



C09-AEI-403

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**BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2013
DAEIE—FOURTH SEMESTER EXAMINATION
MICROCONTROLLER AND ITS 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 the 8051 special function registers.
2. List the 8051 interrupts priorities and give their vector addresses.
3. List the differences between microprocessors and microcontrollers.
4. List the addressing modes of 8051.
5. Explain DA A instruction.
6. Distinguish between machine level language and assembly level language.
7. List the advantages of subroutine.

8. Explain the term 'debugging'.
9. Draw the block diagram of 8255.
10. Draw the block diagram of stepper motor control interface.

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. Explain the functional block diagram of 8051.
12. Draw and explain the timing diagram of external memory, and write the operation of 8051.
13. Classify the instruction set of 8051 and explain about various groups in it.
14. Explain the following instructions :
 - (a) LCALL
 - (b) ACALL
15. Explain PUSH and POP instructions.
16. Write an ALP to find the smallest number from an array of 10 bytes.

- 17.** Draw the block diagram of 8257 DMA controller and explain the functions of each block.
- 18.** Draw the block diagram of traffic controller using 8051 and explain the operation.

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