



## PHYSICS

### BOOKS - AGRAWAL EXAM CART BIHAR

## CHEMICAL EFFECTS OF ELECTRIC CURRENT AND ELECTROPLATING

### Example

1. If 30 coulomb of electric charge flows through a wire in two minutes, calculate the

current in the wire ?



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1. Two thermocol balls held close to each other move away because of ----- force .

A. magnetic

B. electrostatic

C. gravitational

D. frictional

**Answer: B**



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2. \_\_\_\_\_ of the following is not good conductor of electricity .

A. Tap water

B. Vegetable oil

C. Vinegar

D. Lemon juice

**Answer: B**



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3. When you rub the back of a plastic pen in your hair and bring it near a small piece of paper it attracts paper due to \_\_\_\_\_

A. electrostatic force

B. friction

C. magnetic force

D. gravity

**Answer: A**



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**4. An electric current can produce**

A. only thermal and chemical

B. only thermal and magnetic

C. only magnetic and chemical

D. all the three types of

**Answer: D**



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5. During dry weather, while combing hair, sometimes we experience hair flying apart. The force responsible for this is

A. force of gravity

B. electrostatic force

C. force of friction

D. magnetic force

**Answer: C**



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6. On heating one end of iron rod, other end also gets heated. Such materials are called

A. good conductor of heat

B. good insulator of heat

C. bad conductor of heat

D. heater

**Answer: A**



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**7. The fuse wire is made of:**

A. Copper

B. Tin

C. Mixed metal of copper & tin



D. Mixed metal of Iron and Brass

**Answer: C**



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**8.** Name the materials which are used to make permanent magnets.

A. Soft iron

B. Germanium

C. Silicon

D. Steel

**Answer: D**



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**9. Gases are conductor of electricity :**

A. At high pressure

B. At low pressure

C. At low temperature

D. At high temperature

**Answer: B**



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**10. By which copper is purified ?**

- A. By heating
- B. By oxidation
- C. By electric-decomposition
- D. By circular processing

**Answer: C**



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11. The north pole of earth magnet is in the :

A. North

B. South

C. East

D. West

**Answer: B**



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12. The vessel used for electric decomposition-

A. Barometer

B. Ammeter

C. Voltmeter

D. Calorimeter

**Answer: C**



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**13.** Flash bulbs contain a foil of magnesium packed in the atmosphere of

A. Nitrogen

B. Oxygen

C. Air

D. Hydrogen

**Answer: A**



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14. 55 Watt lamp is combined with the main wire of 220 volt, The current in the lamp will be:

A. 0.25 Ampere

B. 0.2 Ampere

C. 0.3 Ampere

D. 0.5 Ampere

**Answer: A**



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**15.** Electric current is measured using which of the following instrument ?

A. Ammeter

B. Computator

C. Animometer

D. Voltmeter

**Answer: A**



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**16.** Transformer are used:

- A. Only in DC circuit
- B. Only in AC circuit
- C. In both A & B circuit
- D. In integrated circuit

**Answer: B**



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**17.** Choose the correct statement related to magnet:

(i) In magnet there are always two magnetic poles

(ii) There is a mutual attraction between like poles

(iii) A magnet which is independently hanged, always stops in geographically north-south direction.

(iv) If any magnet is cut down in many pieces then every piece will react as a complete magnet

A. (i), (ii) and (iii)

B. (ii), (iii) and (iv)

C. (i), (iii) and (iv)

D. (i), (ii) and (iv)

**Answer: C**



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**18.** When the glass rod is rubbed with the piece of silk, then according to known tradition :

- A. Both get negatively charged
- B. Both get positively charged
- C. Glass rod got negatively charged and silk piece got positively charged
- D. Glass rod got positively charged and silk piece got negatively charged

**Answer: D**



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**19.** Some electric terms are given: (i) Electric Fuse (ii) Electric Motor (iii) Electric Bulb (iv) Electric Bell

