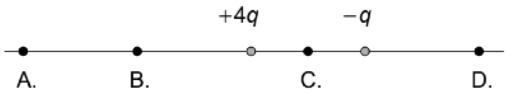
Question 1
Two point charges of +4q and -q are placed a fixed distance apart. Where is the electric field strength equal to zero ?

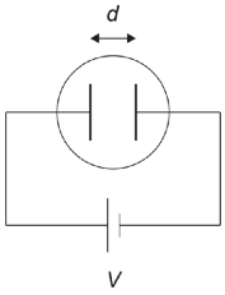


Ans - D

Question 2
Electric field lines
A. Can cross each other
B. Are parallel to equipotential surfaces
C. Are directed from negative to positive charges.
D. Show field strength by their density.

Ans - D

Question 3
An electric field is established between two electrodes separated by distance d, held at a potential difference of V. A charged particle in this field experiences a force F.



What is the charge on the particle ?

A. $\frac{d}{FV}$

B. $\frac{FV}{d}$

C. $\frac{V}{Fd}$

D. $\frac{Fd}{V}$

Ans - D

Question 4
A charge +Q and a charge -2Q are a distance 3x apart. Point P is on the line joining the charges, at a distance x from +Q. The magnitude of electric field produced at P by the charge +Q alone is E. What is the total electric field at P ?

A. $\frac{E}{2}$ to the right

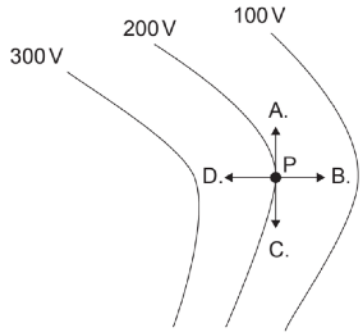
B. $\frac{E}{2}$ to the left

C. $\frac{3E}{2}$ to the right

D. $\frac{3E}{2}$ to the left

Ans - C

Question 5
The diagram shows equipotential lines for an electric field. Which arrow represents the acceleration of an electron at point P ?

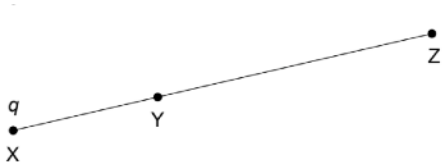


Ans - D

Question 6
Two charged parallel plates have electric potentials 0f 10V and 20V. A particle with charge +2.0 μC is moved from the 10v plate to the 20V plate. What is the change in the electric potential energy of the particle ?
A. -20 μJ
B. -10 μJ
C. 10 μJ
D. 20 μJ

Ans - D

Question 7
An isolated point charge q is located at point X. Two other points Y and Z are such that YZ = 2XY.



What is $\frac{electric\ \ field\ \ at\ \ Y}{electric\ \ field\ \ at\ \ X}$

A. 1/9
B. 1/3
C. 3
D. 9

Ans - D

Question 8
Two very long parallel plates, X and Y, have equal and opposite charges. The potential on X is Vx and that on Y is Vy, where Vx > Vy. A point particle of positive charge q and mass m is held at rest midway between the plates. The particle is then released. Which plate will the particle move toward and what kinetic energy dies it have when it reaches the plate ?

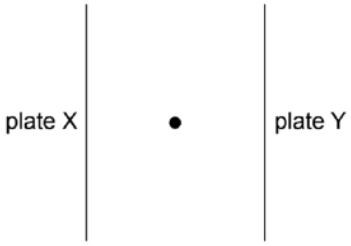
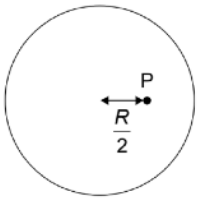


	Plate	Kinetic energy
A	X	q(Vx - Vy)
B	X	q(Vx - Vy) / 2
C	Y	q(Vx - Vy)
D	Y	q(Vx - Vy) / 2

Ans - D

Question 9
A hollow metallic sphere of radius R has a positive charge Q. P is a point a distance $\frac{R}{2}$ from the centre of the sphere.



What are the electric potential and electric field at point P ?

	Electric potential	Electric field
A	$\frac{2KQ}{R}$	$\frac{4KQ}{R^2}$
B	$\frac{2KQ}{R}$	Zero
C	$\frac{KQ}{R}$	$\frac{4KQ}{R^2}$
D	$\frac{KQ}{R}$	Zero

Ans - D

Reference
DP physics past papers