

- NOTE :** 1. Figure should be Neat and labeled.  
2. All Questions are compulsory.  
3. Right side indicates marks.

**Q.1 Answer any 2 from following.**

1. Explain Tristate devices with examples.
2. List and explain types of memories.
3. Explain the concept of memory organization with control lines.
4. Explain the function of buffers, encoder, decoder, latches.

(10)

**Q.2 Answer any 2 from following.**

(10)

1. Draw and explain the function of ALU of 8085 microprocessor.
2. Explain the functions of following pins of 8085:
  - a. INTR
  - b. RESET OUT
  - c. HOLD
  - d. SID
  - e. S0, S1
3. Explain the working of following units of 8085:
  - a. Stack pointer
  - b. Accumulator
  - c. Timing and control
  - d. Instruction decoder
  - e. Interrupt control
4. Draw the pin diagram of 8085 IC.

**Q.3 Answer any 2 from following.**

(10)

1. Trace the following program and fill in the blanks.

```
MVI B, 08H
MVI C, 03H
MVI A, 01H
ANI 05H
STA C300H
ADD C
MOV D, C
RST1
```

**RESULT:**

- i) Reg. A=-----
- ii) Reg. B=-----
- iii) Reg. C=-----
- iv) Reg. D=-----
- v) C300H=-----

2. Flag register contain data 95H interprets its meaning.
3. State all and explain any two addressing modes of 8085.
4. Write a microprocessor program to transfer a block of data in reverse order which is store at memory location C200H to C209H store the resultant block at C300H to C309H.



**Q.4 Answer any 2 from following.**

1. Explain the features of PCI bus.
2. Explain the benefits of RAID.
3. Write a short note on cache memory.
4. Explain the concept of structure and function.

**Q.5 Answer any 2 from following.**

1. Explain the functions of port3 pins of 8051 IC.
2. Draw the architecture of 8051.
3. Give the applications of microcontroller.
4. Draw pin diagram of 8051.

**Q.6 Answer any 2 from following.**

1. List and explain any two addressing modes of 8051 microcontroller.
2. Explain the function of following instructions of 8051:
  - a. XRL <desti>, <source>
  - b. MUL AB
  - c. ADDC A, <source>
  - d. INC <source>
  - e. SWAP A
3. Write a microcontroller program to add two 8-bit numbers stored at memory location 3000H and 3001H store the result at 3002H.
4. Write a microcontroller Program to find the zeros in reg. R2.

**Q.7 Answer any 3 from following.**

1. Explain the working of following units of 8085:
  - a. Address Bus
  - b. Temporary Register
  - c. Timing and control
  - d. Instruction register
  - e. Data/ address register
2. Draw the functional block diagram of 8085 microprocessor.
3. Give features of 8051.
4. Explain Sign flag & Parity flag with Eg.
5. Explain the function of following instructions of 8051:
  - a. DIV AB
  - b. MOV DPTR, #data 16
  - c. DJNZ <source>, <addr>
  - d. RRC
  - e. ANL <desti><source>
6. Explain the working of following instructions of 8085:
  - a. STA 16-bit addr
  - b. ADD M
  - c. DAA
  - d. XRI 8-bit data
  - e. CMP r