Page No: 197

Excercise

1. Which of the following cannot be charged easily by friction?
(a) A plastic scale
(b) A copper rod
(c) An inflated balloon
(d) A woollen cloth
Answer: (b) A copper rod

2. When a glass rod is rubbed with a piece of silk cloth the rod
(a) and the cloth both acquire positive charge.
(b) becomes positively charged while the cloth has a negative charge.
(c) and the cloth both acquire negative charge.
(d) becomes negatively charged while the cloth has a positive charge.
Answer: (b) becomes positively charged while the cloth has a negative charge.

3. Write T against true and F against false in the following statements.

(a) Like charges attract each other. (False)
(b) A charged glass rod attracts a charged plastic straw. (True)
(c) Lightning conductor cannot protect a building from lightning. (False)
(d) Earthquakes can be predicted in advance. (False)

4. Sometimes, a crackling sound is heard while taking off a sweater during winters. Explain.
Answer:
Sweater is made of wool and generally shirt we wear is made of cotton blended with some synthetic fibers. Constant friction between the shirt and sweeter lets transfer of electrons from one material to the other. This results in building of electric potential. When enough potential has been accumulated, while taking of the sweater it discharges and transfer of electrons take place. Passage of electrons through air in the forms of spark let out heat and sound energy. Thus we hear the crackling sound and in dark rooms we may see the spark lights as well.

5. Explain why a charged body loses its charge if we touch it with our hand.
Answer:
When we touch a charged body, with our hand, the excess of accumulated charge or static charges on it, gets transfer to ground through our body. Thus the charged body loses its charge, and becomes neutral.

6. Name the scale on which the destructive energy of an earthquake is measured. An earthquake measures 3 on this scale. Would it be recorded by a seismograph? Is it likely to cause much damage?
Answer:
The destructive energy of an earthquake is measured on Richter

Scale.
The reading of magnitude 3 on the Richter scale would be recorded by a seismograph.
If the Richter scale gives a reading of magnitude 3, then the earthquake is not likely to cause much damage. Generally, earthquake of magnitudes higher than 5 is considered destructive in nature.

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