PHYSICS

BOOKS - TARGET PUBLICATION

STATIC ELECTRICITY

Solved

1. Choose the correct option and fill in the blanks. :

There is ..... between like charges

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2. Choose the correct option and fill in the blanks. :

There is ..... when opposite eletric charges come near each other.

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3. Choose the correct option and fill in the blanks. :

..... is responsible for generation of eletric charge in an object.

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4. Choose the correct option and fill in the blanks. :

..... does not get electrically charged easily by rubbing.

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5. Choose the correct option and fill in the blanks. :

A ..... can be detected with an eletroscope.

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6. Choose the correct option and fill in the blanks. :

A lightning conductor is made of a ..... strip.

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7. Choose the correct alternative :

When the negative charge on an object decreases after rubbing it with another object, then the object is said to be ..... .

A. negative charged

B. positively charged

C. neutral

D. none of these

Answer: B

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8. Choose the correct alternative :

The property of ..... to attract things was named electricity by Thomas Browne in 1646 A.D.

A. magnet

B. electron

C. steel

D. amber

Answer: D

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9. Right or wrong? If wrong, write the correct sentence. :

When two specific objects are rubbed against eacht other, one of them becomes positively charged and the other becomes negative charged.

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10. Right or wrong? If wrong, write the correct sentence. :

The electric charge genarated by induction stays permanently on the object.

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11. Right or wrong? If wrong, write the correct sentence. :

Gold leaf electroscope is a simple device used for protection from lightning strike.

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12. Match the Following.

	Group 'A'		Group 'B'
i.	Lightning conductor	a.	detection of charged objects
ii.	Gold leaf electroscope	b.	electrically neutral
iii.	Positively charged object	c.	copper strip with pointed end
iv.	Atom	d.	deficiency of negatively charged particles

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13. Answer in one sentence :

What happens to the gold leaves when a charged object is taken near the disc of a gold leaf electroscope?

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14. Answer in one sentence :

How does a lightning strike occur?

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15. Answer the following question in one sentence :

How are charges generated?

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16. Answer in your own words :

How can we charge an uncharged aluminium ball using a charged ballon?

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17. Use your brain power!

Can we use leaves of some other metal instead of gold, in the electroscope? Which properties must that metal have?

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18. Answer the following question in one sentence :

How will you protect yourself from lightning?

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19. Answer the following question in one sentence :

In the lightning conductor, what provision is made for spreading the electricity into the ground ?

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20. Answer the following :

Try this. :

How would two charged objects interact with other?

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21. Answer the following :

Intex Question. :

All objects are made up of atoms, which means that are electrically neutral. Then how do objects become electrically charged?

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22. Answer the following :

Use your brain Power! :

Do all objects get charged by rubbing?

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23. Answer the following :

What are the characteristics of a static electric charge?

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24. Answer the following :

What is the damage caused by lightning? How will create awersness to prevent it?

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25. Answer the following :

Intext Question. :

What is it actually happens when there is lightning in the sky and when lightning strikes the earth?

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26. Use your brain power!

What kind of damage is caused by a lightning strike ?

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27. Use your brain power!

What measures will you take to prevent the damage caused by lightning?

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28. Answer the following :

How does lightning improve the fertility of soil and helps produce ozone gas?

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29. Give reasons :

Repulsion is used as a test for identifying an electrically charged object.

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30. Give reasons :

When a bottle containing mustard seeds shaken vigorously, the seeds move away from each other and stick to the bottle.

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31. Give reasons :

Use your brain power! :

Why does a charged balloon stick to a wall?

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32. Give reasons :

Explain why it is not safe to go out with an umbrella when there is heavy rain, lightning or thunder.

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33. Give reasons :

Why do farmers stick an iron staff into the ground while working in the field in rainy conditions?

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34. Answer the following question in short :

Why is lightning not seen every day during the

rainy season?

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35. Use your brain power!

Why is the upper end of the lightning conductor pointed?

