Total No. of Questions : 4] **SEAT No. :**

P-5050 **[Total No. of Pages : 1**

[6187]-452
T.E. (E & TC) (Insem.)
MICROCONTROLLERS
(2019 Pattern) (Semester - I) (304184)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4.***
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 internal memory organization of 8051. **[5]**

b) Explain the interrupt structure of 8051 in detail also list vector address of internal & external interrupts. **[5]**

c) Calculate hexadecimal count to generate delay of 50 msec using Timer 1, mode 1, use clock frequency = 11.0592MHz. **[5]**

OR

Q2) a) What are the different modes of operation of serial communication in 8051 Explain SMOD registers? **[5]**

b) Compare RISC and CISC processor. **[5]**

c) Enlist various modes of operation of Timer & Explain in details. **[5]**

Q3) a) Write embedded C program to display HEX counter on LED connected to port 0. **[7]**

b) Draw an interfacing diagram of stepper motor and write embedded C program to rotate it clockwise continuously. **[8]**

OR

Q4) a) Draw an interfacing diagram to glow the lamp connected to Relay at Port pin P1.1 and write embedded C program to make it ON and OFF. **[7]**

b) Draw an interfacing diagram of DAC and write embedded C program to generate a triangular wave continuously. **[8]**

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