



- Notes :
1. All questions carry marks as indicated.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) What is addressing mode? Explain different addressing mode of μp 8085 with example. **8**
- b) Explain the following registers of μp 8085 **8**
- i) Stack pointer
 - ii) Program Counter
 - iii) Instruction register.

OR

2. a) Draw and explain the timing diagram of 8085 instruction IN 20H stored at location 7000H. **8**
- b) Explain the function of following pins of μp 8085. **8**
- i) S_0S_1
 - ii) IO/\overline{M}
 - iii) X_1X_2
 - iv) ALE
3. a) Explain the following instruction with example **8**
- i) LDA 7000H
 - ii) DAD Rp
 - iii) XCHG
 - iv) LXI H, 7000H
- b) Write an Assembly language program of μp 8085 to sort an array of 10 numbers in Ascending order. **8**

OR

4. a) Write a simple delay subroutine involving a single 8-bit register of 8085? What will be the maximum delay that can be achieved by this subroutine. **8**
- b) Write a subroutine program to clear flag register. **4**
- c) Write a subroutine program to exchange BC pair with DE pair. **4**
5. a) What is interrupt in microprocessor? Explain the software interrupt of μp 8085 with its vector address and operation. **8**
- b) Explain how serial communication take place in μp 8085 using SIM and RIM instruction. **8**

OR

- | | | | |
|-----------|----|---|-----------|
| 6. | a) | Draw the circuit to generate $\overline{\text{MEMR}}$, $\overline{\text{MEMW}}$, $\overline{\text{IOR}}$ and $\overline{\text{JDW}}$ signal from $\overline{\text{RD}}$, $\overline{\text{WR}}$ and $\overline{\text{IO/M}}$. | 6 |
| | b) | Interface 4k of EPROM and 8k of RAM IC's with μp8085 . The available IC's are 2k EPROM and 4k RAM. | 10 |
| 7. | a) | State and explain the CWR format of I/O mode and BSR mode of IC 8255 write a program to blink LED on PC5 pin of 8255. Whose CWR address is 83H. | 8 |
| | b) | Interface ADC 0800 with μp8085 using memory mapped Input Output. | 8 |

OR

- | | | | |
|-----------|----|---|----------|
| 8. | a) | Draw and explain frequency measurement of AC signal using μp8085 with an example. | 8 |
| | b) | Draw and explain block diagram of AC voltage measurement (peak value) using μp8085 . | 8 |
| 9. | a) | Explain the mode O-Interrupt on terminal count of IC 8254 with waveform. | 8 |
| | b) | Interface IC 8254 with μp8085 in memory mapped I/O. | 8 |

OR

- | | | | |
|------------|----|--|----------|
| 10. | a) | Draw and explain the pin diagram of IC 8254. | 8 |
| | b) | State and explain the CWR's of IC 8254. | 8 |
