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[Roll No.]

PHY-553

**M.Sc. (Physics) IInd Year
Examination Dec., 2023**

**MEMORY DEVICES AND
MICROPROCESSORS**

Time : 2 Hours]

[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 there in. 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.

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(1)

P.T.O.

1. What do you understand by Logic families ? Compare different types of logic families and their performance characteristics in detail.
2. Write a short note on any *two* the following :
 - (a) Priority Interrupt Controller
 - (b) Pentium Microprocessor
 - (c) Memory architecture
 - (d) Addressing modes of Intel 8086 microprocessor
3.
 - (a) Write a short note on CMOS logic family.
 - (b) Explain emitter coupled logic (ECL), with proper examples.
4. What is computer memory ? Discuss the classification and characteristics of memories.
5. Explain the pin diagram of Intel 8085 microprocessor. Explain the function of various status flags in 8085 microprocessor.

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. What is microprocessor ? Explain the architecture of a microprocessor.
2. Make a block diagram of data flow from memory to the MPU and explain it.
3. Discuss the working of 8259 interrupt controller.
4. What is low level language and high level language ? Write an assembly language for multiplying two numbers.
5. Explain briefly RISC and CISC processors.
6. What is the difference between 8085 and 8086 microprocessors ?
7. Make a timing diagram of memory read and memory write instruction of 8085 microprocessor.
8. Explain the memory organization of 8355 ROM with a block diagram.
