12 SF – 72/VII

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 : (10×2=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 $\overline{EA}$ PIN in IC 8051 ?
6) Expand the following terms : a) PC b) ALU.
7) Mention 3-types of Buses is microcontroller.
8) Write meaning/comments of following :
   a) MOV A, B b) Subb A, Rn.
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 : (2×5=10)

13) Compare microcontroller and microprocessor.
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)
