Electrical Quantities

Question Paper

Course	CIE IGCSE Physics
Section	4. Electricity & Magnetism
Topic	Electrical Quantities
Difficulty	Medium

Time Allowed 10

Score /5

Percentage /100

Question 1

A PVC (plastic) rod is rubbed with a nylon cloth. This process causes electrons to be transferred between the rod and the cloth, causing both objects to become charged.

Which row gives the correct nature of the charges on both the cloth and the rod, and the effect the objects have on each other after becoming charged?

	Charges on rod and cloth	Effect
A	the same	repel
B	the same	attract
C	opposite	repel
D	opposite	attract

[1 mark]

Question 2

A student wants to charge up some rods by rubbing them with a cloth made from a suitable material.

He has a number of rods to choose from: a copper rod, a PVC rod, an aluminium rod and a glass rod.

Which two of the rods would hold a charge when rubbed with an appropriate cloth?

A. Aluminium and PVC

B. Glass and copper

C. Aluminium and copper

D. Glass and PVC

[1 mark]

Question 3

Extended tier only

A student considers how changing the diameter and length of a wire affects its resistance.

Which row shows the changes that could be made to the length and diameter of the wire to **decrease** its resistance?

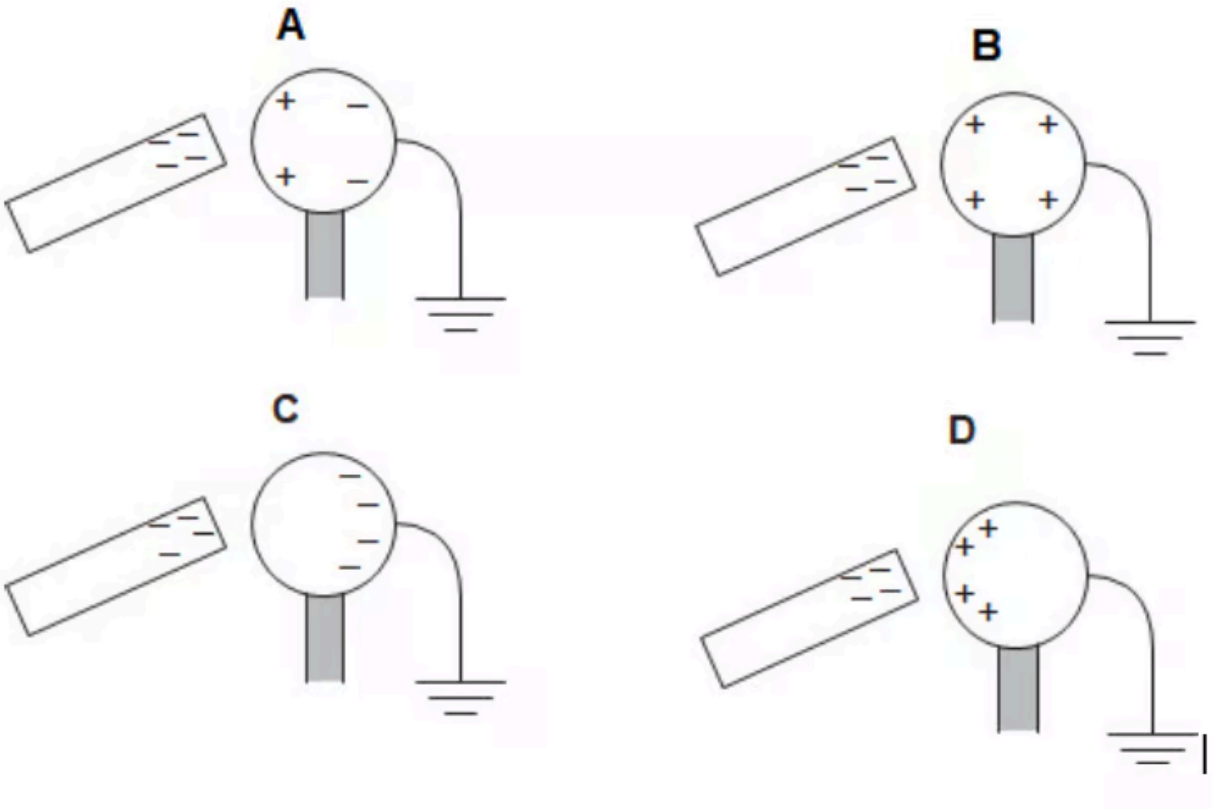
	Change to length	Change to diameter
A	increase	increase
B	increase	decrease
C	decrease	increase
D	decrease	decrease

[1 mark]

Question 4

A student rubs an acetate rod with a cloth, giving it a negative charge. She then holds it near an earthed, conducting sphere as shown in the diagrams below.

Which diagram shows the correct distribution of charges on the conducting sphere?



[1 mark]

Question 5

Extended tier only

A student has four copper wires, of different dimensions.

Which of the following wires has the largest resistance?

	Length of wire / cm	Diameter of wire / mm
A	100	0.2
B	300	0.1
C	50	0.4
D	30	0.5

[1 mark]