

6 (a) Define electric field at a point.

.....
..... [1]

(ii) Calculate the electric potential at the surface of the sphere.

electric potential = V [2]

(iii) Determine the radius of the sphere.

radius = m [2]

(iv) Calculate the electric field strength E at the surface of the sphere. Give a unit with your answer.

$E =$ unit [2]

(c) The sphere in (b) is discharged by connecting it to earth (0V) through a resistor of resistance $120\text{ M}\Omega$.

Calculate the time taken for the charge to fall to 26 pC .

time = s [2]

[Total: 11]