

**VI Semester B.Sc. Degree Examination, May/June 2015**  
**(New Syllabus)**  
**ELECTRONICS**  
**Paper - VII : Microcontroller**

Time : 3 Hours

Max. Marks : 80

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

**SECTION-A**

- I. Answer any ten questions : (10x2=20)
- 1) Expand terms RISC and CISC processors.
  - 2) Mention the applications of Microcontroller.
  - 3) What is interrupt ? Mention interrupts in microcontroller.
  - 4) How many 16-bit special function registers in microcontroller ?
  - 5) How many Pins of IC 8051 what is function of EA PIN in IC 8051 ?
  - 6) Expand the following terms : a) PC b) ALU.
  - 7) Mention 3-types of Buses in microcontroller.
  - 8) Write meaning/comments of following
    - a) MOV A, B
    - b) Subb A, R0.
  - 9) How many ports in IC 8255 PPI ? What are they ?
  - 10) Expand LCD and mention application of LCD.
  - 11) How many I/O lines in IC 8051 and mention which ports are using dual purpose ?
  - 12) How many Address and Data lines in microcontroller ?

**SECTION-B**

- II. Answer any two of the following : (2x5=10)
- 13) Compare microcontroller and microprocessors.
  - 14) Explain PSW in microcontroller.
  - 15) Explain Rotating and SWAP operations with examples.



## SECTION - C

- III. Answer any five of the following : (5×6=30)
- 16) Explain Addressing modes in microcontroller.
  - 17) Explain PIN configuration of IC 8051 μc.
  - 18) Write about Harvard and Von-Neuman CPU architectures with neat diagrams.
  - 19) Write assembly language programme of Adding 20 H and 30 H data and multiply the 04 H and 03 H data using IC 8051 μc.
  - 20) Write arithmetic and byte level logical operation in Microcontroller(μc).
  - 21) Explain features of Microcontrollers.
  - 22) Explain the modes in IC 8255 PPI.

## SECTION - D

- IV. Answer any two of the following : (2×10=20)
- 23) Explain block diagram of IC 8051 Microcontroller architecture. 10
  - 24) a) Write a short note on:
    - a) ALU
    - b) A and B Register
    - c) Stack
 b) Write assembly language programme for largest value of the given series. (6+4)
  - 25) a) How to interface LCD with IC 8051 and explain its command.  
 b) Write block diagrams of IC 8255. (8+2)
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