

Chemical effects of electric current

Fill in the blanks

1. Most liquid that conducts electricity are solutions of,,
2. The passage of an electric current through a solution cause effects
3. If you pass current through copper sulphate solution, copper gets deposited on the plate connected to theterminal of the battery
4. The process of depositing a layer of any desired metal on another material by means of electricity is called
5. is an example of an electrolytic solution.
6.water is a poor conductor of electricity
7. An electric lamp glows due to effects of electric current
8.doesn't corrode easily
9. During electroplating of metals, the refined metal is obtained at
10. Water mixed with salts is aconductor of electricity
11. Pure water can be made conducting by addingto it.
12. The container in which electrolysis is carried out is called.....
13. Full form of LED is
14. The electrolyte and the electrodes used in electrolysis form an
15. Weak current can be detected by a device called
16. Electrolytes conduct electricity due to movement of
17. A positively charged body hasno of electrons
18. Tap water conducts electricity due to the presence of
19. A primary cell converts.....
20. A positively charged body has aof electrons

Question and answers

1. What is electrolysis?
2. What do you mean by chemical effect of current?
3. How can you electroplate an iron spoon with copper?
4. What is electro refining? How it differs from electroplating?
5. What are the changes you observe on electrolysis?
6. What is anode and cathode in an electrolytic cell?
7. Define electrolyte?
8. What are three effects of electric current?
9. Give three uses of electroplating
10. If you want to electroplate iron with aluminium what will be the cathode, anode and electrolyte?
11. What is chrome plating? Write its advantages and disadvantages.
12. In the purification of copper metal,
 - a) Which electrode is connected to the positive terminal
 - b) Which electrode is connected to the negative terminal
 - c) Which metal salt solution is taken as electrolyte?
 - d) How can the process be speeded up?
13. What are the factors on which the amount of metal deposited on cathode during electrolysis depends?
14. What are the negatively charged particles are called?
15. What conducts electricity solid sodium chloride or molten sodium chloride?
16. Name the device which is used to detect and test small electrical charges
17. Name any four objects that can be electroplated with chromium
18. Draw the structure of LED and its function
19. What makes water a good conductor? How this property of water at this time may

cause accident?

20. Name two liquids which conduct electricity and two liquids which do not conduct electricity

21. Which of the two is a better conductor of electricity: tap water or sea water

22. In case of fire before the fireman use the water hoses to throw water to house fire, they shut off the electricity supply for the area. Why?

23. Name two metals which are usually electroplated on cheaper metals for making jewellery.

24. Why disposal of waste is a major concern for electroplating factories?

25. What is the benefit of coating a layer of chromium on iron

26. Why does a magnetic needle show deflection when kept near a current carrying wire?

27. Write two uses of electrolysis

28. Write which ion or radical will choose which electrode

Na⁺ Cl⁻ OH⁻ H⁺ K⁺ I⁻

29. What makes certain liquids conduct electricity. Give example

30. What are semi conductors?

31. Give one example each of strong, weak and nonelectrolyte

32. Does pure water conduct electricity? Why it is unsafe for the electrician to carryout electrical repairs outdoor during heavy down pour?

33. Solid residue left in electrolytic refining of metal

34. This metal is plated on iron to prevent it from reacting chemically with food

35. How can we test the conductivity of a liquid using a magnetic compass? Explain it with a diagram

36. How can we detect weak electric currents?

37. Explain how anodizing of aluminium is carried out?

38. Write the full form of LED. Why do we sometimes use an LED in place of a bulb in electric tester?

Give reasons

1. Sometimes you may find that although the liquid is conducting yet the bulb of the circuit doesn't glow

2. The impure metal is made the anode during purification of metal

3. Distilled water is an insulator

4. Galvanization is carried out on iron and steel objects. Why?

5. Safe disposal of electrolytic waste is necessary

6. Chrome plated items can be decorative, provide resistance to corrosion. How-ever there are certain health hazards associated with it.

7. Common salt is a bad conductor of electricity in solid state where as a good conductor in solution stat

8. In case of fire before the fireman use the water hoses to throw water to house fire, they shut off the electricity supply for the area. Why?

Differentiation

1. Conduction of electricity in water and in solid

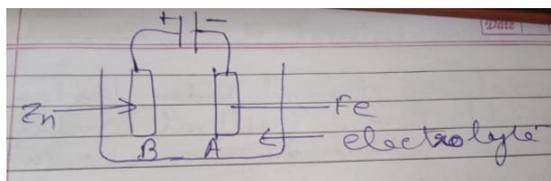
2. Anode and cathode

3. Insulator and conductor

Activity based question

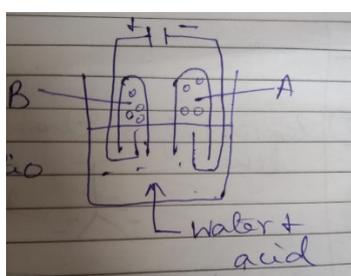
1. How can salt solution conduct electricity but sugar solution cannot?

2.



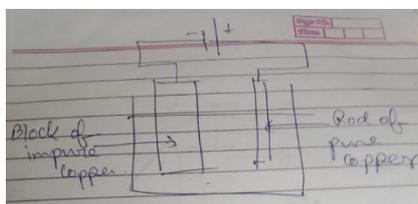
- Identify electrode A and B
- The substance which can be used as electrolyte
- Define the procedure

3.



- identify gases A and B
- what is the ratio of volume of gases A and B
- define the process

4. correct the diagram



5. Give a simple activity to test that some vegetables also conduct electricity

6. Draw a diagram showing the electroplating of iron spoon with silver and label

- Anode
- Cathode
- Electrolyte used

Also write the reactions at anode and cathode

Analyze

1. A beaker contains an acidified copper sulphate solution. A copper plate and a carbon rod are kept in this solution. The copper plate is connected to the positive terminal where as carbon rod is connected to the negative terminal of the battery. What will you observe when an electric current is passed through this set up for a considerable time?

2. Shika got a fine silver cutlery from her grandmother on her birthday. Her mother explained that actually the cutlery was not made of silver. A) Which process is used to provide silver look to the cutlery? B) define the process mentioned in the answer c) what values are shown by Shika 's mother?

3. Anil was testing a sample with the help of a tester for conduction of electricity. For this he collected some distilled water and mixed sugar in it.

- a) Will the solution of sugar in distilled water conduct electricity? Give reason.
- b) Why we should not operate switch of a geyser with wet hands?
- C) Write any one precaution that we should take while handling electrical appliances