Green University of Bangladesh
Department of Computer Science and Engineering
Project - Fall 2024

Course Code: MAT 201   **Course Title: Ordinary and Partial Differential**

Equations and Coordinate Geometry

Full Marks: 05

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1. The population of a city increases at a rate proportional to the present number. It has an initial population of 80000 that increases by 35% in 13 years. What will be the population in 50 years?

2. The rate at which a body cools is proportional to the difference between the temperature of the body and that of the surrounding air. If a body in air at 35°C will cool from 100° to 70° in one minute, find its temperature at the end of four minutes.

3. Under certain conditions, cane sugar is converted into dextrose at a rate, which is proportional to the amount unconverted at any time. If out of 60 grams of sugar at t = 0, 6 grams are converted during the first 3 minutes, find the amount converted in 2.5 hours.