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Printed Pages : 3

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BT-4 / M-18

FUNDAMENTALS OF μP INTERFACING & APPLICATION

Paper–IT-210-N

Time allowed : 3 hours] *[Maximum marks : 75*

Note :- *Attempt any five questions selecting at least one question from each unit.*

Section-I

1. (a) Give a general block diagram of 8085 microprocessor. Explain briefly the various blocks of the system. 10

   (b) Explain with schematic diagram how separate address, data signals can be generated from 8085 common address-data lines? 5

2. (a) Draw the Pin configuration of 8085 μp and explain the functioning of the pins. 10

   (b) What is a stack? On what principle it works? Is it necessary to initialize stack pointer while writing program? Explain with example. 5

Section-II

3. (a) Explain the following instructions and show the status of PSW after each execution 10

   (1) LDAX B

   (2) SHLD, fc90h

   (3) DAD H

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(4) XRA, A

(5) XTHL

(6) INR M

(7) DAA

(8) JM, 16 bit address

(9) PUSH D

(10) OUT, 8- Bit Port address

(b) What are the various addressing modes available in 8085? Explain with examples 5

4. (a) Write a program in 8085 to convert the binary number stored in location XX20h to BCD. Store the possible three BCD digits in unpacked manner from location XX50h? 10

   (b) Write an ALP in 8085 to add 5 bytes of data in an array by making use of procedure. 5

Section-III

5. (a) What are different 8085 vectored interrupts and give the call locations for each interrupt? Explain each of them. 5

   (b) A Push Button key-board is connected to port A & 7 segment LED display is connected to port B of 8255. Write a program to monitor the key-board to sense a key pressed and display the no. of key at 7 segment LED. Draw the interfacing circuit for the same. 10

6. (a) Explain: i) memory mapped I/O, ii) I/O mapped I/O, iii) serial I/O. 10

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(b) Explain interrupt driven I/O technique. How 8085 responds to INTR interrupt? 5

Section–IV

. With the help of a suitable diagram Interface 8085 using 8255 to monitor the temperature in a given system. 15

. (a) Interface an A/D converter to 8085 and write a program to convert the analog input to digital. 10

(b) Explain the operation of 8255 PPI chip with its internal block schematic. Explain its mode 0, mode 1 and BSR modes. 5