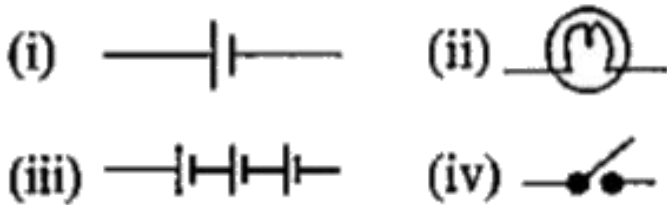
- A. (i) and (ii)
- B. (i) and (iii)
- C. (ii) and (iii)
- D. (ii) and (iv)

**Answer: B**



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20. Some circuit components have been indicated below:



Out of these the indicators of electric cell, electric battery and switch 'Off' position are respectively :

A. (i), (iv) and (iii)

B. (i), (iii) and (iv)

C. (i), (iii) and (ii)

D. (i), (ii) and (iv)

**Answer: B**



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**21. The filament of an electric bulb is made of**

A. Iron

B. Tungsten

C. Copper

D. Aluminium

**Answer: B**



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**22.** Dynamo is a machine, the work of which is :

- A. To convert electric energy into mechanical energy
- B. To convert high voltage into low voltage
- C. To convert low voltage into high voltage



D. To convert mechanical energy into electrical energy

**Answer: D**



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**23.** What is the apparatus used in measuring the electric current ?

A. Barometer

B. Altemeter

C. Ammeter

D. Anemometer

**Answer: C**



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**24.** What is the electrode called which is joined at -ve pole of the battery?

A. Cathode

B. Electroplate

C. Ion

D. Anode

**Answer: C**



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**25.** In dry cell carbon rod functions as :

A. Anode

B. Cathode

C. A and B both

D. None of these

**Answer: A**



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**26.** Electric current is measured by :

A. Resistance

B. Voltmeter

C. Capacitor

D. Ammeter

**Answer: D**



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**27.** The angle made between geographical meridian and magnetic meridian is called :

A. Compass Angle

B. Dip Angle

C. 'A' and 'B' both

D. None of these

**Answer: B**



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**28.** The positive plates in voltage cells of -

A. Copper

B. Silicon

C. Zinc

D. Carbon

**Answer: A**



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**29.** When a magnet is heated, it

- A. No impact on it
- B. Makes a stronger magnet
- C. makes a permanent magnet
- D. Its magnetic properties destroyed

**Answer: D**



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**30.** A magnetic rod is cut in two equal parts from the right angled length. In this position the equal length of two pieces -

A. Lost their magnetism totally

B. It works with same polar intensity as main magnetic rod

C. In one piece both southern pole and in another piece both northern pole exists.



D. They are magnets, in which one piece, at one side only southern pole and there is no pole on another side, and in second piece only northern pole on one side and no pole on another side.

**Answer: B**



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**31. A magnet can be magnetized :**

A. By keeping it with the in contact gold

B. By keeping it with the contact in iron

C. by heating it

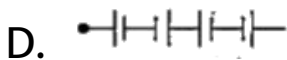
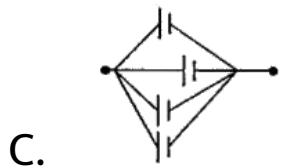
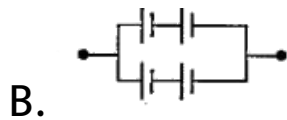
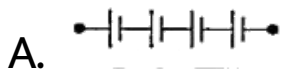
D. By rubbing it with another magnet

**Answer: C**



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**32.** A 8.0V battery is made by joining 4, 2.0V cells. For this what will be the right combination?



**Answer: A**



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**33.** The cell which can be re-charged, is:

A. Dry cell

B. Volt cell

C. Leclance cell

D. Accumulated cell

**Answer: D**



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**34.** The batteries which are utilized in home invertors is an example of:

A. Voltage cell

B. Primary cell

C. Secondary cell

D. Dry cell

**Answer: C**



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**35.** An example of magnetic matter is:

A. Aluminium

B. Gold

C. Mica

D. Steel

**Answer: D**



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**36.** State two methods to destroy the magnetism of a magnet.

