



C14-AEI-504

4610

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2016

DAEIE—FIFTH SEMESTER EXAMINATION

MICRO CONTROLLERS 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. Write any three differences between microprocessors and micro-controllers.
2. Draw the register format of TCON register.
3. List any three features of microcontrollers.
4. State the need for an instruction set.
5. Write the difference between machine level and assembly level programming.
6. List any six arithmetic instructions.
7. State the use of push instruction in programs.
8. Write an ALP to add two 8-bit numbers 22 H and 45 H. Store the result in 40 H of internal RAM location.

- * 9. List any three features of 8255.
10. Draw the interfacing of 8257 with 8051.

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. Draw and explain functional block diagram of 8051 micro-controller.
12. (a) List the major groups in the instruction set with examples. 5
(b) Explain the one-byte, two-byte and three-byte instructions with examples. 5
13. Explain data transfer instructions with examples.
14. Write an ALP to generate 7 m sec time delay by using timers of 8051. Assume clock frequency of 8051 is 12 MHz.
15. (a) Define subroutine and explain its use. 4
(b) Explain the concept of nesting and multiple ending in subroutine. 6
16. List and identify the function of various symbols used in drawing flow charts.
17. Draw and explain the functional block diagram of 8257 DMA controller.
- * 18. Draw and explain the interfacing of stepper motor control with 8051.
