B.Sc. (Part—II) Semester—IV Examination

4S : ELECTRONICS

(Communication Electronics and 8085 Microprocessor)

Time : Three Hours]   [Maximum Marks : 80

Note :— (1)   **All** questions are compulsory.

(2)   Draw neat diagram wherever necessary.

1.   (A)   Fill in the blanks :

(i)   RAM stands for _____ .

(ii)   The width of address bus in 8085 is _____ .

(iii)   AM stands for _____ .

(iv)   PAM stands for _____ .   2

(B)   Choose the correct alternative for the following :

(i)   The width of data bus of 8085 is :

(a)   2-bits   (b)   4-bits

(c)   8-bits   (d)   None

(ii)   FM is :

(a)   Frequency Modem   (b)   Frequency Modulation

(c)   Amplitude Modulation   (d)   None

(iii)   PCM stands for :

(a)   Pulse Code Modulation   (b)   Perfect Code Modulation

(c)   Pulse Correct Code   (d)   None

(iv)   Intel 8085 microprocessor is _____ bit microprocessor.

(a)   2-bits   (b)   5-bits

(c)   16-bits   (d)   8-bits   2

(C)   Write answer in **one** sentence each :

(i)   State the addressing mode of LDA, 2500 H.

(ii)   What is Modulation ?

(iii)   What is 'Execute Cycle' ?

(iv)   What is the function of data bus ?   4

EITHER

2. (A) Explain the theory of Amplitude Modulation.   6

   (B) Draw the block diagram of FM transmitter and explain the function of each block.   6

OR

   (P) Draw and explain diode detector circuit.   6

   (Q) State the needs of modulation.   4

   (R) What are the advantages of FM ?   2

EITHER

3. (A) Draw and explain block diagram of fiber optic communication system.   6

   (B) Explain the Jointer and Coupler.   6

OR

   (P) Explain the working of LED as an optical source.   6

   (Q) What are the different types of optical fibers ? Explain.   6

EITHER

4. (A) State the difference between TDM and FDM.   6

   (B) Explain PPM and PWM.   6

OR

   (P) Explain PCM used in digital communication.   6

   (Q) What is multiplexing ? Explain TDM.   6

EITHER

5. (A) Explain one byte, two byte and three byte instruction with suitable example.   6

   (B) Draw the block diagram of 8085 microprocessor and explain the function of ALU, ACC and Stack Pointer.   6

OR

   (P) Draw and explain timing diagram for MOV A, B instruction.   6

   (Q) What is flag ? Explain various status flags of 8085 μp with neat diagram.   6

EITHER

6.   (A) Draw the flow chart and write ALP for subtraction of two 8-bit numbers.   6

    (B) What is flow chart ? Draw and explain various flow chart symbols.   6

OR

    (P) Explain the stack and stack related instruction with suitable example.   6

    (Q) Draw the flow chart and write ALP for delay subroutine using register pair.   4

    (R) State the addressing modes of following instructions :

        (i)   MOV C, B

        (ii) MVI A, FFH   2

EITHER

7.   (A) Explain the control word format for I/O mode of 8255 PPI.   6

    (B) Draw the pin diagram of 8255 PPI and explain the function of important pins.   6

OR

    (P) Explain Synchronous and Asynchronous data transfer scheme.   6

    (Q) Explain memory mapped I/O and I/O mapped I/O scheme for address space allocation.

        6