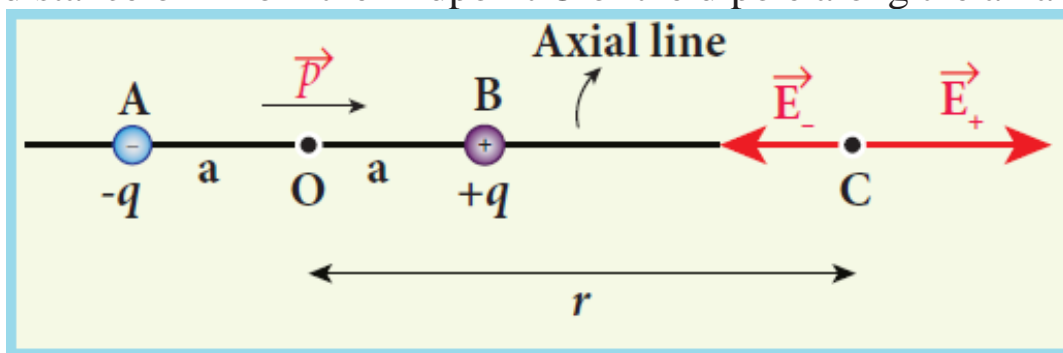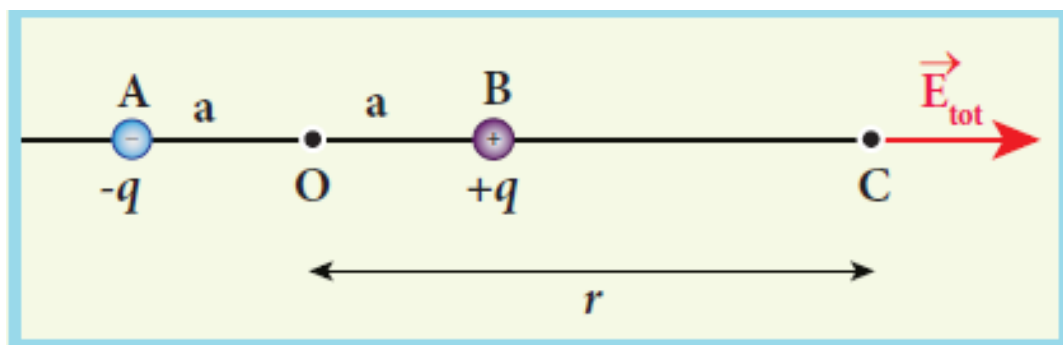# ELECTRIC FIELD DUE TO A DIPOLE

Case (i) Electric field due to an electric dipole at points on the axial line

Consider an electric dipole placed on the x-axis as shown in Figure. A point C is located at a distance of r from the midpoint O of the dipole along the axial line.

Electric field of the dipole along the axial line

Total electric field of the dipole on the axial line

Case (ii) Electric field due to an electric dipole at a point on the equatorial plane

Consider a point C at a distance r from the midpoint O of the dipole on the equatorial plane as shown in Figure.
Since the point C is equi-distant from +q and –q, the magnitude of the electric fields of +q and –q are the same.