**Conservative nature of electrostatic field**

The electrostatic field is conservative, meaning the work done by it on a charged particle moving along any closed path is zero. This property arises from the principle of energy conservation in electrostatics. As a result, the work done to move a charged particle from one point to another is independent of the path taken. This conservation property allows for the definition of a scalar potential associated with the electrostatic field, simplifying calculations and enabling efficient analysis of electrostatic phenomena.

Dandeswar Deka

Assistant Professor

Department of Physics

B. H. College, Howly.