4. Discuss the characteristics of memory devices.

5. What is low level language and high level language ? Write an assembly language for multiplying two numbers.

6. Make a timing diagram of memory read instruction.

7. Explain the manufacturing of Read Only Memory (ROM).

8. Describe the generation of control signals and de multiplexed address bus in 8085 microprocessor.

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Total Pages : 4 Roll. No. : .....

Examination Session June-2022

(Fourth Semester)

MPHY-606

M.Sc. PHYSICS (MSCPHY)

[Memory Devices and 8085 Microprocessor]

Time : 2 Hours] **[Max. Marks : 40**

Note : This paper is of Forty (40) marks divided into two (02) Section A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION—A

(Long-Answer-Type Questions)

Note : Section 'A' contains five (05) long-answer-type questions of Ten (10) marks each. Learners are required to answer any two (02) questions only. 2×10=20

1. (a) What is computer memory ? Discuss primary and secondary memory.

   (b) Discuss EPROM, EEPROM and Flash memory.

2. (a) Discuss subroutines and the stack.

   (b) Discuss various types of addressing modes in a microprocessor.

3. (a) Classify the types of microprocessor instructions according to the word size.

   (b) Make a block diagram of 8085 bus organization and explain different buses.

4. (a) Explain Emitter Coupled Logic (ECL), with proper examples.

   (b) Describe logic families. Explain how transfer can be used as a switch.

5. (a) Discuss the role of address buffer and address data buffer in the architecture of 8085 μp.

   (b) Write an assembly language program of 8085 to find the logical AND and logical OR of 26 H and 39 H. Store the result in 2500 H and 2501 H.

SECTION—B

(Short-Answer-Type Questions)

Note : Section 'B' contains eight (08) short-answer-type questions of Five (05) marks each. Learners are required to answer any four (04) questions only. $4 \times 5 = 20$

1. Discuss the use of MOSFET as a logic gate.

2. What is computer memory and how microprocessor communicates with memory ?

3. Discuss CMOS logic family. How can we produce NAND and NOR logics using CMOS ?