12 SF – 72/VII

# VI Semester B.Sc. Degree Examination, May/June 2016
## (New Syllabus)
## ELECTRONICS
## Paper – VII : Microcontroller

Time : 3 Hours Max. Marks : 80

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

SECTION – A

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

1) Give a example of Harvard and Von-Neuman CPU Architectures.

2) Write any two difference between Microcontroller and Microprocessor.

3) How many timer /counters in Microcontroller and mention it.

4) How much maximum ROM and RAM memory can Interface to IC 8051 µc ?

5) How many Register banks in IC 8051 Microcontroller ? Which bank is selected defeaulty ?

6) What is function of PIN ALE in IC 8051 ?

7) Which ports are using of Address and Data lines in IC 8051 µc ?

8) Mention 3-types of Buses in IC 8051 µc.

9) How many 16-bit register in microcontroller ?

10) What is function of RS in LCD ?

11) How many I/O lines are require to Interface 3×3 Matrix key pad with IC 8051 ?

12) Mention Interrupts in Microcontroller.

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## SECTION - B

II. Answer **any two** of the following. (2x5=10)

13) Explain RISC and CISC processor with examples.

14) Write a features of Microcontrollers.

15) Explain the Programe Status Word (PSW).

## SECTION - C

III. Answer **any five** of the following. (5x6=30)

16) Explain the addressing mode in Microcontroller with examples.

17) Write about PIN configuration of IC 8051.

18) Explain Arithmatic and Swap operations with examples.

19) Write a Assembly language programe for Addition, Subtraction and Multiplication for 05H and 02H data.

20) Write a meanings/comments of following

a) MOV A, Ro b) ADD A, $R_2$ c) INC DPTR

21) Explain De-multiplexing the Address and Data bus in Microcontroller.

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

## SECTION - D

IV. Answer **any two** of the following (2x10=20)

23) Explain block diagram of Architecture of Microcontroller.

24) a) Write about Rotating operations in 8051 µc. 5

b) Expand the following terms

i) PC ii) CPU iii) DPTE IV) SP DA-Register 5

25) a) What do you mean by Interfacing ? Explain LCD interfacing with 8051 µc. 6

b) Mention the applications of Microcontroller. 4