

B. Sc. Semester V (Honours) Examination 2020 (CBCS)

Subject: Electronic Science

Paper CC-XI

Time: 2 hours

Full Marks: 40

Candidates are required to give their answers in their own words as far as practicable

Answer any eight questions (All questions carries equal marks):

8×5 =40

1. What is a microprocessor? Explain briefly the terms 'machine language' and 'assembly language' of the 8085 microprocessor.
2. Why, in 8085, the data bus is bidirectional? Describe the registers and flags in 8085 microprocessor.
3. (a) How does a microprocessor differentiate between data and instruction code?
(b) Write an assembly language program using 8085 microprocessor to add two numbers 32H and 48H and to display the accumulator content at port 01H.
4. What is meant by 'subroutine'? Explain the instructions CALL, RET, PUSH, POP.
5. (a) What is the sequence of storage and retrieval of data bytes on the stacks?
(b) Draw the flowchart for a traffic signal controller. The green, yellow and red lights remain on for 15 second, 5 second and 20 second respectively.
6. (a) What is the difference between microprocessors and microcontrollers?
(b) Mention the advantages and disadvantages of RISC architectures.
7. (a) Mention some special features of the CPU in PIC16F887 microcontroller.
(b) Explain ROM memory and EEPROM memory.
8. Compare Harvard and Princeton configurations of microcontrollers.
9. Explain the interfacing of 16×2 LCD display to PIC16F887.
10. Write a programme to sort the data 87H, 56H and 42H in ascending order. (The data are stored in memory starting at 2050H.) Explain the operation of each mnemonic.