VI Semester B.Sc. Degree Examination, Nov./Dec. 2017
(New Scheme) (Semester Scheme) (2012-13 Syllabus)
ELECTRONICS
Paper – VII : Microcontroller

Time : 3 Hours

Max. Marks : 80

Instruction : Draw **neat** and labeled diagrams **wherever** necessary.

SECTION – A

I. Answer **any ten** questions.   (10×2=20)

1) Mention any four microcontroller applications.

2) How many pins having IC 8051 and what is the pin numbers of RESET ?

3) Expand terms RISC and CISC processors.

4) Write assembly language program for adding 10 h, 20 h and resultant store in R_1 register.

5) Write any four feature of microcontroller.

6) How many ports in IC 8051 microcontroller ? And what are they.

7) What is function of RS in LCD ?

8) Write a meaning/comments of the following instruction :

   1) SUBB A, R_1

   2) ADDC A, R_0

9) How many buses in 8051 μc and mention it ?

10) What is basic principle of 'stack' work ? Mention its related instruction.

11) How many address lines and data lines in 8051 Microcontroller ?

12) Expand the terms :

   a) PSW

   b) ALU.

SECTION – B

II. Answer **any two** of the following :   (2×5=10)

13) Explain pin configuration of IC 8051 μc.

14) Write a assembly language program for finding biggest value of given two values.

15) Explain the Arithmetic and byte logical operation in 8051 μc.

P.T.O.

SECTION – C

III. Answer **any five** of the following :
$(5×6=30)$

16) Write an Assembly language program for multiplication and division of two 8 bit numbers.

17) Explain PSW in IC 8051 Microcontroller.

18) Explain a rotating and swap operation in Microcontroller.

19) Explain the modes in IC 8255 programmable peripheral interfacing.

20) Explain the de-multiplexing of address and data bus in Microcontroller IC 8051.

21) Write about the timer/counter register in microcontroller.

22) Explain the interfacing of 8-bit DAC with IC 8051 Microcontroller.

SECTION – D

IV. Answer **any two** questions :
$(2×10=20)$

23) Draw and explain the block diagram of IC 8051 Microcontroller architecture.

24) a) Write pin configuration of two line LCD.

   b) Expand the terms PC, CPU, DPTR and SP.

   $(6+4)$

25) a) Explain the addressing mode in 8051 microcontroller with example.

   b) Write a short note on ALU and general purpose register.

   $(6+4)$

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