

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Winter 2022 - 23 Examination

Semester: 3 / 4**Subject Code: 203124209****Subject Name: Computer Organization and Microprocessor Architecture****Date: 12/10/2022****Time: 2:00pm to 4:30pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions - (All are compulsory) (Each of one mark) (15)

1. What is the size of address bus in 8085 microprocessor?
2. How many flags are there in flag register?
3. Define instruction.
4. What is an assembler?
5. Give an example of a three byte instruction.
6. _____ bits are used as address in I/O mapped I/O devices.
7. Describe the function of ALE pin.
8. Explain usage of HOLD pin.
9. How many T-states are required to execute instruction MVI A,32H ?
10. Explain RAR instruction.
11. Explain STAX instruction.
12. LXI H, 2048H is _____ byte instruction
13. Which instruction is used to enable interrupt ?
14. What is opcode?
15. Which are the basic logic operations in 8085?

Q.2 Answer the following questions. (Attempt any three) (15)

- A) Explain flag register in detail.
- B) Explain demultiplexing of address bus and data bus.
- C) Write a Subroutine for 8085 to generate delay of 10ms. (Assume 0.333us clock cycle).
- D) Draw the pin diagram of 8085

Q.3 A) Explain block diagram of 8085 in detail. (07)

- B) Write an assembly language program to count number of 1's in the contents of D register and store the count in the B register. (08)

OR

- B) Write an assembly language program to sort given 10 numbers from memory location 2200H in the ascending order. (08)

Q.4 A) Explain 8085 vectored interrupts in detail. (07)

OR

- A) Explain various Addressing Modes with example. (07)
- B) Explain 4 bit binary adder with block diagram. (08)