



C16-AEI-503

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BOARD DIPLOMA EXAMINATION, (C-16)

AUGUST/SEPTEMBER—2021

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 importance of special function registers of 8051.
3. List the interrupts of 8051.
4. Distinguish between machine cycle and T-state.
5. Define fetch cycle and execution cycle.
6. Draw the timing diagram for memory read operation of 8051.
7. Define stack and stack pointer.
8. Define single step debugging technique.
9. List and name any three interfacing peripheral ICs.
10. List any three features of 8255.

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[Contd...

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PART—B

10×5=50

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

11. Draw and explain the functional block diagram of 8051 microcontroller.
12. Explain timers/counters of 8051.
13. List and explain any four branching instructions of 8051 microcontroller.
14. Explain the addressing modes of 8051.
15. Define a Subroutine and explain the sequence of program when subroutine is called and executed.
16. (a) Draw flow chart for multiplication of two 8-bit numbers.
(b) Write instructions to set up time delay.
17. Draw and explain the functional block diagram of 8257-DMA controller.
18. Explain stepper motor control interface using 8051 microcontroller.

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