**A–1185**

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# MSCPH-522

## M.Sc. Physics (MSCPH)

## Memory Devices and Microprocessor

Examination February, 2026

Time : 2:00 Hrs. Max. Marks : 70

***Note* :–** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.***

**Section–A**

**(Long Answer Type Questions)** (2×19=38)

***Note* :–** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Explain the architecture and operation of Intel 8085 micro processor. Also describe its pin configuration.

2. Explain in detail PMOs, CMOs and Tri state logic.

3. What are the addressing modes and instruction set of Intel 8085, also discuss its data transfer operation.

4. Discuss the function of one pass and two pass assembler. Write an assembly language program for the multiplication of two numbers stored at memory location 2100 H and 2101 H Store the result at 2200 H. Assume that the result does not overflow.

5. Explain the basic concept and operational modes of Intel 8255.

## Section–B

**(Short Answer Type Questions)** (4×8=32)

***Note*** **:–** Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain the difference between the machine language and the assembly language of the 8085 microprocessor.

2. What are the control signals in the memory mapped I/O ?

3. Explain the performance characteristics of logic families.

4. Explain in detail magnetic memory and optical memory devices.

5. Explain content addressable memory with operational block diagram.

6. Discuss the arithmetic and logic operations of 8085 micro-processor.

7. Draw and explain the architecture of 80486 microprocessor

8. Write short notes on the following :

   (i) BCD to binary code conversion

   (ii) BCD to LED code conversion

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