6637

BOARD DIPLOMA EXAMINATIONS

OCT/NOV-2019

DEEE – FIFTH SEMESTER

DIGITAL ELECTRONICS & MICROCONTROLLERS

Time:3 hours   Max. Marks: 80

PART – A   **3 X 10 = 30**

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

1.   Subtract 1101 from 1000 using 2's complement method.

2.   Give the classification of digital logic families.

3.   Realize a Half-adder using NAND gates only.

4.   List any three applications of multiplexers.

5.   Draw edge triggered T flip flop and write its truth table.

6.   Distinguish between EEPROM and UVEPROM.

7.   Draw the block diagram of a microcontroller

8.   Write the interrupts in 8051.

9.   Define the terms operation code, operand and write an example.

10.   Classify the 8051 instructions based on their length.

[Cont..,

PART – B   **10 x 05 = 50**

Instructions: 1.   *Answer any **Five** questions*
                 2.   *Each question carries **TEN** Marks.*
                 3.   *Answer should be comprehensive and Criteria for*
                      Valuation is the content but not the length of the answer.

11.   Realize AND, OR, NOT operations using NAND, NOR gates.

12.   Draw and explain 2's complement parallel adder/ subtractor circuit.

13.   Draw and explain 3 X8 decoder.

14.   Draw and explain 4-bit synchronous counter.

15.   Explain the working of basic dynamic MOS RAM cell.

16.   Draw the pin diagram of 8051 micro controller and specify the purpose of each pin.

17.   Explain any five instructions from logical group with examples.

18.   Write a program to find the largest number in the given array.