**ASSIGNMENT 1**

1. Differentiate between hardware interrupts and software interrupts of 8085.

2. What is DAD and what are the flags, affected by this instructions?

3. What is the function performed by SIM Instruction?

4. What are the different memory mapping schemes? Give any one advantage and disadvantage for each.

5. W.a. p. to arrange an array of data in descending order using 8085.

6. Connect 4KByte EPROM &2K Byte RAM with microprocessor 8085. Memory ICs available are 2KByteEPROM & 2K X 4 RAM.

7. W .a. p to find the factorial of a number using 8085.

8. Differentiate between memory mapped I/O and I/O mapped I/O.

**ASSIGNMENT 2**

1.Discuss the interrupt system of Intel 8086. What is interrupt pointer? What is 'type' of an interrupt?

2. Discuss the various addressing modes of 8086. What are displacement, base and index? What is an effective address or offset?

3. What is the difference between minimum and maximum modes of 8086? How are these modes selected,

4. Write an 8086 program to add two 16-bit numbers in CX and DX with /without carry.

5. Explain the concept of segmented memory? What are its advantages?

6. Explain the concept of pipelining in 8086. Discuss its advantages and disadvantages.

7. W.a.p to generate Fibonacci series using 8086.

**ASSIGNMENT 3**

1. Draw the block diagram of 8255 and explain its working. What is Control Word?

Determine the control word for the following configuration of 8255:-

Port A – Output

Mode of port A – Mode 1

Port B – Output

Mode of port B – Mode 0

Port C lower (pins PC0 – PC2) – Output

2. Explain the block diagram of Keyboard and Display Controller 8279.

3. What is the difference between 8253/8254? Discuss its various operating modes. What are its areas of applications?

4. Explain major components of 8259 with the help of suitable diagram.

5. Draw the block diagram of USART 8251. Also explain the Control Word of 8251 in Asynchronous Mode.

**ASSIGNMENT 4**

1. Draw architecture of 8051 microcontroller and describe functions of DPTR, PC & stack pointer.
2. Give PSW (program status word) content of 8051 microcontroller. Give function of each flag.
3. List the I/O ports of microcontroller 8051. Explain their alternative function
4. Explain the function of PSEN and ALE pins of microcontroller 8051.
5. Draw the format of TCON register of 8051 microcontroller and explain the function of each bit.
6. Write important features of microcontroller 8051
7. Explain all flags of the microcontroller of 8051.
8. Compare between microprocessor & microcontroller based on no. of instructions used, registers, memory and applications