



- 3 If the 8085 adds 87<sub>H</sub> and 79<sub>H</sub>, specify the contents of the accumulator and the status of the S, Z and CY flags.
- 4 Explain LXI Rp.
- 5 Explain LDAX B/D.
- 6 Write instructions to load the 16-bit number 2050<sub>H</sub> in the register pair HL using LXI and MVI opcodes, and explain the difference between the two instructions.
- 7 What is difference between RRC and RAR?
- 8 Give applications of rotate instructions.
- 9 Differentiate: RLC and RAL.
- 10 Explain PUSH and POP.
- 11 What is stack and subroutine?
- 12 Explain CALL and RET.
- Que 3** [A] With necessary timing diagram, explain IN instruction. [06]  
 [B] Write a note on 8085 machine cycles and bus timings. [04]  
 OR  
 [C] With necessary timing diagram, explain OUT instruction. [06]  
 [D] What do you mean by interfacing? Enlist the instructions used for data transfer between the processor and the I/O device. Explain why the number of output ports in the peripheral-mapped I/O is restricted to 256 ports. [04]
- Que 4** [A] Sixteen bytes of data are stored in memory locations at XX50<sub>H</sub> to XX5F<sub>H</sub>. Transfer the entire block of data to new memory locations starting at XX70<sub>H</sub>. [06]  
 [B] Write on arithmetic operations related to memory. [04]  
 OR  
 [C] Six bytes of data are stored in memory locations starting at XX50<sub>H</sub>. Add all the data bytes. Use register B to save any carries generated, while adding the data bytes. Display the entire sum at two output ports, or store the sum at two consecutive memory locations, XX70<sub>H</sub> and XX71<sub>H</sub>. [06]  
 [D] Write on programming techniques: looping, counting and indexing. [04]
- Que 5** [A] A set of current readings is stored in memory locations starting at XX50<sub>H</sub>. The end of the data is indicated by the data byte 00<sub>H</sub>. Add the set of readings. The answer may be larger than FF<sub>H</sub>. Display the entire sum at PORT<sub>1</sub> and PORT<sub>2</sub>. [06]  
 [B] Enlist different time delay techniques. Explain how one millisecond delay can be achieved with the help of one register (clock frequency 3 MHz). [04]  
 OR  
 [C] Write a program to count continuously in hexadecimal from FF<sub>H</sub> to 00<sub>H</sub> in a system with a 0.5 μs clock period. Use register C to set up a 1 ms delay between each count and display the numbers at one of the output ports. [10]
- Que 6** [A] A BCD number between 0 and 99 is stored in an R/W memory location. Write a main program and a conversion subroutine to convert the BCD number into its equivalent binary number. Store the result in any memory location. [10]  
 OR  
 [B] Write an assembly language program to convert BCD number into common cathode LED codes. [10]