C14–EE–**605**

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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. Compare between microprocessor and microcontroller any three aspects.

2. Describe the features of Intel 8085.

3. List three commonly used commercial microcontroller device families.

4. Draw the internal RAM memory organization in 8051.

5. Write any six special function registers.

6. Explain the bit significance of PSW.

7. Classify the instructions of Intel 8085 microcontroller based on their operations.

8. Describe the instruction format of 8051.

9. Define a subroutine.

10. Draw the various symbols used in flowchart.

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. *(a)* Draw the functional block diagram of Intel 8255. 5

(b) Compare between CISC and RISC processors. 5

12. Draw the Pin diagram of 8051 microcontroller and specify the purpose of each pin. 10

13. *(a)* Write any six differences between machine language and assembly language. 6

(b) Draw the timing diagram of memory read operation of 8051. 4

14. Briefly explain about addressing modes of 8051. 10

15. Write the program to find biggest (highest) number in array of 8-bit unsigned numbers. Assume array stored from 8100H. 10

16. *(a)* Write the program to sum up given first N natural numbers. 5

(b) Draw the flowchart for sum up given first N natural numbers. 5

17. Explain the working of 8051 microcontroller as a seven-segment display interface. 10

18. Explain the working of 8051 microcontroller in traffic light controller. 10

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