Time - 3 Hours

Total Marks : 100

SECTION A

Attempt any four questions:

1. Why is 8251 called a USART? Define the mode word register of 8251 for asynchronous mode.
2. Discuss crystal frequency versus machine cycle. Write 8051 program to generate a time delay.
3. Define the interrupt priority in keyboard interfacing with 8051.

SECTION E

Attempt any two questions:

1. List the three major components of microprocessor and explain in detail.
2. Explain the purpose of instruction decoder and program counter with suitable examples.
3. Explain the addressing mode of 8085 with suitable example.
4. Draw and explain the pin diagram of 8086.
5. Explain the importance of HOLD and HLDA pin data transfer through DMA.
6. Draw and explain the block diagram of keyboard display controller (8257).

SECTION B

Attempt any two questions:

1. Draw and explain the block diagram of keyboard display controller (8257).
2. Draw the block diagram of LCD interfacing with 8051 and discuss the different operation mode of LCD.
3. What is the difference between dual core and core to Due ? Explain the feature of different available advance microprocessors.

Attempt any four questions:

1. Calculate the address lines for 8 byte memory.....
2. Explain the function block diagram of 8257 with pin details.
3. Write a program to add two binary numbers stored at consecutive memory location, (X and X+1) ignoring the possible overflow.
4. Explain the loop and string instruction of 8086 and its addressing mode.
5. Explain the interrupt structure of 8259.
6. Explain the register bank of 8051? Which bits of the PSW are responsible for selection of register banks?

SECTION C

Attempt any two questions:

1. What is assembler? State its advantages and limitation. Also discuss the different types of assemblers.
2. Explain the different addressing mode, timer and register bank of 8051 with suitable example.
3. Explain various DMA controllers. Write an 8086 assembly program to perform multiplication of two binary numbers.

SECTION D

Attempt any two questions: