

SCHOOL OF SCIENCES



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

M.Sc. Physics (MSCPHY13)

Second Year Assignment

Last Date of Submission: 15 May 2015

Course Title: Memory Devices and
Microprocessors

Course Code: PHY-553

Year : 2014-15

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- Explain in detail the function and working of transistor- transistor logic (TTL) circuit and its applications.
- 2- Compare the logic levels of TTL, ECL, and CMOS logic families.
- 3- Explain in detail the function of ALU.
- 4- Explain what operation will take place when the following instructions are executed. LXI rp, data, LDA addr, LHLD addr, STA addr, and SHLD addr.
- 5- Write an assembly language program to find the largest number in an array of 8 bit numbers.
- 6- Write an assembly language program to subtract AC_H from $E1_H$.
- 7- Draw the pin diagram of PPI 8255 and explain the function of signals on each pin.
- 8- Give the salient features of PIC 8259 and explain the function of all the signals using the pin diagram.

Section B

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

- 1- What is the function of memory in a computer system and give the classification of memories. Explain the memory architecture with the help of diagrams.
- 2- What are the various registers of 8085? Explain its architecture also.
- 3- Give the classification of data transfer method/ scheme. Compare and contrast between memory mapped I/O and isolated I/O.
- 4- Write a note on microprocessor 8086 architecture and pin configuration.