A. By keeping the magnet in water

B. By continuously using the magnet

C. By heating the magnet

D. By cutting magnet into numerous pieces

**Answer: D**



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**37. Best matter for making electromagnet is:**

A. Soft iron

B. Steel

C. Nickel

D. Cobalt

**Answer: A**



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**38.** When a glass rod is rubbed with silk, it

A. Glass rod becomes positively charged

and silk becomes negatively charged



B. Glass rod become positively charged and silk becomes positively charged

C. Glass rod and silk both becomes positively charged

D. Glass rod and silk both becomes negatively charged

**Answer: A**



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**39.** By whose movement the electric current flows in the conductor ?

A. Atoms

B. Protons

C. Electrons

D. Neutrons

**Answer: C**



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40. What will be the internal energy when at 2  $\Omega$  resistant 5 ampere current is flown for 30 mts?

A. 9 Joule

B.  $9 \times 10^2$  Joule

C.  $9 \times 10^4$  Joule

D.  $9 \times 10^3$  Joule

**Answer: C**



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**41.** For the measurement of potential difference, voltmeter is connected

A. Current

B. Voltage

C. Power

D. Resistance

**Answer: B**



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## Important Question

1. Current in a conductor is due to

A. motion of free electrons in it

B. motion of positive ions

C. free electrons and holes

D. protons

**Answer: A**



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2. Electrification of a body can be achieved by charging by

A. electron

B. proton

C. neutron

D. Both (B) and (C)

**Answer: A**



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3. Which of the following is not bad conductor?

A. Mica

B. Iron

C. Wood

D. Rubber

**Answer: B**



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4. Materials which allow larger currents to flow through them are called

A. semiconductor

B. non-conductor

C. bad conductor

D. conductor

**Answer: D**



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5. The full form of LED is

A. Light Emitting Diode

B. Solar cell

C. Photo cell

D. None of the above

**Answer: A**



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6. Which one of the following is not the source of electricity?

A. Electric source

B. Radio

C. Battery

D. Dry cell

**Answer: B**



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7. Light-emitting diode (LED) converts

- A. mechanical energy into light energy
- B. chemical energy into light energy
- C. electrical energy into light energy
- D. light energy into electrical energy

**Answer: C**



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8. The anode is a dry cell is

A. iron

B. zinc

C. copper

D. carbon

**Answer: D**



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**9. Electrolyte used in voltaic cell is:**

A. sulphuric acid

B. acetic acid

C. nitric acid

D. hydrochloric acid

**Answer: A**



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**10.** The cell used in artificial satellite is:

A. solar cell

B. dry cell

C. Daniell cell

D. voltaic cell

**Answer: A**



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**11. Inside the bulb:**

A. hydrogen is filled

B. air is filled

C. neon is filled

D. None of these

**Answer: C**



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**12.** During electroplating, where is the object placed, which needs to be coated with a metallic layer?

A. Positive

B. Negative

C. Both (A) and (B)

D. None of these

**Answer: B**



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**13.** The metal which has to be electroplated in the process of electroplating, is made:

A. anode

B. electrolyte



C. cathode

D. None of these

**Answer: C**



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**14.** Which one of the following depends on electricity for its work?

A. Microwave oven

B. Kerosene oil lamp

C. Biogas project

D. Solar cooker

**Answer: A**



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**15.** During short-circuiting, the current flowing in the electrical circuit

A. reduces substantially

B. does not change

C. increase instantaneously

D. varies continuously

**Answer: C**



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**16.** Among the following the resistance does not depend upon:

A. length of conductor

B. area of cross-section

C. temperature

D. density

**Answer: D**



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**17.** Nichorome' is the material used to make heating elements.

A. brass

B. nichrome

C. silver

D. copper

**Answer: B**



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**18.** A fuse wire is always connected to the

A. live wire

B. in the neutral wire

C. in the earth wire

D. may be connected in any line

**Answer: A**



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**19.** Of the bulbs in a house, one glows brighter than the other, which of the two has a large resistance.

