Total No. of Questions :06]

SEAT No. :

P8573

[Total No. of Pages :2

Oct-22/TE/Insem -552
T.E. (Electronics & Telecommunication)
MICROCONTROLLERS
(Semester-I) (2019 Pattern) (304184)

Time : 1 Hours] *[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) Draw and explain flag structure of 8051 in detail. **[5]**

b) Write an embedded C program to transmit character 'D' Serially at baud rate of 4800. **[5]**

OR

Q2) a) Explain the functional diagram of Timer in 8051. **[5]**

b) Explain the interrupt structure of 8051 with vector address. **[5]**

Q3) a) Explain functioning of Port 3 in details for 8051. **[5]**

b) Write an embedded C program to display hex counter on LEDs connected to port 2. **[5]**

OR

Q4) a) Draw an interacting diagram of DAC with 8051 and write an embedded C program for generation of Triangular having frequency of 50Hz. **[5]**

b) Write an embedded C program to rotate the stepper motor in clockwise direction continuously with highest delay generated using timer 0 mode1. **[5]**

P.T.O.

Q5) a) Enlist features of 8051 microcontroller. **[5]**

b) Draw an interfacing of Opto-isolator with 8051 and write an embedded C program to flash the bulb connected to its output. **[5]**

OR

Q6) a) Describe internal memory organization of 8051 with block schematic. **[5]**

b) Design a DAS for the security purpose which include control of actions through Key, status indication by LED connected to relay and opening of door stepper motor. Make provision of buzzer to beep. **[5]**