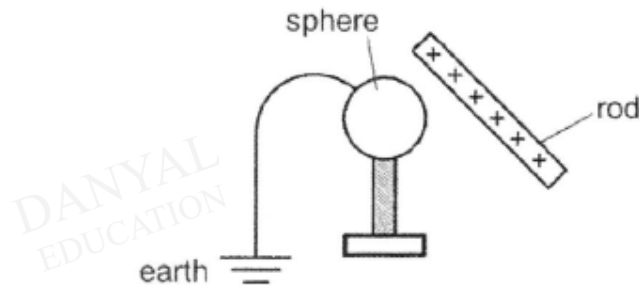


## O Level Pure Physics MCQs

### Static Electricity Test 1.0

Q1

A positively charged rod is held close to an earthed metal sphere.



Which of the following describes the charge on the metal sphere?

- A It is negative because electrons are attracted towards the rod.
- B It is neutral because electrons are attracted towards the rod and protons are repelled.
- C It is neutral because it is earthed.
- D It is positive because protons are repelled by the rod.

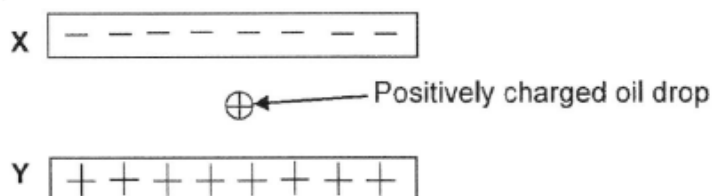
Q2

An insulating rod carries a positive charge after it is rubbed with a woollen cloth. Which of the following statements correctly explains the transfer of charges?

- A Friction causes the negative charges on the rod to become positive.
- B Positive charges are transferred from the cloth to the rod.
- C Electrons are transferred from the rod to the cloth.
- D Electrons are transferred from the cloth to the rod.

Q3

A positively charged oil drop stays stationary between two charged metal plates X and Y as shown in the diagram.

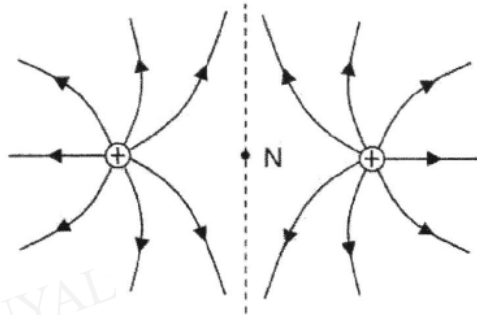


What happens if the potential of plate Y is increased?

- A The oil drop will remain stationary.
- B The oil drop will move downwards.
- C The oil drop will move upwards.
- D The oil drop will move in circular motion.

Q4

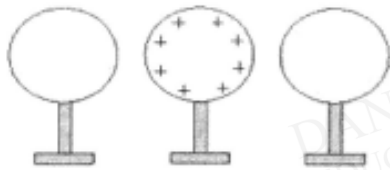
An electron is placed at point N in the electric field as shown below. Point N is mid-way between the two protons. The electron



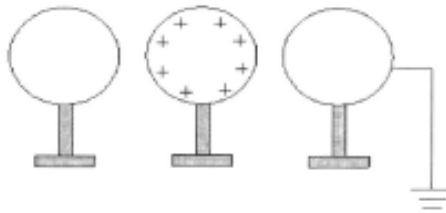
- A moves upwards
- B moves downwards
- C does not move
- D moves out of the plane of the paper

Q5

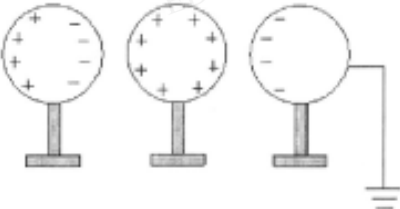
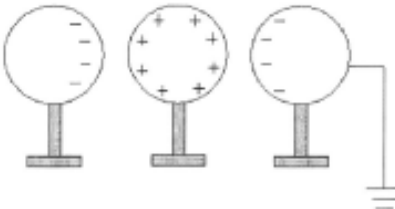
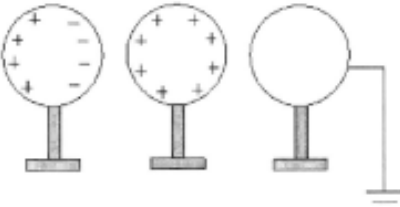
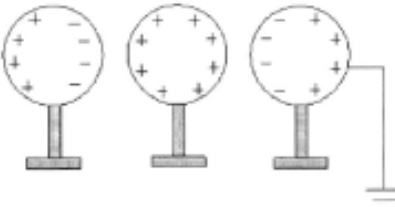
The diagram shows a positively charged metal sphere placed between two uncharged metal spheres.



The sphere on the right is now earthed.

