

Debi

03/11/2017

SEM-3

Paper-4

Unit-1

Electrostatics.

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* Electric Field and Potential:-

Electric field and potential are fundamental concepts in electrostatics and magnetostatics, which deal with stationary electric and magnetic fields, respectively.

First of all we have to study about Electric field.

⇒ Electric Field:- When an electric charge is kept at some point in space, this develops everywhere around it a state of electric stress, which is called an electric field.

The space in which a charge influence can be experienced, is called the site of the electric field.

An electric field is a physical quantity which has different values at different points in space. The force b/w two charges is the resultant interaction of two electric fields produced by individual charges, as explain below-

(i) The charge q_1 sets up an electric field in the space around it.

(ii) Now place the charge q_2 in its field.

(iii) Since the charge q_2 is now placed, the electric field of charge q_1 acts on q_2 and thereby q_2 experience coulombian Force $\vec{F}_{12}$.