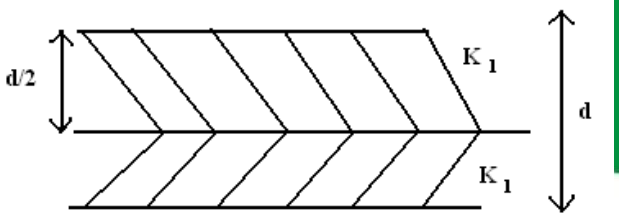
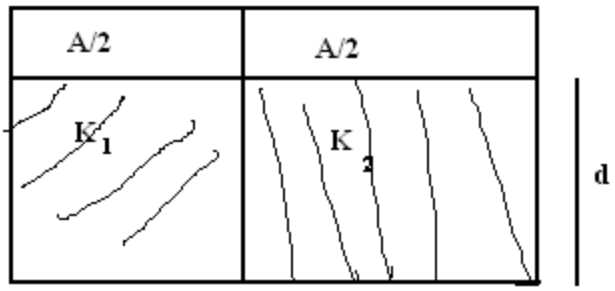
THE GURUKUL INSTITUTE
PLOT 5C, 2ND FLOOR, GANAPATI COMPLEX, SEC-13, OPP. JAIPURIA SCHOOL, VASUNDHARA, GHAZIABAD (U.P)

CLASS – XII

ELECTRICITY

1. Can a charged body attract an uncharged body?
2. An oil drop of mass m and charge -2 is to be held stationary in the gravitational field of the earth. What I the magnitude and direction of the electrostatic field required for this purpose.
3. $\vec{E}$ is zero at a place , does the φ with same place be necessarily 0?
4. Dipole & length 2 cm is placed with its axis making an angle 60° to a uniform $\vec{E}$ of -10^5 N/C. & it experience a torque of $8\sqrt{3}$ Nm. Calculate.
   a. Magnitude of charge on dipole.
   b. Potential energy of dipole.
5. Calculate potential at the centre of a square of side $\sqrt{4.5}$ m. Which carries at its four corners charges of $+5 \times 10^{-9}$C, 2×10^{-9}C, -5×10^{-9}C , -7×10^{-9} C.
6. Two capacitor of C_1 & C_2 are connected in series. The net capacitor is 3μF, when connected in parallel its value is 16 μF, Calculate C_1 & C_2.
7. Derive an expression for the energy stored in a charged parallel plate capacitor with air as the medium between its plates.
8. Two point charges A & B of value +5μC, +6μC are kept 12 cm apart in air. Calculate the work done, when B is moved by 2 cm towards A.
9. How much work is required to be done to reduce the separation between two like charges of magnitude, 100 … each from 20 cm to 10 cm.
10. Two capacitors of capacitance 12 μF & 6μF are connected in series with a battery. Calculate the energy stored in the 6μF capacitor.
11. Calculate the Coulomb force between 2 protons separated by a distance of 1.6×10^{-18}m.
12. An electron is separated from a proton through a distance of 53 A°. Calculate electric field at the location of electron.
13. Find the capacitance of the capacitor?





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