

Roll.No.

24UPHET5A01

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.Physics - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - V

24UPHET5A01- Digital Data Processing and Embedded Microcontrollers

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Discuss the different addressing modes of 8085 microprocessor.
2. What are various registers available in 8085 microprocessor? Discuss their function.
3. Write 8085 assembly language program to find the sum and difference of two numbers.
4. Draw and explain the timing diagram for IN instruction and its operation.
5. Compare and contrast direct I/O and memory mapped I/O.
6. Classify the interrupts of 8085 based on their nature and functionality.
7. Draw and explain the block diagram of 8255 Programmable Peripheral interface.
8. Evaluate the importance of uniquely identifiable things in IoT applications.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Classify the instructions of 8085 microprocessor based on the word size. Explain them with example.
10. Write an 8085 assembly language program to arrange an array of numbers in ascending order.
11. Design the interfacing of 2Kx8 EPROM with 8085 microprocessor.
12. Develop an assembly language program to flash the LED's with fixed time delay.
13. Construct a water quality monitoring system using IoT.
