

Microprocessor & Interfacing

P. Pages : 2

Time : Three Hours



TKN/KS/16/7424

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Assume suitable data whenever necessary.
 9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain Bus concept in microprocessor with neat diagram. 7
- b) Define the following terms, 6
- i) Bits, Byte, Word and Double word.
 - ii) Bus.
 - iii) Microprocessor.

OR

2. a) Explain memory organisation of a microprocessor system. 7
- b) Differentiate between Linear and Absolute decoding. 6
3. a) Draw and explain timing diagram of instruction LDA 4050 H. 7
- b) What is meant by multiplexing of address/data bus $AD_0 - AD_7$? Explain with the help of neat diagram how they are de-multiplexed. 6

OR

4. a) Explain different addressing modes of 8085 microprocessor. Give two examples of each. 7
- b) Draw pin schematic of 8085 microprocessor & explain following pins. 6
- i) IO/\overline{M} ii) S_0, S_1
 - iii) \overline{RESET} IN iv) READY
5. a) Explain the function of instruction PUSH RP and POP RP. 5
- b) Explain the program status word of 8085 microprocessor. Explain each flag in detail. 6
- c) Write a program to find 2's complement of a number stored at memory location 5000H and store the result at memory location 5001H. 3

OR

6. a) Write a program to find smallest number from a block of 10 data bytes present in memory locations 7000H onwards and store it at 7500H. **7**
- b) Explain CALL and RETURN instructions in detail. **7**
7. a) Draw & explain interrupt structure of 8085. Explain each interrupt pins. **6**
- b) Differentiate between maskable and Non-maskable interrupts. **3**
- c) Explain RIM and SIM instructions. **5**

OR

8. a) Explain any two advanced instructions of 8085 microprocessor. **4**
- b) How to enable and disable interrupts in 8085 microprocessor? **5**
- c) Differentiate between hardware and software interrupts. **5**
9. a) Explain the data transfer methods in 8085 microprocessor. **6**
- b) Interface 8 keys and 8 LED's with 8085 microprocessor. Write a program to turn ON LED corresponding to pressed key. Repeat process after every 5 ms. **7**

OR

10. a) Draw and explain internal architecture of 8255 PPI and explain BSR Mode of 8255. **7**
- b) Interface 8253 with 8085 from address F4H. **6**
11. a) Interface 6Kx8 EPROM memory to 8085 microprocessor using 2Kx8 memory chips with starting address 8000H. **7**
- b) Name and explain any five Assembler Directives. **6**

OR

12. a) Draw Interfacing diagram of 4 x 4 Matrix keyboard and one 7-segment display with IC-8085. **6**
- b) What is bus contention? How it can be eliminated? **4**
- c) Differentiate between IO mapped IO and memory mapped IO. **3**