A. dim bulb

B. the brighter bulb

C. both has same resistance

D. none of these

**Answer: A**



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**20.** The characteristics of fuse wire is:

A. high melting point

B. low melting point

C. low resistivity and high melting point

D. low resistivity and low melting point

**Answer: D**



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**21.** When a fuse is rated 8 A, it means:

A. it will not work if current is less - than 8

A

B. it has a resistance of 8  $\Omega$

C. it will work only if current is 8 A



D. it will melt if current exceeds 8 A

**Answer: D**



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**22.** A positive charge released from rest:

A. moves towards the regions of lower potential

B. moves towards the regions of higher potential

C. moves towards the regions of equal potential

D. does not move

**Answer: A**



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**23.** In an electrolytic cell the electrode at which the electrons enter the solution is called the ....., the chemical change that occurs at this electrode is called .....

A. anode, oxidation

B. anode, reduction

C. cathode, oxidation

D. cathode, reduction

**Answer: D**



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**24.** The rating of fuse wire is expressed in terms of:

A. ohm

B. mho

C. ampere

D. watt

**Answer: C**



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**25.** An immersion rod heats a bucket of water in 15 minutes, To make the water boil in 10 minutes, the:

- A. length of heating element of the rod  
should be increased
- B. length of heating element of the rod  
should be reduced
- C. supply voltage should be reduced
- D. heating element of larger diameter  
should be used

**Answer: B**



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**26.** Plastic wire is :

A. An insulator

B. A conductor

C. Both (A) and (B)

D. None of these

**Answer: A**



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27. Electroplating is based on :

A. Magnetic effect of electricity

B. Chemical effect of electricity

C. Heating effect of electricity

D. Physical effect of electricity

**Answer: B**



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**28.** An electrolyte is :

A. a metal

B. a solution

C. a liquid that conducts current

D. all of above

**Answer: C**



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**29.** Copper wire is a :

- A. Good conductor
- B. Poor conductor
- C. Both (A) and (B)
- D. None of the above

**Answer: A**



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**30.** Poor conductors are:

A. Plastics

B. Clothes

C. Wood

D. All of these

**Answer: D**



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**31. Distilled water is :**

- A. Poor conductor
- B. Good conductor
- C. Both (A) and (B)
- D. None of these

**Answer: A**



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**32.** Flow of electron is called :

A. Electroplating

B. Electric current

C. Electrodes

D. Electrolyte

**Answer: B**



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**33. Electroplating prevents :**

A. Current

B. Chemical effect

C. Rusting

D. All of these

**Answer: C**



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**34.** An electric lamp glows due to :

A. Chemical effect

B. Magnetic effect

C. Heating effect

D. None of these

**Answer: C**



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**35.** Which of the following is an insulator

A. Human body

B. Graphite

C. Pure water

D. Copper

**Answer: C**



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**36.** In electroplating, the object to electroplated is made:

A. anode

B. cathode

C. both (A) and (B)

D. none of these

**Answer: A**



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37. The extraction of metals from their ores by electrolysis is called :

- A. electroplating
- B. electrometallurgy
- C. electrorefining
- D. none of these

**Answer: D**



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**38.** The refining or purification of metals by passing electric current is called :

A. electroplating

B. electrolysis

C. electrorefining

D. none of these

**Answer: C**



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**39.** Carbon rods, used as electrodes are made up of:

A. graphite

B. wood

C. iron

D. diamond

**Answer: A**



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40. Which of these are the applications of electrolysis?

A. Metal Extraction

B. Electroplating

C. Electrorefining

D. All of these

**Answer: B**



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**41.** In an electrolytic cell, the electrode which is connected to the positive terminal of the battery is called :

A. cation

B. anion

C. cathode

D. anode

**Answer: B**



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42. Which of these is plated on the iron to prevent it from chemically reacting with food ?

A. Gold

B. Silver

C. Chromium

D. Tin

**Answer: D**



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**43.** Out of the following, which metal is used to electroplate iron to make it shining and rust resistant ?

