INDIAN SCHOOLAL WADI AL KABIR

DEPARTMENT OF SCIENCE

**UNIT TEST MARKING SCHEME**  MAXIMUM MARKS :30

1. The electric dipole moment is a vector quantity; it has a defined direction which is from the negative charge to the positive charge. P = Q.2I.

An ideal electric dipole is one in which the two charges are only infinitesimally separated

2. (I) CHARGE, E = ½ Q2/C

(II) POTENTIAL, E = ½ CV2

Or. the body of the vehicle in motion is charged due to air friction. If the charge accumulation is large, it can produce a spark and the inflammable material may catch fire.

3. Derivation of torque

Diagram

Maximum θ = 90

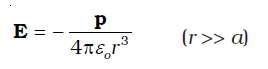
minimum θ = 0

4. total capacity, 10 µF and charge = 100 C

5. keeping total force on a charge = 0 and get, q = - Q/4

6. q = x 42 = 100µ x 4 (1.25)2 and

7. (a) sphere having radius 2R, As C Radius

Energy/volume

8. Expression with diagram,

Or

EI = - ( 1 + 2)

EII = ( 1 - 2)

EIII = ( 1 + 2)

9. Surface having same potential,

Perpendicular to field

Two diagrams.

10. 1.d 2.c 3.b

4.d

5.a