

**M.Sc. 4th Semester Examination, 2024**

**ELECTRONICS**

*( Microprocessor and Micro Controllers )*

PAPER – ELC-401

*Full Marks : 50*

*Time : 2 hours*

Answer **all** questions

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

**GROUP – A**

Answer any **four** questions :  $2 \times 4$

1. List the various registers of 8085. 2

2. One memory address of the last location of an 8 kbyte memory chip is FFFFH. Find the starting address. 2
3. What are the limitations of 8085 microprocessors ? 2
4. How the MOV A, M instruction is executed ? Find the status after execution. 1 + 1
5. What do you mean by pipeline architecture in 8086 ? 2
6. What are the differences between microprocessors and microcontrollers ? 2

GROUP-B

Answer any **four** questions : 4 × 4

7. Write down the length and addressing modes of the following instruction : 1 × 4

(i) LXI H, 2050H

(ii) STA 3050H

(iii) MOV A, M

(iv) IN 05 H

8. Write an assembly language program for :  
A block of six data is stored in the memory location from 8055H to 805A H. Transfer the data to the location 8080 H to 8085 H in reverse order. 4
9. Compare memory-mapped I/O and peripheral I/O. 4
10. Mention the important features of 8085 interrupts. 4
11. Explain the physical address formation in 8086. 4

12. Distinguish between synchronous and asynchronous transmission. What is IEEE-488 standard ? 2 + 2

GROUP - C

Answer any two questions : 8 × 2

13. (a) What are the functions of the following signals in 8085 microprocessor ?

(i) ALE

(ii) CLK OUT

(iii) Trap

- (b) How does 8085 microprocessors generate appropriate control signals to interface memory mapped I/O. 3 + 5

14. Explain the physical memory organization of 8086. Draw and discuss flag register of 8086. 4 + 4

15. Draw the block diagram of PPI 8255. Show the control word format for I/O mode operation of 8255. 4 + 4
16. What are the features of Intel 8051 ? Draw the architecture of 8051. 3 + 5

**[ Internal Assessment – 10 Marks ]**

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