

VI Semester B.Sc. Degree Examination, May/June 2017
(New Scheme) (Semester Scheme) (2012-2013 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 the application of Microcontroller.
- 2) What is the interrupt ? How many interrupts in 8051 microcontroller ?
- 3) Expand terms RISC and CISC processors.
- 4) How many 16 bit special function registers in 8051 microcontroller and mention it ?
- 5) Write a meaning/comments of the following instruction :
 - 1) MOV A, B
 - 2) ADD A, R₀.
- 6) How many address lines and data lines in 8051 microcontroller ?
- 7) How many buses in microcontroller ?
- 8) Mention the capacity RAM and ROM memory in 8051 microcontroller internally.
- 9) What is meant by 'Stack' ? Mention its principle of working.
- 10) Expand LCD and mention the application of LCD.
- 11) What is function of RS in LCD ?
- 12) How many I/O lines are required 5 × 5 matrix Hex type keyboard to interface ? 10 + 4

SECTION - B

II. Answer the **any two** of the following :

(2×5=10)

- 13) Compare microcontroller and microprocessor.
- 14) Explain pin configuration of IC 8051 μ c. 2 + 3
- 15) Explain PSW in IC 8051 microcontroller.



SECTION - C

III. Answer the **any five** of the following :

(5×6=30)

- 16) Explain a rotating and swap operation in microcontroller. 3+3
- 17) Explain the Addressing mode in 8051 microcontroller with example.
- 18) Explain the modes in IC 8255 programmable peripheral interfacing.
- 19) Write assembly language program for multiplication and division of two values using IC 8051.
- 20) Explain the de-multiplexing of address and data bus in microcontroller IC 8051. 3+3
- 21) Explain the interfacing of 8-bit DAC with IC 8051 microcontroller. 3+3
- 22) Explain the Arithmetic and byte logical operation in 8051 μ C. 3+3

SECTION - D

IV. Answer the **any two** questions :

(2×10=20)

- 23) Explain architecture of IC 8051 microcontroller. 4+6
- 24) a) Write a features of 8051 μ c.
b) Write about the 'STAC' with operation. 5+5
- 25) a) Write a short note on : A, B register and data pointer DPTR. 2+2
b) Write ALP program to find a biggest numbers of the given values using microcontroller IC 8051. 4+6