

DEPARTMENT OF MATHEMATICS

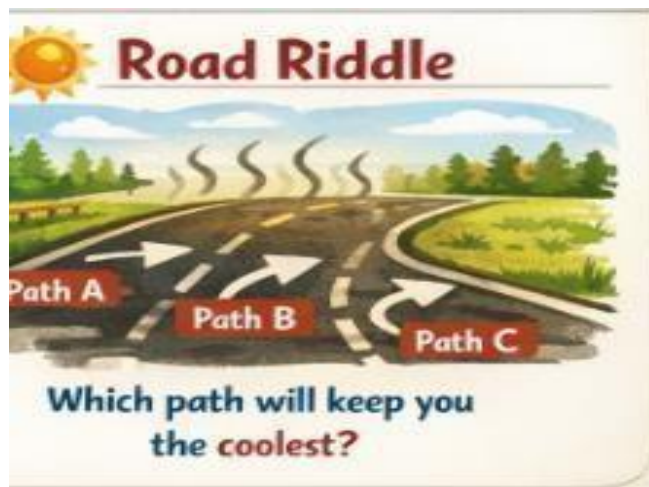
Course Code & Name : **23MAT103-Differential Equations and Transforms**
23MAT102-COMPLEX ANALYSIS AND LAPLACE TRANSFORMS

Course Faculty : **Ms.Mareeswari.R**

Puzzles/In Class Activities

Topics Covered: **Unit I – Gradient and Directional derivatives**

Puzzle1:



The method which is used to solve the given riddle is _____

Solution: Directional derivative = slope along chosen path.

Puzzle 2:

Wi-Fi strength in a park is modeled by

$$S(x, y) = 50 - (x - 2)^2 - (y - 1)^2$$

You are at point (3,2).

Questions:

- 1. In which direction should you walk to get the strongest Wi-Fi fastest?**
- 2. What is the rate of increase of signal strength in that direction?**