Fourth Semester Online Examination - 2020

M.Sc.

PHYSICS

Special Paper IV

(Electronics-II)

Maximum Marks : 80

Note : Part A and B of each question in each unit consist of very short answer type questions, which are to be answered in one or two sentences. Part C (Short Answer Type) of each question will be answered in 200-250 words. Part D (Long Answer Type) of each question should be answered within word limit 400-450.

Unit-I

1. (A) Comment on the instruction size of 8086.   **2**

(B) Mention the address capability of 8086.   **2**

(C) What is pipelining in 8086 microprocessor.   **4**

Or

Compare 8086 and 8088 microprocessors.

(D) Draw and explain the architecture of 8088 microprocessor.   **12**

Or

Explain maximum mode configuration for 8086 microprocessor.

Unit-II

2. (A) What is the difference between ROR and RCR instruction.   **2**

(B) Write the main difference between PUSH and POP instruction.   **2**

(C) Write any four difference between real mode and protected mode addressing of 80386 microprocessor.   **4**

Or

Write 8086 assembly language program to multiply two 8-bit numbers.

(D) What is an addressing mode? With suitable example, explain
    any 6 addressing modes in 8086.   **12**

<div align="center">*Or*</div>

Explain the following types of instructions :
(i)   Arithmetic Instructions.
(ii)   Branch Instructions.

<div align="center">

Unit-III

</div>

3. (A) What is memory mapping?   **2**

   (B) What is BHE ?   **2**

   (C) Bring out the differences between static and dynamic RAM.   **4**

<div align="center">*Or*</div>

Write short note on address decoding.

   (D) Interface two 4K×8 EPROMS and two 4K×8 RAM chips with
      8086. Select suitable maps.   **12**

<div align="center">*Or*</div>

Give the basic idea about 32 bit and 64 bit memory interface.

<div align="center">

Unit-IV

</div>

4. (A) What is scanning in keyboard ?   **2**

   (B) Write the features of mode 0 in 8255 ?   **2**

   (C) Compare memory mapped I/O and I/O mapped I/O interfacing.   **4**

<div align="center">*Or*</div>

What are maskable and non maskable interrupts ? Give examples.
How will you mask an interrupt in 8086 ?

   (D) What is the advantage of using 8279 for keyboard/display interface?
      What are scan lines used for ? Explain its following modes of
      operations:
(i)   Encoded scan mode.
(ii)   Decoded scan mode.   **12**

<div align="center">*Or*</div>

What is Analog to Digital converter ? Draw and explain the pin

diagram of ADC0808 and ADC0804. Also write the features of

ADC0808 and ADC0804.