



C16-EC-405

5652

**BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER-2018
DECE - FOURTH SEMESTER EXAMINATION**

MICROCONTROLLER PROGRAMMING

Time : 3 Hours]

[Total Marks: 80

PART-A

3X10=30

Instructions :

1. Answer **All** questions.
2. Each question carries **Three** marks.
3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. List six special function registers of 8051 microcontroller.
2. Name the 16-bit registers in 8051
3. List any three bit operated instructions.
4. Define the terms operation code and operand.
5. List the various symbols used in drawing the flow chart.
6. Write a simple delay program
7. Name any six pins of RS 232 DB 9 connector.
8. Differentiate max 232 and max 233
9. Define Sbit with an example.
10. List the data types in C.

PART-B

10X5=50

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Instructions :
1. Answer any **Five** questions.
 2. Each question carries **ten** marks.
 3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. (a) List the features of 8051 microcontroller.
(b) Explain about interrupts in 8051
12. Draw the pin out diagram of 8051 with function of each pin
13. (a) Explain the need for instruction set and give the instruction format of 8051
(b) Explain about instruction cycle of 8051 with timing diagram
14. Explain about the addressing modes of 8051 with examples.
15. (a) Explain the sequence of program when subroutine is called and executed
(b) Write a program for making (clearing) lower nibble of 8 bit number stored in location 8500H. Save the result in R3 Register.
16. (a) Explain PUSH and POP instructions
(b) Explain nesting, multiple ending and common ending in subroutines
17. (a) Explain the functions of pin in LCD
(b) Write the assembly language program for interfacing LCD to 8051
18. (a) State the need for programming in high level languages
(b) Explain the operators used in C with examples.
