



C14-AEI-504

4610

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2018

DAEIE—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 special function registers of 8051 microcontroller.
2. What is the function of the program status word?
3. State the function of RESET pin of 8051.
4. Define execution cycle.
5. Distinguish between machine cycle and T-state in any three aspects.
6. Define mnemonics with an example.
7. Mention the use of POP instruction.
8. Define debugging.
9. Draw the interfacing diagram of 8255 with 8051 microcontroller.
10. Draw the block diagram of 8257.

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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 the functional block diagram of 8051 microcontroller.
12. Explain any five addressing modes of 8051 with an example.
13. Explain the arithmetic instructions with an example each.
14. Explain the sequence of program when subroutine is called and executed.
15. Draw a flowchart and write a program to find 2's complement of an 8-bit number. 5+5
16. Write a program to add two 16-bit numbers and also store the result.
17. Draw and explain the functional block diagram of 8255.
18. Explain the interfacing of seven-segment display with 8051.
