C14–EE–605

4745

BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2017

DEEE—SIXTH SEMESTER EXAMINATION

MICROCONTROLLERS AND APPLICATIONS

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

PART—A   3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

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

1. Differentiate between microprocessor and microcontroller.

2. State RS–232 standards.

3. Differentiate between CISC and RISC processors.

4. List the features of 8051 microcontroller.

5. Define *(a)* simplex, *(b)* duplex and *(c)* half-duplex.

6. List any six special function registers.

7. Define fetch cycle and execution cycle.

8. Classify the 8051 instructions with examples.

9. List the various symbols used in drawing flowcharts.

10. Define subroutine with diagrams.

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

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

11. Draw and explain the functional block diagram of 8085 microprocessor.

12. *(a)* Draw the pin diagram of 8051 microcontroller. 4

(b) Describe internal memory and external memory of 8051 microcontroller. 6

13. Explain the addressing modes of 8051 microcontroller with examples.

14. Explain the following types of 8051 instructions with examples : 5+5

(a) Arithmetic group of instructions

(b) Data transfer group of instructions

15. *(a)* Write a program to find the sum of two 16-bit numbers. Assume that two numbers are 6A25 H and 3074 H. 6

(b) Draw the flowchart to add two 8-bit numbers. 4

16. Write a program to find the smallest number in a given array. Assume that array stored from 8101 H and length of series stored at 8100 H. Store the smallest number at location 8062 H.

17. Explain the working of 8051 microcontroller as dot matrix display interface with a neat sketch.

18. Explain the working of 8051 microcontroller as keyboard interface with a neat sketch.

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