



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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