



C16-AEI-503

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BOARD DIPLOMA EXAMINATION, (C-16)
NOVEMBER—2020
DAEI—FIFTH 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. List any three features of 8051 microcontroller.
2. State the need of timers in 8051 microcontroller.
3. List the interrupts of 8051.
4. Distinguish between machine cycle and T-state.
5. Define terms machine language, assembly language and mnemonics.
6. List any three addressing modes of 8051.
7. Draw any three symbols used in flow charts.
8. Define term debugging.
9. State the need for interfacing.
10. List any three features of 8257 DMA controller.

PART—B

10×5=50

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

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

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

11. Draw the pin diagram of 8051 microcontroller.

12. Explain the register structure of 8051.

13. Explain one-byte, two-byte and three-byte instructions with examples.

14. List and explain any five arithmetic instructions of 8051.

15. Write a program to find largest number in an array using jump instruction.

16. Explain the nesting, multiple ending and common ending techniques in subroutines.

17. Draw and explain the functional block diagram of 8255.

18. Explain traffic light control interfacing through 8051.
