K16P 1024

Reg. No. : .....

Name : .....

Third Semester M.A./M.Sc./M.Com. Degree (Reg./Supple./Imp.) Examination, November 2016

PHYSICS

(2014 Admission Onwards)

PHY 3E03 : Microprocessors and Applications

Time : 3 Hours Max. Marks : 60

SECTION – A

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

1. a) Why an interrupt controller is required ? Describe the interrupt controller 8259.

   OR

   b) i) What are the various types of data formats for Intel 8085 instructions ? Give examples for each types of data formats.

   ii) Discuss various types of addressing modes of Intel 8085 with suitable examples.

2. a) Give the architecture of programmable keyboard/display interface 8279.

   OR

   b) With the help of a block diagram, explain the microprocessor based system for temperature measurement and control. **(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) What is the function performed by RIM instruction ?

   b) State the difference between LDA and LDAX.

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

   DAD rp, DAA, CMP r, PUSH rp, POP rp.

P.T.O.

4. a) What is DMA ?

   b) Write a short note on Memory Mapped I/O scheme.

   c) What are the various schemes of data transfer from CPU/memory to I/O devices and Vice-versa ?

5. a) What are Maskable and non-maskable interrupts of 8085 ?

   b) List the type of signals that has to be applied to initiate a hardware interrupt in 8085.

   c) How to check the interrupt request pending status of 8085 interrupt ?

6. a) What is USART ?

   b) Draw the internal block diagram of Intel 8257.

   c) Give an account of the operating modes of 8255.

7. a) What is delay subroutine ?

   b) Discuss the main features of ADC 0800.

   c) What is the function of a S/H circuit ? Show the interface connections of ADC 0808 and S/H circuit to a microprocessor.

8. a) What is a seven-segment LED display ?

   b) Show the interface connections for a microprocessor-based scheme for controlling a stepper motor.

   c) Draw the block diagram of a Pentium Processor. **(4×9=36)**
