



C14-EE-605

4745

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2017

DEEE—SIXTH SEMESTER EXAMINATION

MICRO CONTROLLERS 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. Differentiate between microprocessor and microcontroller.
2. List the features of Intel 8085 microprocessor.
3. Differentiate between Harvard and Von Neumann architecture.
4. List the interrupts in 8051 on the basis of priority.
5. What is the function of TCON register?
6. List the features of 8051 microcontroller.
7. Define fetch cycle, execution cycle.
8. Define opcode and operand with respect to instruction.
9. List various symbols used in drawing flowcharts.
10. Write simple program to perform single byte addition

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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.** (a) Explain the concept of peripheral interfacing. 4
(b) Draw the functional block diagram of 8085 microprocessor. 6
- 12.** Draw the functional block diagram of a 8051 microcontroller and explain the function of each block. 5+5=10
- 13.** Explain the addressing modes of 8051 with examples.
- 14.** Explain the following instructions :
(a) MOV A, @R_i
(b) ADD A, #data
(c) CLR A
(d) SWAP A
(e) XRL A, R_n
- 15.** (a) Write a program to perform subtraction of two 8-bit numbers stored in location 8500 H and 8501 H store the result in the location 8502 H. 4
(b) Write a program to generate 5 ms time delay by operating timer () mode 1. Assume the 8051 XTAL frequency is 12 MHz. 6
- 16.** (a) Explain how information is exchanged between program counter and the stack.
(b) Define subroutine and explain its use.
- 17.** Explain the working of 8051 microcontroller as dot matrix display interface with a neat sketch.
- 18.** Explain the working of 8051 microcontroller in stepper motor control with a neat sketch. 5+5=10

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