A. Chromium

B. Gold

C. Zinc

D. Copper

**Answer: A**



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**44.** Electric poles are coated with a layer of which metal ?

A. Chromomium

B. Zinc

C. Silver

D. Aluminium

**Answer: B**



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**45.** Sanitary fittings are generally coated with a layer of which metal ?

A. Chromium

B. Zinc

C. Silver

D. Aluminium

**Answer: A**



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**46.** Which of the following is a bad conductor of electricity ?

A. Tap water

B. Lemon juice

C. Vinegar

D. Sugar solution

**Answer: D**



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47. Which of the following is a good conductor of electricity ?

A. Distilled water

B. Cooking oil

C. Tap water

D. Sugar solution

**Answer: C**



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**48.** Chemical effect of electric current is primarily used for which of the following?

- A. Electroplating
- B. Separating oxygen
- C. Separating hydrogen
- D. Separating gold

**Answer: A**



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**49.** Which of the following will work best as a tester for electric current ?

A. Bulb

B. LED

C. CFL

D. Magnetic compass

**Answer: D**



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50. Which material is used for making the central rod in an electric cell ?

A. Copper

B. Carbon

C. Aluminium

D. Iron

**Answer: B**



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51. Which scientist was the first to show electrolysis of water?

A. Oersted

B. William Nicholson

C. Michael Faraday

D. Galileo

**Answer: B**



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52. Which one of the following is bad conductor of electricity ?

A. Distilled Water

B. Alcohol

C. Salt Water

D. Tap Water

**Answer: A**



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53. Pure piece of metal which is used to be plated, is made the:

A. anode

B. cathode

C. nematode

D. positrode

**Answer: A**



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54. A sheet of pure copper is used as :

A. cathode

B. anode

C. positrode

D. negatrode

**Answer: A**



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55. When electric current is passed through a conducting solution, there is a change of colour of the solution. This indicates :

- A. the chemical effect of current.
- B. the heating effect of current
- C. the magnetic effect of current.
- D. the lightning effect of current.

**Answer: A**



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**56.** Which of the following is a good conductor of heat but a bad conductor of electricity ?

A. Celluloid

B. Rubber

C. Asbestos

D. Mica

**Answer: D**



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57. What is the SI unit of electric charge?

A. Volt

B. Coulomb

C. Ampere

D. Ohm

**Answer: B**



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58. An electron possesses a negative charge of:

A.  $16 \times 10^{-19} \text{ C}$

B.  $1.60 \times 10^{-19} \text{ C}$

C.  $26 \times 10^{-19} \text{ C}$

D.  $1.8 \times 10^{-19} \text{ C}$

**Answer: B**



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59. How many electrons taken together make one coulomb ?

A.  $6.25 \times 10^{18}$  electrons

B.  $3.25 \times 10^{18}$  electrons

C.  $2.25 \times 10^{18}$  electrons

D.  $4.25 \times 10^{18}$  electrons

**Answer: A**



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60. Which of the following is a conductor of electricity ?

A. Silver

B. Copper

C. Aluminium

D. All of these

**Answer: D**



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**61.** Substances through which electricity cannot flow are called :

A. Conductors

B. Insulators

C. Wires

D. Battery

**Answer: B**



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62. Which of the following is an insulator?

A. Carbon

B. Rubber

C. Silver

D. Copper

**Answer: B**



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**63.** What should be present in a substance to make it a conductor of electricity ?

A. Strongly held electrons

B. Strongly held protons

C. Free electrons

D. Free protons

**Answer: C**



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**64.** Which of the following is an example of static electricity?

A. Glass rod rubbed with silk cloth

B. Ebonite rod rubbed with wool

C. Lightening in the sky

D. All of the above

**Answer: D**



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**65.** What is the work done in moving a unit positive charge from infinity to that point in electric field called?

- A. Electric potential
- B. Potential difference
- C. Electric current
- D. Electric circuits

**Answer: A**



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