

Day : Tuesday

Time : 02:30 PM-05:30 PM

Date : 06-12-2022

W-24556-2022

Max. Marks : 60

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagram **WHEREVER** necessary.

Q.1 Explain in detail the architecture of 8051. (10)

**OR**

Q.1 Explain in detail the Pin diagram of 8051. (10)

Q.2 a) Discuss the addressing modes supported by 8051. (05)

b) Explain in detail the structure of Instruction set in Microcontrollers. (05)

**OR**

Q.2 Show the status of CY, AC, P, OV flags after addition of 30 H and 2 FH with respect to accumulator. (10)

Q.3 Explain in detail the 'Interrupts' supported by 8051. (10)

**OR**

Q.3 a) Explain in detail the Interrupt Enable register. (05)

b) Differentiate between Hardware and Software Interrupts. (05)

Q.4 a) Explain in detail the building blocks of PIC 16F87X Microcontroller. (05)

b) Explain the features of PIC 16F87X Microcontroller. (05)

**OR**

Q.4 a) State the addressing modes supported by PIC 16F876. (05)

b) Explain in detail 'Serial peripheral Interface'. (05)

Q.5 Explain in detail the interfacing of stepper motor with PIC 16F876 (10)

**OR**

Q.5 Explain in detail the interfacing of DC Motor with PIC 16F876 (10)

Q.6 Explain in detail the types of software development tools. (10)

**OR**

Q.6 Explain with a neat block diagram an application of embedded system in electric power system. (10)