



GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

(An Autonomous Institute of Government of Maharashtra)

National Highway No.6, JALGAON – 425 002

Phone No.: 0257-2281522

Fax No.: 0257-2281319

Website : www.gcoej.ac.in

E-mail : princoej@redifmail.com



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

Course Code & Course Name : **IN303 - Micro Controller and Applications**

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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.

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|--|------|
| 1) Solve any two Question. | [12] |
| a) Explain different addressing mode of microcontroller with example. | [6] |
| b) Develop Assembly Language program (ALP) to find the largest number in a Block of 10 numbers stored at location 30H onwards in internal RAM. | [6] |
| c) Describe serial communication in 8051. Explain the use of SCON register. | [6] |
| 2) Solve any two Question. | [12] |
| a) Explain with sketch the interfacing of 4 ×4 matrix keypad with 8051 microcontroller. | [6] |
| b) Develop an ALP to generate square wave of 3 KHz using 8051 microcontroller on port pin P2.3 (Assume Xtalfreqn =12 MHz) | [6] |
| c) i. Draw the format of PSW register of 8051 microcontroller and explain the function of each bit. | [4] |
| ii. Write application of PIC microcontroller. | [2] |
| 3) Solve any two Question. | [12] |
| a) Develop an ALP to transmit message "GCOEJ" serially at baud rate 4800 8bit data , 1 stop bit. Assume crystal frequency of 11.0592 MHz . | [6] |
| b) Explain the following instructions with example. | [6] |
| i. DAA | [2] |
| ii. ANL | [2] |
| iii. SWAP A | [2] |
| c) Write an assembly language program to find largest number from the array of five numbers stored in internal RAM memory. | [6] |
| 4) Solve Each Question | [12] |
| a) i. Explain processes of interrupt enabling and disabling in 8051. | [3] |
| ii. Sketch the internal memory organization in 8051. | [3] |
| b) Draw interfacing of stepper motor with 8051 and write an ALP to rotate it in clockwise direction. | [6] |
| 5) Solve Each Question | [12] |
| a) Explain the architecture of 8051 Microcontroller. | [6] |
| b) Explain the architecture of PIC Microcontroller . | [6] |

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