



K17P 1354

Reg. No. :

Name :

Third Semester M.Sc. Degree (Reg./Suppl./Imp.) Examination, Nov. 2017
(2014 Admn. Onwards)

PHYSICS

PHY 3E03 : Microprocessors and Applications

Time : 3 Hours

Max. Marks : 60

SECTION – A

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

1. a) Classify Intel 8085 instructions in various groups. Give examples of instructions for each group.

OR

- b) What is a programmable DMA controller ? Describe the DMA data controller 8257.

2. a) What is a stepper motor ? Discuss its applications. Show interface connections for a microprocessor based scheme for controlling a stepper motor.

OR

- b) i) Explain what is memory mapped I/O scheme and I/O mapped I/O scheme.
ii) With the help of a block diagram, discuss the main features of ADC 0800.

(2×12=24)

SECTION – B

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

3. a) State the difference between STA and STAX instructions.
b) What are the various types of data formats for Intel 8085 instructions ?
c) Discuss the various types of addressing modes of Intel 8085 with suitable examples.

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4. a) What is a cycle stealing technique ?
b) Give an account of synchronous data transfer.
c) Write a short note on interrupt driven data transfer.
5. a) What is masking and why it is required ?
b) What is vectored and non-vectored interrupt ?
c) What are software and hardware interrupts. List out the interrupts of Intel 8085.
6. a) What are I/O ports ?
b) What are the various operating modes of 8253 ?
c) Explain the architecture of Intel 8255.
7. a) List the functions performed by Intel 8279.
b) Show the interface connections of ADC 0808 to Intel 8085.
c) Give an overview of 8051 microcontroller.
8. a) What is a common cathode type 7-segment display ?
b) Show interface connections for a microprocessor-based scheme for traffic control.
c) Show general interface connections to measure and control any physical quantity like temperature, water-level etc. (4×9=36)