



K19P 1124



Reg. No. :

Name :

III Semester M.Sc. Degree (CBSS-Reg./Sup./Imp.)

Examination, October - 2019

(2014 Admission Onwards)

PHYSICS

PHY3E03- MICROPROCESSORS AND APPLICATIONS

Time : 3 Hours

Max. Marks : 60

SECTION-A

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

(2×12=24)

- I. a) Briefly explain the classification of Intel 8085 instructions in various groups. Give examples of instructions for each group.

(OR)

- b) What is a programmable peripheral Interface? Explain the architecture of Intel 8255.

- II. a) i) Explain microprocessor based control of firing circuit of a Thyristor.

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

(OR)

- b) i) With a block diagram explain the architecture of ADC 0800.

- ii) Discuss the programmable keyboard/ display interface-Intel 8279.

P.T.O.



SECTION-B

1 mark for part (a), 3 marks for part (b) 5 marks for part (c). Answer any Four. (4×9=36)

- III. a) What is a subroutine?
b) What are the operations performed by logical instructions?. Give an example and explain.
c) Explain what operation is performed when the following instructions are executed.
LXIrp, data; LDA addr, LHLD addr, STA addr and SHLD addr.
- IV. a) Explain what is vectored interrupt.
b) With a diagram explain the memory and I/O interfacing of a microprocessor.
c) What are the various programmed data transfer schemes? Explain.
- V. a) What are enabling and disabling interrupts?
b) Write a short note on memory mapped I/O scheme.
c) With a schematic diagram, explain the interrupts of Intel 8085.
- VI a) What are the operating modes of Intel 8255.
b) Give an account of the Internal registers of Intel 8259.
c) Sketch and explain the pin diagram of Intel 8253.
- VII. a) What is the function of a sample and hold circuit?
b) Discuss the main features of ADC 0808.
c) What are micro controllers? Give an account of 8051 microcontroller.



- VIII. a) What are common cathode type and common anode type 7-segment displays.
b) Briefly explain the principle of microprocessor based protective relays.
c) Sketch and explain a microprocessor based scheme for temperature measurement.
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