

S.B. Roll No.....

MICROCONTROLLERS AND EMBEDDED SYSTEM

5th Exam/ ECE/ETV/EMP/ECE(II) /0265/0619/0661/6802/May'16

SECTION A

Q1. Attempt all Questions

15x1=15

- In 8051 program counter (PC) is _____ wide and it can address _____ bytes.
- An embedded microcontroller means _____.
- In 8051 a machine cycle consists of _____ clock cycles.
- When an interrupt request occurs, the microcontroller executes an _____.
- PCON register is a _____ addressable register.
- What is the function of "SWAP A" instruction?
- _____ Directive is used to assign a numeric value in place of a symbol.
- The LCD requires _____ control lines.
- The serial port is _____ duplex.
- What is the function of PSEN pin of 8051?
- 8051 has an integrated UART also known as _____.
- DB directive is used to _____.
- The only user accessible 16 bit registers in 8051 is _____.
- The Stack Pointer is initialized to _____ after a reset.
- The range of SJMP rel is from _____ locations relative to next instruction.

SECTION B

Q2. Attempt Any FIVE Questions

5x6=30

- What are various SFR's of 8051? Give the details.
- Explain the different interrupts available in 8051.
- What do you mean by Assembler directives? Explain with examples.
- Write basic features of PIC microcontrollers.
- What are the applications of microcontroller in the field of communication system?
- Discuss the interfacing of a keyboard with microcontroller 8051.
- What are the uses of timers? Explain TCON and TMOD registers.
- Which instructions come under "program flow control" group? Differentiate LCALL AND ACALL instructions.

SECTION C

Q3. Attempt any THREE Questions

3x10=30

- With the help of a neat diagram explain the architecture of PIC microcontroller.
- Draw and explain the pin configuration of 8051 microcontroller.
- Explain the addressing modes of 8051 with the help of suitable examples.
- Explain the detailed view on memory organization of MC 8051. How external memory is accessed in 8051.

Write a short note on any **TWO**:

- Compiler
- Internal memory of 8051
- PUSH and POP instructions