4459

BOARD DIPLOMA EXAMINATION, (C-14)
OCT/NOV—2018
DECE—FOURTH SEMESTER EXAMINATION

MICROPROCESSOR AND MICROCONTROLLER PROGRAMMING

Time : 3 Hours]   [*Total Marks* : 80

PART—A   3×10=30

Instruction : (1) Answer **all** questions. Each question carries **three** marks.

(2) Answers should be brief and straight to the point and shall not exceed **five** simple sentences.

1. Draw the block diagram of a microprocessor.

2. What is multiplexing of address and data bus of 8085?

3. Compare betwee Microprocessor and microcontroller.

4. List the features of 8051 microcontroller.

5. Define fetch cycle and execution cycle.

6. Explain DAA instruction.

7. Draw a flowchart to 2's complement of an 8-bit number.

8. Explain the concept of nesting of a subroutine.

9. Explain RS232 standards.

10. Draw the internal circuit of MAX 233 IC.

Instruction: (1) Answer any **five** questions. Each question carries **ten** marks.

(2) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) Draw the functional block diagram of 8085.   5

(b) Explain the register structure of 8085.   5

12. Draw the functional block diagram of 8051 microcontroller and explain the function of each block.

13. (a) Explain the internal RAM organization of 8051.   5

(b) Draw and explain the bitwise description of TMOD and TCON registers. 5

14. Explain the five major groups of instruction set of 8051 with two examples of each.

15. (a) Explain immediate and direct addressing modes with one example of each.
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(b) Describe the differences among LJMP, AJMP and SJMP instructions.   5

16. Write an assembly language program along with comments to substract two 8-bit numbers stored in the external memory location 4500H and 4501H. Store the result at 4502H. If the result is positive store 00H in the location 4503H or if the result is negative store 01H in the location 4504H.

17. (a) Draw the pin diagram of 8085 microprocessor.   4

(b) What is debugging of a program? Explain various debugging techniques. 6

18. (a) Wrie the procedure for programming 8051 to receive data serially.   6

(b) Write a program to count the number of events using time.   4

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