C14-EC - 405

4459

BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL-2019
DECE - FOURTH SEMESTER EXAMINATION
MICROPROCESSOR & MICROCONTROLLER PROGRAMMING

Time: 3 Hours] **[Max. Marks: 80**

PART -A

3x10=30M

Instructions: 1) Answer **all** questions. Each question carries **Three** marks.
2) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1) List the features of microprocessors.

2) Define Execution Cycle, Fetch Cycle and Instruction Cycle.

3) Compare Microprocessor and Microcontroller.

4) Draw the Block Diagram of a Microcomputer.

5) Classify instructions according to byte length with examples.

6) List various addressing modes.

7) Define terms subroutine and debugging.

8) Define the terms .
a) Nesting b) Multiple Ending.

9) Describe RS- 232 Standards briefly.

10) Explain Max 232 interfacing briefly.

PART-B

5 x 10 = 50M

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

11) Explain Architecture of Microprocessor 8085 with neat sketch.

12) Draw the pin Diagram of Microcontroller 8051 and specify the purpose of each pin.

13) (a) Explain the Functions of Various Special purpose Registers of Microcontroller 8051. (6M)

(b) Explain interrupts in Microcontroller 8051. (4M)

14) (a) Explain Opcode and Operand with an Example. (3M)

(b) Explain Data Manipulation and Conditional Jump Instructions of 8051 with Examples. (7M)

15) (a) Distinguish between T- State and Machine Cycle. (3M)

(b) Explain the timing diagram of Memory read and Memory write operations of 8051. (7M)

16) (a) Explain the execution of STA instruction of 8085 with timing diagrams. (6M)

(b) Write a program to perform single byte addition and subtraction. (4M)

17) (a) Explain the sequence of program when subroutine is called and executed. (6M)

(b) Explain use of PUSH, POP instructions. (4M)

18) (a) Explain how to use an 8051 timer as an event counter. (5M)

(b) Write a program to transmit a message serially using serial port. (5M)

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