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.
M.Sc.(Physics) - END SEMESTER EXAMINATIONS APRIL - 2023
SEMESTER - IV

20PPHET4004 - Microprocessor 8086 and Microcontroller 8051

Total Duration : 2 Hrs. 30 Mins. Total Marks : 60

Section B

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

1. State the concept of Direct Memory Access (DMA).
2. Assume 8 data bytes are stored from memory location E000H to E007H. Write 8086 ALP to transfer the block of data to the new location B001H to B008H.
3. Explain about program memory of 8051 microcontroller.
4. Explain interfacing ADC to 8051 microcontroller with necessary diagrams.
5. Discuss the interrupt system of Intel 8086. What is an interrupt pointer? What is the 'type' of an interrupt?
6. Describe the functions of segment registers of 8086.
7. Discuss the memory architecture of the 8051 microcontroller.
8. Classify and distinguish the timer interrupt of the 8051 microcontroller.

Section C

I - Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

9. With necessary block diagrams, explain programmable peripheral interface 8255 in detail.
10. Explain the architecture of the 8086 microprocessor with a neat block diagram.
11. Discuss the string instructions and data transfer instructions in 8086.
12. Write an assembly language program to sort an array of data in 8051 microcontroller.

II - Compulsory question $(1 \times 10 = 10$ Marks)

13. Describe the interfacing method of a stepper motor to 8051 with the necessary block diagram.

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