

Total No. of Questions :6]

SEAT No. :

P35

[Total No. of Pages :2

Oct./TE/ Insem. - 149

T.E. (E&TC)

MICROCONTROLLERS

(2015 Pattern) (Semester - I)

Time : 1 Hour]

[Max. Marks :30

Instructions to the candidates:

- 1) Answers any three questions.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Use of calculator is allowed.
- 5) Assume suitable data, if necessary.

- Q1)** a) Explain the Special function register T_{MOD} S_{CON}, and PSW of 8051. [5]
- b) Write an Assembly Language Program to generate Square of 1 Hz on P1.0 pin using Timer 0. Assume clock frequency 12 MHZ. [5]

OR

- Q2)** a) Classify instruction set of 8051 and explain with proper example. [5]
- b) Explain Interrupt structure of 8051 with the help of IE and IP register. [5]

- Q3)** a) Explain the basics of 7 segment display and write an Assembly Language Program to interface 7- segment to port 1 of 8051 and implement decade counter. [5]
- b) Write an Assembly Language Program to interface 8 bit ADC display converted digital value on LED. [5]

OR

P.T.O.

- Q4)** a) Write an Assembly Language Program to interface 8 bit LCD 8051 and display "SPPU" from 4th Column of first line of LCD. [5]
- b) Write an Assembly Language Program to interface 4*4 keyboard to 8051 display key code on LED connected with port 2. [5]

- Q5)** a) Write an Assembly Language Program to interface DAC and generate Sinusoidal waveform on port 1. [5]
- b) Write an Assembly Language Program to interface stepper motor to 8051 and rotate motor by 180° in clockwise direction. [5]

OR

- Q6)** a) Write an Assembly Language Program to interface Buzzer. When a key connected to P1.0 is pressed the buzzer should turn ON. [5]
- b) Write an Assembly Language Program to interface LM 35 to 8051 display temperature on LED's connected with port 1. [5]

