



End Term Examination (December 2019)

School: School of Engineering **Program:** B.Tech Biomedical Engineering & Mechatronics
Course: Microprocessor and Microcontroller **Course Code:** MTE301
Semester: V **Max Marks:** 40 **Duration (mins):** 90

Q 1. Answer any FIVE questions.

(Each question carries 2 marks)

[10]

- Features of 8051 microcontroller.
- What is program counter?
- What is CISC Processors?
- What are the types of interrupts in 8051?
- What are the differences between Von-Neumann and Harvard Architecture?
- Stepper Motor has 4 phases and 60 teeth hence how many steps required to complete one rotation and what will be the step angle?
- What is in-circuit Emulator (ICE)?

Q 2. Answer any TWO questions.

(Each question carries 5 marks)

[10]

- Explain 8051 Microcontroller architecture with block diagram.
- Explain Digital to Analog (DAC) interfacing with 8051.
- Write a program in embedded C to monitor P2.4 and move the values of P2.4 to P3.6.
- Explain stepper motor interfacing with 8051 microcontroller.

Q.3 Answer any TWO questions.

(Each question carries 5 marks)

[10]

- a) Explain timers and TMOD register structure in 8051 microcontroller.
- b) Discuss about serial control register (SCON).
- c) Explain DJNZ, JZ, CPL, XRL, SUBB instructions with Example.

Q.4 Explain addressing modes of 8051 Microcontroller with Examples.

[10]
