Electrostatics – 2021 IGCSE 0625

1. June/2021/Paper_11,12,13,21,22&23/No.29,30

A student rubs a plastic rod with a cloth.

The rod becomes positively charged.

What has happened to the rod?

A It has gained electrons.

B It has gained protons.

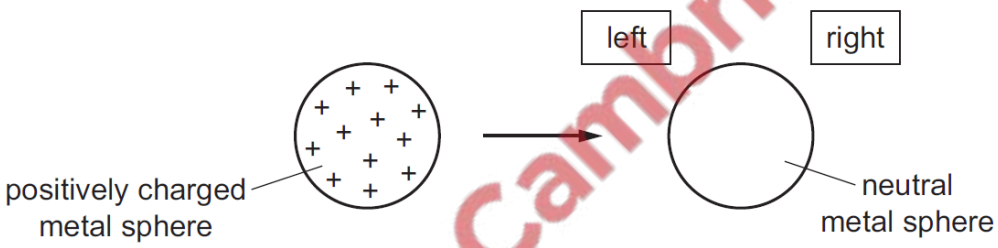
C It has lost electrons.

D It has lost protons.

2. June/2021/Paper_21,22&23/No.30,31

An isolated metal sphere is positively charged.

It is then brought near to another isolated metal sphere that is neutral.



What happens to the charges on the neutral sphere as the positively charged sphere is brought close to it?

A Some positive charges move to the left and some negative charges move to the right.

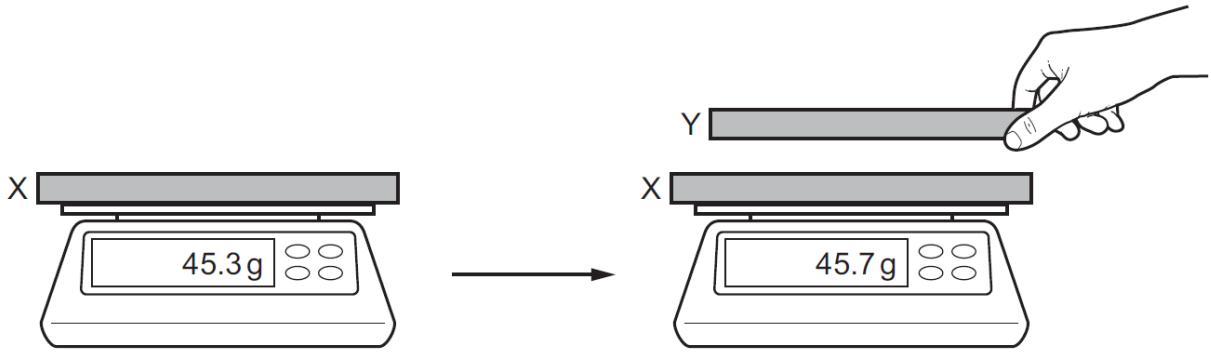
B Some positive charges move to the right and some negative charges move to the left.

C Some positive charges move to the right, but the negative charges do not move.

D The positive charges do not move, but some negative charges move to the left.

3. March/2021/Paper_12/No.29

A charged rod X is placed on a balance and another rod Y is brought close to it, as shown.

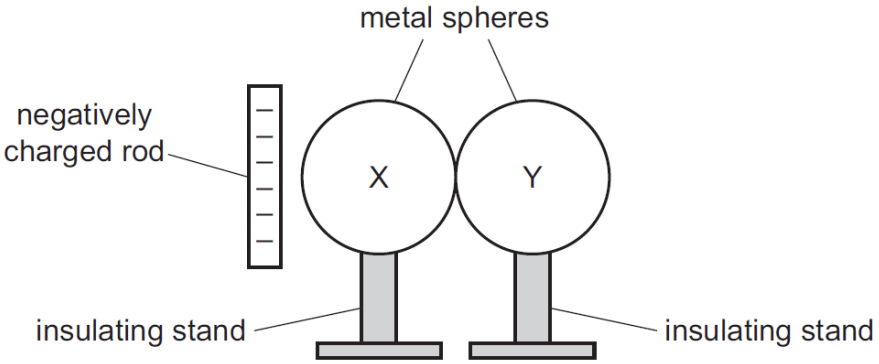


Which combination of charges would cause the change in the balance reading shown?

	X	Y
A	negative charge	negative charge
B	negative charge	positive charge
C	negative charge	no charge
D	positive charge	no charge

4. March/2021/Paper_22/No.30

Two uncharged metal spheres X and Y rest on insulating stands and touch each other. A negatively charged plastic rod is brought near to sphere X.



Using the insulating stand, sphere Y is moved away from sphere X.

What are the signs and the relative magnitudes of the charges induced on X and Y?

	charge on X	charge on Y	relative magnitudes of charges
A	negative	negative	equal
B	negative	positive	different
C	positive	negative	equal
D	positive	positive	different

5. June/2021/Paper_33/No.9

(a) Fig. 9.1 shows two uncharged balloons suspended from a beam by light thread.

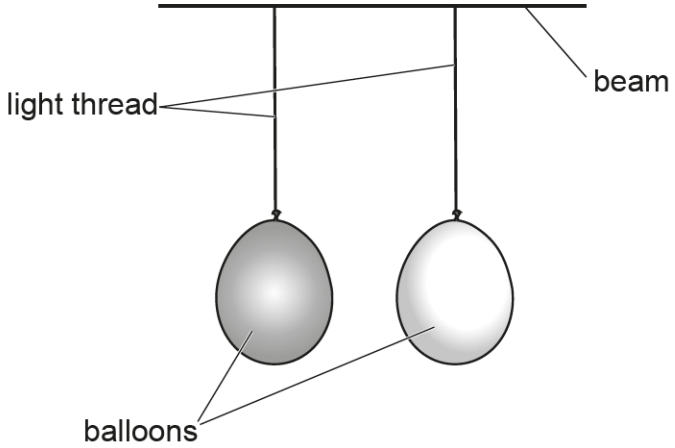


Fig. 9.1

The balloons are close to each other but not touching.

In the box below, draw the position of the balloons when they both have a positive charge.

[1]

(b) Table 9.1 includes a list of materials.

State whether each material is an electrical conductor or an electrical insulator.

The first example is done for you.

Table 9.1

material	conductor or insulator
copper	conductor
rubber	
wood	
iron	
gold	

[2]

(c) An uncharged cloth rubs an uncharged plastic rod. The cloth becomes positively charged and the plastic rod becomes negatively charged.

Explain how the cloth becomes positively charged.

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..... [3]

[Total: 6]