



C09-AEI-403

**3413**

**BOARD DIPLOMA EXAMINATION, (C-09)**

**MARCH/APRIL—2021**

**DAEIE - FOURTH SEMESTER EXAMINATION**

**MICROCONTROLLER AND ITS APPLICATIONS**

*Time : 3 hours ]*

*[ Total Marks : 80*

**PART—A**

4×5=20

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **four** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List any two special functional registers of 8051 microcontroller.
2. List any two interrupts of 8051 microcontroller.
3. List any four features of 8051 microcontroller.
4. Give any one example of one byte instruction of 8051 microcontroller.
5. List any two differences between machine cycle and T-state.
6. List any four addressing modes of 8051 microcontroller.
7. List any two applications of 8051 microcontroller.
8. State the use of control word register of 8255.
9. Define subroutine of a program.
10. Draw any four symbols used in drawing flow charts.

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**PART—B**

15×4=60

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

11. Draw the block diagram of microcomputer and explain the function of each block.
12. Explain any two data transfer instructions of 8051 microcontroller with examples.
13. Explain any three data transfer instructions of 8051 microcontroller with examples.
14. Write a program of instructions to perform multibyte addition.
15. Write instructions to setup time delay.
16. Explain the use of PUSH and POP Instructions of 8051 microcontroller in programs.
17. Draw and explain the functional block diagram of DMA controller 8257.
18. Draw and explain the interface of stepper motor control with 8051 microcontroller.

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