

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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