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36. Give reasons :

Use your brain power! :

Why are coal and salt added to the pit in the ground?

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37. Do you have experience of the instances given below? :

A plastic comb or ruler rubbed on dry hair attracts pieces of paper. :

If we pass near a polyester curtain again and again, it gets attracted towards us. :

If we rub a blanket with our hands and take it

near a metal object, a spark is seen in the dark.

:

What is the cause of these effects?

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38. Do you have experience of the instances given below? :

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:

What do the above observations tell us?

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39. Rub one end of a glass rod against a silk cloth. Due to the rubbing a small charge will get transferred from one object to the other. As a result both the objects will become somewhat charged. Suspend this rod freely in

air with the help of a thread. Now charge another glass rod in the same manner and bring it near the suspended tod. What do you see?

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40. Now take plastic rod. Rub one of its ends against a woollen cloth. Bring that end near the suspended glass rod. Now what do you see?

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41. Refer the materials and procedure given on textbook page no. 52. Record your observations in the chart. :

Repeat this procedure with each of the given materials.

Material used for rubbing: .....

	Object	Whether paper pieces get attracted? Yes/No	Does the object get charged? Yes/No
i.	Balloon		
ii.	Ball pen refill		
iii.	Eraser		
iv.	Wooden ruler		
v.	Steel spoon		
vi.	Copper strip		

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42. Refer the apparatus and procedure given on textbook page no. 53. Rcord your observations in each of the above procedures in the chart.

Procedure	Repulsion/Attraction	Inference
A charged straw is taken near the uncharged straw.		
Two straws carrying similar charges are brought near each other.		
A charged straw and the oppositely charged cloth which was used for rubbing are brought near each other.		

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43. To charge an object by contact. :

Rub a plastic comb against paper. Touch this

comb with another unchagred comb. Take the other comb near some pieces of paper. What happens?

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44. To charge an object by induction. :

Rub a comb or a balloon on your hair. As shown in the picture 8.4 on page 54 of your textbook, take the comb near a thin trickle of water from a tap what happes. Now draw the comb away from the trcikle and observe what

happens. :

Mark your observation with a tick. :

When the charged comb is brought close to the flowing water, water gets attracted/repelled/remains as it was. :

when the charged comb is taken away from the flowing water, it gets attracted.repelled/remains as it was initially.

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45. Keep a spent tubelight in a dark place. Rub it vigorouly with a thin polythene bag. What happens ? Why?

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46. Oral work :

When do we say that asn object is electrically neutral?

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47. Oral work :

When is an object said to be charged?

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48. Oral work :

Why should the experiments of static electricity be performed in dry air?

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49. Oral work :

Which device is used to detect the electric charge on an object?

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50. Oral work :

Name the device installed on the top of the buildings to pretect it from a lightning strike.

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51. Activities :

Find out where is the concept os static electricity used in our surroundings.

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52. Fill in the blanks. :

In ..... Objects, the positive and negative charges are not balanced.

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53. Fill in the blanks. :

Two like charges push each other away. This called .....

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54. Fill in the blanks. :

Each atom is electrically .....

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55. Fill in the blanks. :

Benjamin Franklin conducted an experiment of flying a kite in 1752, where he showed that lightning is a form of .....

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56. Fill in the blanks. :

When a charged object is brought near to a neutral, the neutral object is ahcrged by .....

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57. Odd one out. :

Copper, plastic, cotton, nylon.

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58. Odd one out. :

Bringing rubbed silk cloth near neutral glass rod, bringing rubbed glass rod near rubbed silk cloth, bringing rubbed glass rod near

another rubbed galss rod, bringing rubbed glass rod near neutral glass rod.

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59. Distinguish between Charging by Conduction and Charging by Induction.

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60. Give reason. :

A crackling sound is heard when we take off

wollen clothes during winter but it is not observed if we take off cotton clothes.

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61. Give reason. :

There is a provision for pouring water into the pit of lightning conductor.

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