MICRO-PROCESSOR & ASSEMBLY LANG. PROG.

Full marks: 70
Time: 3 Hours

Answer SIX Questions including Q.No.1 which is compulsory
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) What dedicated operations are assigned to the CX, BX, AX?
b) Show how the double word 12345678H will be stored in memory starting at address A001.
c) If the current values in CS and IP are 0200 and 01AC respectively. What is the address of the next instruction?
d) What happens to the value of IP each time the 8086 fetches an instruction?
e) A data segment is to be located from address A000 to AFFFF, what value must be in to OS?
f) What is the function of 8259A chip?
g) How much time is required by 8085microprocessor to execute the instruction MVI A, 08H?
h) Under which addressing modethe following two instruction comes.
   (a) LDAXD
   (b) CMA
i) Does 8155 PPI has static RAM? If yes, what is its capacity?
j) What is the purpose of a software model for microprocessor?

Q2 a) What is addressing mode? Explain different addressing modes of 8086 by giving one example in each. **(5)**
b) Describe important feature of 8051 microcontroller. **(5)**

Q3 a) Draw the schematic diagram of interfacing 8257 DMA controller to 8085. **(5)**
b) Explain the READ & WRITE cycle of 8086 microprocessor **(5)**

Q4 a) Explain the organization of 8085 CPU with neat diagram. **(5)**
b) Write an assembly language program for 8086 microprocessor to add vectors containing 10 numbers of data. **(5)**

Q5 a) Draw the timing diagram for memory write cycle of the 8085 microprocessor. **(5)**
b) Write an assembly language program to generate a sequare wave of 1KHz frequency. **(5)**

Q6 a) Explain how does nested CALL routine work. Explain how the stack gets modified to keep track of the nested CALL. **(5)**
b) In synchronous data link control (SDLC) explain how loop transmission can be achieved by taking an example of one station? **(5)**

Q7 a) Explain the function and use of 8255A PPI. **(5)**
b) Describe different types of logic gates with their truth tables **(5)**

Q8 Write short notes on any two: **(5 x 2)**

a) A/D converter
b) Interrupt and ISR
c) Absolute decoding Vs Partial Decoding
d) Interface of 8155 memory chip