(3 Hours)   Total Marks-80

N.B.: 1. Question No: 1 is compulsory.

2. Solve any three questions out of remaining questions.

3. Assume suitable data where necessary.

Q 1] a) Explain the instruction pipelining features of 8086. Give its advantages and its disadvantages. **05M**

b) Write a program to display message "TE EXTC" on IBM PC. Use INT 21h function, AH=09 with string of message at DS: DX and terminated by "$". **05M**

c) Differentiate between Assembler and Compiler. **05M**

d) If 16k RAM (2 chips of 8k each) are interfaced with 8086. Assuming that physical address of RAM is 00000H, what will be starting and ending address of each chip? **05M**

Q 2] a) Explain Maximum Mode of 8086 microprocessor. Draw the timing diagram for read operation in maximum mode. **10M**

b) Write a program in assembly language for 8086 microprocessor to find power of a number. Number and power is stored at location 4000h & 4001h respectively. Store the result at location 4002h and 4003h. **10M**

Q 3] a) Explain various operating modes of 8255 PPI. **10M**

b) Draw and explain the block diagram of microprocessor based system in detail. **10M**

Q 4] a) Draw and explain interfacing of Math Co-processor (8087) with 8086. **10M**

b) Draw and explain 8086 based Data Acquisition System. **10M**

Q 5] a) Explain the Interrupt structure of 8086 microprocessor. **10M**

b) Write a program in assembly language for 8086 microprocessor to arrange a block of data 10- numbers in ascending order. **10M**

Q 6] a) Design an 8086 based system with 32K ROM (2 chips of 16K). Draw the memory map of the system designed. **10M**

b) Write a short note on String Instructions of 8086. **10M**

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