C09-EC-603

3759

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH / APRIL - 2019

DECE - VI SEMESTER EXAMINATION

MICRO CONTROLLERS

Time : **3** Hours] [Total Marks : **80**

PART - A **3×10=30**

Instructions : *(1) Answer **ALL** questions.*
*(2) Each question carries **THREE** marks.*
(3) Answer should be brief and straight to the point.

1 Compare Microprocessors and Micro controllers.

2 Define Stack and Stack pointer.

3 Explain the terms Operation code, Operand with examples.

4 Classify the instruction set of 8051.

5 List any six Logical group of instructions.

6 What is a Flowchart ? List four symbols in it.

7 Define Subroutine and its use.

8 Explain the need for Interfacing.

9 Draw the Pin assignments of RS-232C.

10 State the features of 8251.

PART - B 10×5=50

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 Draw the pin diagram of 8051 Microcontrollers and explain the functions of each pin ? **5+5**

12 (a) Explain the internal memory organization of 8051. **6+4**

(b) What are the interrupts of 8051 and list them ?

13 (a) Explain the following instructions : **4**
(i) MOVX @DPTR,A
(ii) MOV @RI,A
(iii) DAA
(iv) JMP @A+DPTR

(b) Explain various conditional jump instructions. **6**

14 Explain the addressing modes of 8051 with examples. **10**

15 (a) Explain the concept of nesting and common ending of a subroutine. **5**

(b) Write a program to perform 2's complement of an 8-bit number stored in the memory location at an address 1,400H and store the result in the location at an address 1401H. **5**

16 State the sequence of operation involved in PUSH and POP instructions. **10**

17 Draw the block diagram Of 8251 and explain. **10**

18 Draw and explain block diagram of 8257 programmable DMA Controller. **10**