



C14-EE-605

4745

**BOARD DIPLOMA EXAMINATION, (C-14)
OCT/NOV—2018
DEEE - SIXTH SEMESTER EXAMINATION
MICRO CONTROLLERS & 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. Define the terms: Bit, Nibble, Byte.
2. Distinguish between micro, mini and large computers.
3. Compare Embedded and External memory devices.
4. Draw the pin diagram of 8051 microcontroller.
5. State the need of timers and counters in 8051 microcontroller.
6. List the features of 8051 microcontroller.
7. State the need for an instruction set.
8. List the five addressing modes of 8051
9. Draw the flowchart to multiply two 8-bit numbers.
10. Write an example for single byte, two byte and three byte instructions.

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PART-B

10×5=50

Instructions : (1) Answer *any five* questions.
(2) Each questions carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

- 11.** a) Draw the functional block diagram of 8255 and explain the function of each block.
b) Draw the Interface diagram of 8255 with 8085 processor.
- 12.** Draw the block diagram of a microcontroller and explain the function of each block.
- 13.** List the addressing modes of 8051 and explain them with examples.
- 14.** a) Explain the fetch cycle, execution cycle and instruction cycle.
b) Define the terms: machine language, assembly language.
- 15.** a) Write a program to convert a given HEX number to BCD number.
b) Write a program to find the sum of given N numbers.
- 16.** Explain the sequence of program when subroutine is called and executed
- 17.** Explain the working of 8051 microcontroller in dot matrix display interface.
- 18.** Explain the working of 8051 microcontroller as keyboard interface.

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