Code No. 2046

FACULTY OF SCIENCE

B.Sc. III Year Examination, March / April 2016

Subject: ELECTRONICS

Paper – IV(a) : Embedded Systems and Applications

Time : 3 Hours   Max.Marks : 100

Note: Answer all questions from Part – A and any four questions from Part – B.

PART – A (4x20 = 80 Marks)
(Essay Answer Type)

1 a) i). Explain the organization of internal RAM of 8051 micro controller.   12
       ii). Explain the main features of Port 3 in 8051 micro controller.   8

OR

   b) i) Explain the feature of Bit manipulation in 8051 micro controller with suitable program.   12
       ii) Discuss different modes of Timer in 8051 micro controller.   8

2 a) i). Explain the various addressing modes in 8051 micro controller with suitable examples of instructions.   12
       ii) Write a program to multiply two 8 bit numbers and the store the result in registers R0 and R1.   8

OR

   b) i) Explain JUMP and CALL instructions.   8
       ii) Write a program to arrange a given set of numbers in ascending order.   12

3 a) Explain the interfacing of ADC chip with 8051 micro controller.   20

OR

   b) Discuss the interfacing of DAC chip with 8051 micro controller.   20

4 a) Explain the method of temperature measurement using 8051 micro controller.   20

OR

   b) Discuss the interfacing of 8051 micro controller with LCD for displaying information. 20

PART – B (4x5 = 20 Marks)
(Short Answer Type)
Note: Answer any four questions.

5   Discuss data types and assembler directives in 8051 micro controller.
6   Explain the Flag bits and PSW register in 8051 micro controller.
7   Discuss the instructions.
    a) MUL AB   b) DIV AB with examples.
8   Define the terms:
    a) Data framing   b) Data transfer rate   c) RS232 standers in serial communication.
9   Explain DA instruction with sample program.
10 Discuss the various interrupts of 8051 micro controller.
11 Explain different MOV instructions used in 8051 micro controller.
12 Distinguish between parallel and serial communication with examples.

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