

Total No. of Questions : 8]

SEAT No. :

PB3610

[Total No. of Pages : 2

[6261]-15

S.E. (Electrical Engineering)

FUNDAMENTAL OF MICROCONTROLLER & APPLICATIONS

(2019 Pattern) (Semester - IV) (203149)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q1) a) Explain TMOD register with neat diagram. [6]

b) Write a program to generate square wave of 2KHz frequency with 50% duty cycle on pin 1.2 Assume XTAL=11.0592MHz & use timer 0 in mode 1. [6]

c) Write short note on Data Types in C. [6]

OR

Q2) a) Write Steps to program timer in mode 1 [6]

b) Draw & explain TCON register. [6]

c) Write C Program to all bits of Port 0, 500 times. [6]

Q3) a) Write short note on Interrupt enable register. [6]

b) Explain the SOC, EOC, & OE pin of ADC 0809. [6]

c) Write a program to turn ON & off LED when interrupt 0 occurs, LED is connected to pin of Port 2.4 [5]

OR

Q4) a) What is Interrupt & Explain interrupt structure of 8051 microcontroller with its priorities. [6]

b) With the help of . diagram explain interfacing of ADC 0809 with 8051 microcontrollers. [6]

c) Explain Interrupt Priority Register of 8051 Microcontroller. [5]

P.T.O.

- Q5)** a) Write Short note on SCON register. [6]
b) Explain the function of SBUF register, TxD pin & RxD pin for Serial Communication in 8051. [6]
c) Write short note AT commands required for GSM. [6]

OR

- Q6)** a) Write program to transfer letter 'T' serially 10 times at baud rate of 4800. Use serial port in mode 1. XTAL= 12MHz. [6]
b) Explain Steps to receive Data Serially in 8051 microcontroller. [6]
c) Explain Serial port structure of 8051 microcontroller. [6]

- Q7)** a) Explain relay interfacing with 8051 microcontroller. [6]
b) Draw & Explain Power measurement using 8051. [6]
c) Explain Key interfacing using 8051. [5]

OR

- Q8)** a) With the help of block diagram explain Voltage & current measurement using 8051. [6]
b) Draw interfacing diagram of a stepper motor with 8051 and write program to rotate stepper motor. [6]
c) Explain LED interfacing with 8051 microcontroller. [5]

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