



# GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

(An Autonomous Institute of Government of Maharashtra)

National Highway No.6, JALGAON – 425 002

Phone No.: 0257-2281522

Website : www.gcoe.ac.in

Fax No.: 0257-2281319

E-mail : princoe@rediffmail.com



Name of Examination : **Winter 2020** - (Preview)

Course Code & Course Name : **ET302U - Microprocessors and Microcontrollers**

Generated At : **19-04-2022 11:01:47**

Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

## 1) Solve any two sub-question

- a. With help of suitable block diagram, explain architecture of 8085. [6]
- b. Explain the meaning and required machine cycles for following instructions  
(1) XCHG (2) PCHL (3) STAX D [6]
- c. Explain the functional units of 8086. [6]

## 2) Solve any two sub-question

- a. Explain addressing modes in 8085. [6]
- b. Explain interrupts in 8085 [6]
- c. Explain Instruction structure of 8085 microprocessor. [6]

## 3) Solve any two sub-question

- a. Explain IE Register and IP Register in 8051. [6]
- b. Explain Program Status Word (PSW) of 8051 microcontroller. [6]
- c. Explain internal and external memory organization in 8051 microcontroller [6]

## 4) Solve any two sub-question

- a. Write a program using interrupts to do the following: (a) Receive data serially and sent it to P0, (b) Have P1 port read and transmitted serially, and a copy given to P2, (c) Make timer 0 generate a square wave of 5kHz frequency on P0.1. Assume that XTAL-11, 0592 MHz, baud rate at 9600. [6]
- b. Explain in brief diagram block diagram of 8051. [6]
- c. Explain addressing modes of 8051 with suitable examples. [6]

## 5) Solve any two sub-question

- a. Interface Liquid crystal Display to 8051 Micro controller for 8 bit mode. Write Assembly Language Program (ALP) with appropriate comment to display message "COEJ" on LCD. [6]
- b. Write a program to interface ADC with 8051 and converts analog data into digital format. [6]
- c. Draw interfacing of stepper motor with 8051 and rotate it motor in clockwise direction. [6]

Auto Generated by SsOES v6.2