



C09-AEI-403

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BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2013
DAEIE—FOURTH SEMESTER EXAMINATION
MICROCONTROLLERS AND ITS APPLICATIONS

Time : 3 hours]

[Total Marks : 80

PART—A

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. Draw the block diagram of microcomputer.
2. List the special function of register in 8051 microcontroller.
3. What is the function of ALE in 8051 microcontroller?
4. State the need for an instruction set.
5. List any three data transfer instructions.
6. Expand the following instructions :
 - (a) SUBB
 - (b) XCH
 - (c) JC
7. What is an assembler?
8. Mention the common sources of errors in a program.

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9. Abbreviate the following :

(a) USART

(b) DMA

(c) PPI

10. List any three applications of 8051 microcontroller.

PART—B

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 the architecture of 8051 microcontroller and explain about each block.

12. Explain the unconditional JUMP instructions and how flags are used to change the sequence of program.

13. Write the major groups of instruction set with example.

14. Write a program to add two numbers along with the flowchart.

15. Explain the instructions MUL and DIV with examples.

16. Explain the looping technique in 8051 with an example.

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

18. Explain the printer interface using DMA control with block diagram.
