA ii) IDIV iii) DAA iv) JNGE v) SHR. (10 Marks)  
b. Explain various instruction formats used in 8086 with suitable example. (10 Marks)
- 3 a. Explain the following instructions with examples :  
i) MOVS B ii) CMPS B iii) SCAS B iv) repeat prefix (REP) v) LODS. (10 Marks)  
b. Write a 8086 procedure to convert packed BCD Number in AL to ASCII equivalent in AX. (06 Marks)  
c. Compare procedure and macro. (04 Marks)
- 4 a. Explain atleast FIVE dedicated interrupts in 8086. (10 Marks)  
b. What are hardware interrupts of 8086? Write the interrupt priority of 8086. (05 Marks)  
c. Explain the software interrupt operation of 8086. (05 Marks)

**PART – B**

- 5 a. Write a keyboard procedure that scans the keyboard (4×4 matrix) and returns with numeric code of the key in AL. (10 Marks)  
b. Explain the interfacing of a stepper motor to 8086 with necessary circuit diagram. Write an ALP to rotate the stepper motor clockwise by one complete rotation and anticlockwise by one complete rotation. (10 Marks)
- 6 a. Explain the data types of Numeric data processor 8087. (10 Marks)  
b. Explain the function of the following instructions :  
i) FCOMP ii) FENI iii) FDECSTP iv) FSTENV v) FYL2XP1 (10 Marks)
- 7 a. With a block diagram, explain the maximum mode of operation of 8086. (10 Marks)  
b. Write a note on USB. (10 Marks)
- 8 a. List the different registers in 80386. (08 Marks)  
b. Explain basic features of Pentium processor. (06 Marks)  
c. List the features of 80386 processor. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.