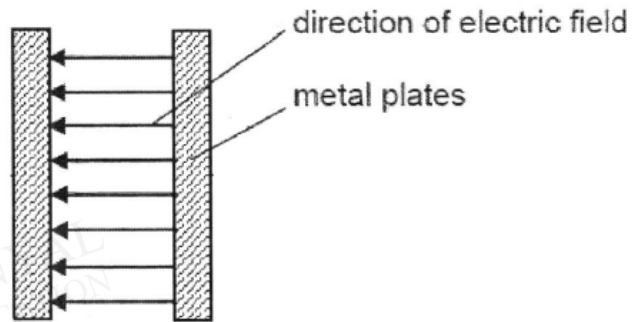


Which diagram correctly shows how the charges are distributed on the spheres?

- A 
- B 
- C 
- D 

Q6

The diagram shows the electric field produced by two metal plates which are connected to an electrical supply.



A small negative charge is placed in the gap between the two plates.

What is the direction of the force exerted by the electric field on the negative charge?

- A down
- B left
- C right
- D up

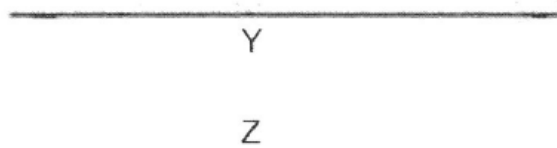
Q7

A neutral conducting rod touches a rubber balloon that has been positively charged by friction. Which one of the following shows their final charge?

	rod	balloon
A	neutral	positive
B	neutral	neutral
C	positive	positive
D	negative	positive

Q8

The following diagram shows a storm cloud. The cloud has lost electrons through friction as it moves. The X charges on the clouds has induced charges Y and Z on the ground.

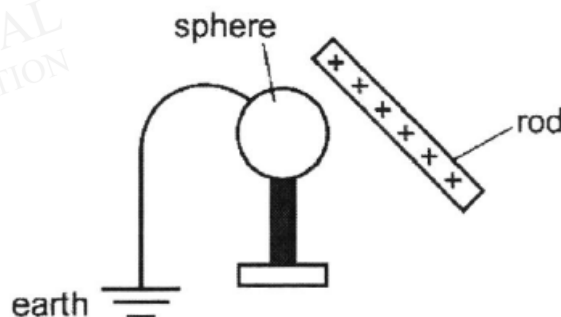


Which of the following shows the charges, X, Y and Z and the direction of a resulting lightning strike?

	X	Y	Z	direction
<b>A</b>	negative	positive	negative	downwards
<b>B</b>	positive	negative	positive	upwards
<b>C</b>	positive	negative	negative	upwards
<b>D</b>	positive	positive	negative	upwards

Q9

A positively charged rod is held close to an earthed metal sphere.



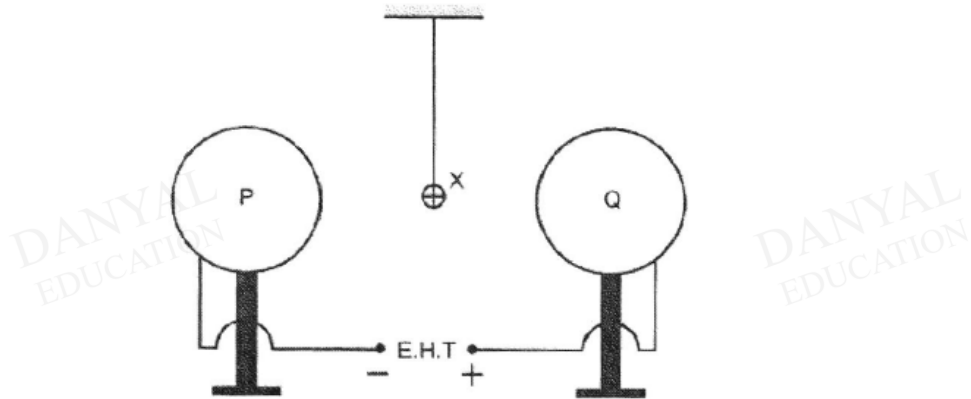
Which of the following describes the charge on the metal sphere?

- A** It is negative because electrons are attracted towards the rod.
- B** It is negative because protons are repelled by the rod.
- C** It is neutral because it is earthed.
- D** It is neutral because electrons are attracted towards the rod and protons are repelled.

Q10

The diagram below shows a light spherical conductor X that is positively charged and suspended in between two insulated copper spheres, P and Q, which are connected to an extra high tension (E.H.T.) supply.

(NOTE: extra high tension supply = high voltage supply)



When the switch is closed, conductor X will \_\_\_\_\_.

- A move to P and stay attached to P
- B move to P and then oscillate between Q and P
- C move to Q and stay attached to Q
- D move to Q and then oscillate between P and Q

**Answers**

**Static Electricity Test 1.0**

Q1 A

Q2 C

Q3 C

Q4 C

Q5 A

Q6 C

Q7 A

Q8 B

Q9 A

Q10 B

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