

Multiple Choice Questions

Electric Potential & Energy

Electric Potential / Calculating Electric Potential / Capacitance of an Isolated Sphere
/ Force-Distance Graph / Electric Potential Energy

| | |
|----------------------|-----------|
| Easy (1 question) | /1 |
| Medium (2 questions) | /2 |
| Total Marks | /3 |

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Easy Questions

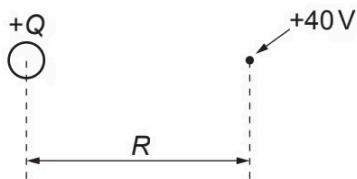
1 An isolated metal sphere is charged using a power supply. Which single quantity can be used to determine the capacitance of the sphere?

- A. The diameter of the sphere.
- B. The charge on the sphere.
- C. The resistance of the metal.
- D. The e.m.f. of the power supply.

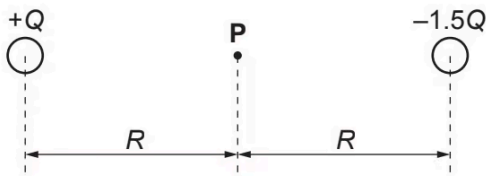
(1 mark)

Medium Questions

- 1 The electric potential at a distance R from the centre of a charge $+Q$ is $+40\text{ V}$.



What is the potential at the point P for the arrangement of the charges $+Q$ and $-1.5Q$ as shown below?



- A. -20 V
- B. -60 V
- C. $+80\text{ V}$
- D. $+100\text{ V}$

(1 mark)

- 2 The diagram below shows two oppositely charged spheres.



The magnitude of the charge on each sphere is the same. The point P is on the line joining the centres of the spheres and is the same distance from the centre of each sphere.

Which statement is correct?

- A.** A negatively charged particle at **P** will move to the right.
- B.** The direction of the electric field at **P** is to the left.
- C.** The electric potential at **P** is zero.
- D.** The magnitude of the electric field strength at **P** is zero.

(1 mark)