K18P 0903

Reg. No. : .....

Name : .....

Third Semester M.Sc. Degree (Reg./Suppl./Imp.)
Examination, October 2018
PHYSICS
(2014 Admn. Onwards)
PHY3E03 : MICROPROCESSORS AND APPLICATIONS

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **both** questions (either **a** or **b**) :

1. a) i) Discuss various types of addressing modes of Intel 8085 with suitable examples.

   ii) Write an assembly language program to add two 8-bit numbers, the sum may be of 16 bits.

   OR

   b) i) Show interface connections for a microprocessor-based scheme for traffic control.

   ii) Describe the architecture of programmable peripheral Interface - Intel 8255.

2. a) Discuss the programmable DMA – Controller Intel 8257. Mention its applications.

   OR

   b) i) What are the various schemes of data transfer from CPU/memory to I/O devices and vice versa ?

   ii) Explain what operation is performed when the following instructions are executed.

   LXIrp, LDA addr, LHLD addr, STA addr. **(2×12=24)**

P.T.O.

SECTION – B

1 mark for Part **(a)**, **3** marks for Part **(b)**, **5** marks for Part **(c)**. Answer **any four**.

3. a) What is PSW ?
   b) Explain what is meant by Memory Mapped I/O Scheme.
   c) What are the various types of data formats for Intel 8085 instructions ?

4. a) List the Software and Hardware interrupts of 8085.
   b) What are the Internal registers of INTEL 8259 ?
   c) Give the schematic diagram of programmable communication Interface Intel 8251.

5. a) Give an account of dynamic RAM Controller Intel 8203.
   b) Write a short note on programmable keyboard/display Interface Intel 8279.
   c) Discuss the main features of ADC 0800.

6. a) What is delay subroutine ?
   b) What is an analog multiplexer ?
   c) Show the Interface connections of ADC 0808 with Intel 8085.

7. a) What is the principle of multiple digit – display ?
   b) Distinguish between common cathode 7-segment and common anode 7-segment displays.
   c) Briefly describe 8051 microcontrollers.

8. a) What is Intel 8231 ?
   b) Write a short note on Microprocessor based protective relays.
   c) Discuss a microprocessor based control of firing circuit of a thyristor. **(4×9=36)**
