Q.2   a.   Explain the arithmetic group of instructions with one example each.

b. Enlist internal data operations and explain utility of registers for 8085 microprocessor.

Ans 2 (a) Refer textbook-I
     (b) Refer textbook-I

Q.3a.   Give the details of 8085 architecture with the help of a block diagram.

b.Explain the addressing modes of 8085 microprocessor.

Ans 3 (a) Refer textbook-I
     (b) Refer textbook-I

Q.4a.   Write an 8085 assembly program to find average of 'n' integers.

Q.4 (a) Write an assembly program to find average of 'n' integers. (08 Marks)

```
        MOV AX 0000 ;  Initial Sum 0000
        MOV BX 0000
        MOV SI ,0201H
        MOV CX [SI]
BACK: INC SI
INC SI
    ADD AX, [SI]
JAE GO
INC BX
GO : LOOP BACK
MOV [0401] , AX
MOV (0403), BX
INT 3
```

b.   **Discuss linear search approach for assembly programmes.**

Ans 4 (b) Refer textbook-I

Q.5   a. Explain the need of interrupt masking in 8085.

Ans Page No. 297 (18.9.1)

b."Assuming the microprocessor is completing an RST 7.5 interrupt request, check to see if RST is pending. If it is pending, enable RST 6.5 without affecting any other interrupts, otherwise, return to main program". Write a program for these using suitable instructions.

Q:5

```
(b)     RIM

        MOV B, A

        ANI  20H    ; check whether RST 6.5 is pending

        JNZ NEXT

        EI

        RET         ; If RST 6.5 is not pending, return to
                      main Program.

NEXT    MOV A, B    (Get Bit Pattern,
                      RST 6.5 is pending)

        ANI 0DH     (Enables RST 6.5 by setting D₁=0)

        ORI 08H     (Enables SIM by setting D₃=0)

        SIM

        JMP SERV    (Jump to service routine for RST 6.5)
```

Q.6   a.   Draw and explain the block diagram of 8279.

   b.   Explain MODE 0 of 8255 CHIP.

Ans 6 (a) Refer textbook-I

    (b) Refer textbook-I

Q.7 a. Answer the following:
         (i) Why interrupt controller is required?
         (ii) Enlist the features of   8259.
         (iii) How 8259 can be programmed?

b.Explain the 8257 DMA controller in detail.

Ans 7 (a) Refer textbook-I

    (b) Refer textbook-I

Q.8 a. What is the function of 8253 Programmable Interval Timer? Discuss any one of its applications in detail.
b. Describe asynchronous data transmission and reception with neat diagram.

Ans 8 (a) Refer textbook-I

    (b) Refer textbook-I

**Q.9 a. What are the salient features of 8051 micro-controller? Explain with a neat block
 diagram.**

b.Explain various addressing modes of 8051.

Ans 9 (a) Refer textbook-I

    (b) Refer textbook-I

TEXTBOOK

I.   **The 8085 Microprocessor; Architecture, Programming and Interfacing, K. Udaya Kumar
and B. S. Umashankar, Pearson Education, 2008**