

TE/V/CBSGS/BIDMED/MP

(3 Hours)

16

QP Code:564200

[Total Marks : 80

N.B. : (1) Question 1 is compulsory and carries 20 marks

(2) Answer any **three** questions from the remaining **five** questions.

(3) Draw neat **labelled** diagram wherever necessary.

1. (a) Distinguish between CISC and RISC. 20
 (b) Explain the flag register of 8086.
 (c) Draw the timing diagram for 8086 read cycle in maximum mode.
 (d) Explain 8087 stack. While considering the reset condition as reference, show how stack conditions of 8087 will change after three push operation.
2. (a) Explain memory segmentation of 8086 and explain its advantages and disadvantages. 10
 (b) Explain how 20-bit physical address is generated in 8086. 5
 (c) Draw the control word register and status word of 8255 in mode 1. 5
3. (a) Compare memory mapped I/O and I/O mapped I/O in 8086. 10
 (b) Write a program to find the roots of a quadratic equation using 8087 numeric processor. 10
4. (a) Explain the interrupt structure of 8086. 10
 (b) Write a program in 8086 to find the average of 10 numbers stored in an array. 10
5. (a) Design a 8086 based system with the following specifications:- 15
 (i) CPU with 8 MHz
 (ii) 64kB EPROM using 16 kB chips
 (iii) Two 8 bit I/P and two 8 bit O/P ports in simple I/O mode.
 (b) Explain briefly the exceptions in 8087 5
6. Write short notes on any **four**:- 20
 (a) 8086 interfacing with ADC
 (b) Queue and Pipelining
 (c) Addressing modes of 8086
 (d) 8237 DMA controller
 (e) Operating modes in 8259.