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10EC/TE62

Sixth Semester B.E. Degree Examination, Jan./Feb. 2021
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 a neat sketch of the execution unit and bus interface unit of 8086 microprocessor and explain. (10 Marks)
- b. Explain the different addressing modes of 8086 microprocessor with examples. (10 Marks)
- 2 a. Explain segment over – side prefix with examples. (05 Marks)
- b. Explain fixed port addressing and variable port addressing for IN and OUT instruction. (05 Marks)
- c. Write an assembly language program to check if the given byte is odd or even. If odd put FFH in next location, if even put 00H in next location. (06 Marks)
- d. Explain in the following directives: i) db ii) dw iii) dg iv) dt. (04 Marks)
- 3 a. Explain the different string instructions. (08 Marks)
- b. Write a display MACRO using for statement that is used to display 'VTU' on the screen. (05 Marks)
- c. Write a 8086 program with comment that will enter a string and display the reversed string on the screen. (07 Marks)
- 4 a. Elaborate the function of atleast five dedicated interrupt in 8086 (10 Marks)
- b. Explain the priority of 8086 interrupts. (05 Marks)
- c. Explain how an interrupt causes the program to go from mainline to interrupt service procedure. (05 Marks)

PART - B

- 5 a. How would you interface a 4 × 4 keyboard to the 8086 microprocessor? (10 Marks)
- b. Explain the stepper motor interface to the micro computer along with full step and half step drive signal order. (10 Marks)
- 6 a. With a block diagram, explain the 8087 numeric co-processor. (10 Marks)
- b. Explain :
i) FSQRT ii) FSCALE iii) FPREM iv) FRNDINT v) FXTRACT. (10 Marks)
- 7 a. Explain the read cycle timing diagram for minimum mode. (06 Marks)
- b. Explain the Peripheral Component Interconnect (PCI) bus in a personal computer system. (06 Marks)
- c. Explain : i) \overline{RD} ii) \overline{WR} iii) $\overline{MN}/\overline{MX}$ iv) \overline{TEST} (08 Marks)
- 8 a. Explain Pentium processors. (08 Marks)
- b. Write a note on programming model of 80486. (12 Marks)

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.