

Total No. of Questions : 6]

SEAT No. :

**P 5679**

**TE/INSEM./OCT.-125**

[Total No. of Pages : 2

**T.E. (E&TC)**

**MICROCONTROLLERS**

**(2015 Pattern) (Semester - I) (304184)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 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 flag structure of 8051. **[5]**

b) Write an ALP to generate delay of 1 msec using timer 1 model 1, use Fosc=11.0592 MHz. **[5]**

OR

**Q2) a)** Draw and explain the functional diagram of Interrupts with vector address. **[5]**

b) Write an ALP to transfer 10 bytes of data stored from internal memory 40 H to external memory 2000H. **[5]**

**Q3) a)** Draw an interfacing diagram for LED connected to port 1 and write an ALP to display the hex counter. **[5]**

b) Draw and explain the block schematic of Logic analyzer. **[5]**

OR

**Q4) a)** Explain functions of simulator and Emulators. **[5]**

b) Draw an interfacing diagram for LCD and write an ALP to display SPPU on line 1 with default values. **[5]**

**P.T.O.**

**Q5) a)** Draw an interfacing diagram to glow the lamp connected to Relay at port pin P1.0 and write an ALP to make it ON and OFF with highest delay generated using timer0 mode0. [5]

b) Draw a functional diagram of DAS to display the signal accepted from sensor on LCD, indicate the availability of signal by LED, and if signal exceeds the set point set by two keys, sound the Buzzer. [5]

OR

**Q6) a)** Draw an interfacing diagram of DAC and write an ALP to generate triangular wave. [5]

b) Draw an interfacing diagram of Stepper motor and write an ALP to rotate it clockwise continuously. [5]

