



C14-EE-605

4745

**BOARD DIPLOMA EXAMINATION, (C-14)**  
**MARCH/APRIL—2018**  
**DEEE—SIXTH SEMESTER EXAMINATION**  
**MICRO-CONTROLLERS AND APPLICATIONS**

Time : 3 hours ]

[ Total Marks : 80

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**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. Write any two differences among micro-, mini- and mainframe computers.
2. List three commonly used commercial microcontroller device families.
3. Write any six features of 8085 microprocessor.
4. List the interrupts as per their priority.
5. Specify the size of memory systems used in 8051 microcontroller.
6. What is the use of PSEN signal?

- \* 7. Write any two differences between machine cycle and T-state.
8. Write the format of 8051 flag register.
9. List various symbols used in drawing flow charts.
10. Write instructions to place the content of external memory location 8000H into accumulator.

**PART—B**

10×5=50

**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) Explain the basic fundamental blocks of microprocessor. 5  
 (b) Write any five differences between SISC and RISC processors. 5
12. (a) Draw the functional block diagram of 8051 microcontroller. 6  
 (b) Describe the four timer modes in 8051. 4
13. Explain any five addressing modes of 8051 with examples.
14. Explain the following instructions :
- (a) DA A  
 (b) CPL A  
 (c) ACALL  
 (d) SETB C  
 (e) MOVX @ Ri, A

- \* 15. Explain how information is exchanged between the program counter and the stack and identify the stack pointer register when a subroutine is called.
16. Write assembly language program to convert a given HEX number to BCD number.
17. Draw and explain the interfacing of a four-digit multiplexed seven-segment display to 8051 microcontroller.
18. Draw and explain the interfacing of Dot matrix display with 8051 microcontroller.

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