

(3 Hours)

[Total Marks: 80]

- N.B. : (1) Question No. 1 is compulsory.
- (2) Solve any three questions from the remaining five
- (3) Figures to the right indicate full marks
- (4) Assume suitable data if necessary and mention the same in answer sheet.

- Q.1 a) Differentiate Assembler and Compiler. [5]
b) Explain flag register of 8086. [5]
c) Write Control word register of 8255. [5]
d) Write a program to display "P" on the screen of IBM Pc. Use INT 21H function AH =02H and DL= character to be displayed. Explain the logic of the program. How will you alter the character to be displayed? [5]
- Q.2 a) Draw and explain interfacing of DAC 0808 with 8086 microprocessor using 8255. Write assembly program to generate square wave. [10]
b) Explain various interrupts of 8086 with the help of interrupt vector table. [10]
- Q.3 a) Draw and Explain interfacing of Math co-processor with 8086. [10]
b) Draw and discuss the read and write cycle timing diagrams of 8086 in maximum mode. [10]
- Q.4 a) Write a program for 8086 to find the smallest number from the array of 10 numbers. Assume each number is 8 bit wide. [10]
b) Describe the importance of 8257 DMA controller. Explain the data transfer modes of DMA 8257 controller. [10]
- Q.5 a) Explain following instructions of 8086 [10]
1) LOOP 2) LEA 3) MOVSB 4) INT 21H 5) XCHG
b) Draw and explain 8086 based Data Acquisition System. [10]
- Q.6 a) What are the different types of Buses associated Microprocessor based system. Explain them in brief. [10]
b) Design 8086 based system with following specification [10]
i. 8086 CPU working at 8MHz
ii. 16KB EPROM using 8KB device
iii. 16KB SRAM using 8KB device