

SCHOOL OF SCIENCES



UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)
उत्तराखण्ड मुक्त विश्वविद्यालय, हल्द्वानी (नैनीताल)

M.Sc. Physics (MSCPHY12)

Second Year Assignment

Last Date of Submission: 15 May 2014

Course Title: Memory Devices and
Microprocessors

Course Code: PHY-553

Year : 2013-14

Maximum Marks :40

Section A

Section 'A' contains 08 short answer type questions of 5 marks each. Students are required to answer 4 questions only. Answers of short answer type questions should be in 250 words approximately.

- 1- Compare the performances of TTL and MOSFET logic gates w.r.t. power dissipation, noise margin, cost and propagation delay.
- 2- Draw the circuit, symbols and truth table of a normally opened tristate switch. Compare the characteristics of ECL with TTL and give their area of application.
- 3- What is ROM? Mention the different types of ROMs and their characteristics.
- 4- Explain the method of increasing word length of a memory system using a block diagram.
- 5- Discuss the instruction cycle, Machine cycle and T state.
- 6- Define machine language and Assembly language, and give an example of assembly language program.
- 7- Write an assembly language program to find the sum of bit numbers.
- 8- Explain in detail the working of DMA data transfer scheme.

Section B

Section 'B' contain 04 long answers type question of 10 marks each and students are required to answers 02 questions only.

- 1- Explain memory organization of 8155 RAM, 6116 RAM and 8355 ROM with a block diagram and compare them.
- 2- Write a note on microprocessor 8085 architecture and pin configuration.
- 3- Write the Intel 8085 instructions set in various groups. Give the example also.
- 4- Give a note on Intel 8253 microprocessor.