



C14-AEI-504

4610

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—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 differences between microprocessors and micro-controllers.
2. State any three features of 8051 microcontroller.
3. State the importance of special function registers of 8051 microcontroller.
4. Define fetch cycle and execution cycle.
5. List any three differences between machine level and assembly level programming.
6. State any three jump instructions of 8051 microcontroller.
7. List any three symbols used in drawing flowcharts.
8. Define a subroutine.
9. State the concept of Control Word Register (CWR).
10. List any three interfacing devices.

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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.** Explain the functional block diagram of 8051 microcontroller with diagrams.
- 12.** Explain various addressing modes of 8051 microcontroller with examples.
- 13.** Explain any five arithmetic instructions of 8051 microcontroller with examples.
- 14.** Write a program to multiply two 8-bit numbers stored in the memory locations 2400H and 2401H. Store the result in the locations 2402H and 2403H.
- 15.** Explain how information is exchanged between the program counter and stack and identify the stack pointer register when a subroutine is called.
- 16.** Explain about PUSH and POP instructions in programs.
- 17.** Explain the functional block diagram of DMA controller 8257 with block diagram.
- 18.** Explain stepper motor control interfacing using 8051 microcontroller with diagram.

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