QP Code: D134363	Total Pages: 1	Name:
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THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(CUFYUGP)

ELE3MN201 ARDUINO CODING WITH EMBEDDED C

2024 Admission onwards

Maximum Time :2 Hours | **Maximum Marks :70**

Section A

All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)

1	What are microcontrollers? State any two features of AVR microcontroller.
2	Define Arduino Uno and list two applications.
3	Differentiate between integer and word data types.
4	List two Boolean operators in Embedded C.
5	What is a string in Embedded C?
6	Write the function of PWM in motor speed control.
7	What is the role of serial monitor in Arduino programming?
8	State two differences between analog and digital sensors.
9	Define actuator with an example.
10	Write three advantages of stepper motor over DC motor.

Section B

All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)

11	Explain the steps for installing Arduino IDE on a computer.
12	Explain the importance of constants and variables in Embedded C with examples.
13	Write a program in Embedded C to check whether a number is prime or not using loops.
14	Compare while, do-while, and for loops with flowcharts.
15	Write Arduino sketch to generate PWM signal to control brightness of an LED.
16	Write Arduino code to read values from an ultrasonic sensor and display on serial monitor.
17	Explain the principle of working of actuators and their classification.
18	Write Arduino code to control a DC motor using Arduino Uno.

Section C

Answer any ONE. Each Question carries 10 marks (1x10=10 Marks)

19	Explain Arduino board types and their applications in detail.
20	With block diagram, explain interfacing of sensors with Arduino Uno and write sketch for light & temperature sensor reading.