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10EC/TE62

**Sixth Semester B.E. Degree Examination, July/August 2021**  
**Microprocessor**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

1. a. Explain microprocessor based personal computer system, with neat diagram. (06 Marks)  
b. What are the advantages of using memory segmentation? (04 Marks)  
c. Explain with example, the different addressing modes of the 8086 microprocessor. (10 Marks)
2. a. With respect to 8086 CPU, explain the following:  
i) XLAT/XLATB ii) DAS iii) CMPSW iv) JCXZ v) STD vi) LOCK (12 Marks)  
b. What are assembler directives? Explain the following:  
i) PAGE ii) EXITM iii) PTR (08 Marks)
3. a. Using table translation method WALP to find equivalent seven segment code for given BCD digit. (08 Marks)  
b. Write a 8086 program to enter a string and display the reversed string on the screen. (12 Marks)
4. a. Explain the functions of atleast five dedicated interrupts in 8086. (10 Marks)  
b. What do you mean by an Interrupt vector table? Explain Interrupt vector table of 8086 microprocessor. (10 Marks)
5. a. Define stepper motor. Explain the interfacing of a stepper motor to 8086 microprocessor with necessary circuit diagram. Write an ALP to rotate the stepper motor clockwise by n steps and anticlock wise by m steps. (10 Marks)  
b. Explain the detection of matrix keyboard, key press, debouncing and encoding with a micro computer using 4 × 4 keyboard. Also draw the flow chart for the same. (10 Marks)
6. a. Explain data types for 8087 co-processor. (08 Marks)  
b. Explain the following with respect to 8087 co-processor:  
i) FBSTP TAX  
ii) FSUBR Dt, sr  
iii) FLDL2E (06 Marks)  
c. Write a program using 8087 instruction to compute the volume of the sphere using MASM syntax. (06 Marks)
7. a. Write a note on parallel interface (LPT). (10 Marks)  
b. Write a note on:  
i) Minimum mode configuration of 8086  
ii) Flow chart to generate USB data. (10 Marks)
8. Write a short notes for the following:  
a. 80386 special registers (06 Marks)  
b. Salient features of 80486 processor (06 Marks)  
c. Pentium CPU architecture. (08 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.