

CLASS X : SCIENCE PAPER SET-2

1. Mention the part of the brain which maintains posture and equilibrium of the body.
2. Name the rule which gives the direction of induced current in a conductor.
3. Write any two applications of biogas.
4. Write chemical formula of washing soda. How is it obtained from baking soda? Name one industrial use of washing soda other than washing clothes.
5. Explain how the properties of an alloy are different from those of constituent metals.
6. Draw a labelled diagram of cross section of a leaf.
7. How is plaster of Paris chemically different from gypsum? How can they be interconverted? Write two uses of plaster of Paris.
8. State the type of chemical reactions with chemical equations that take place in the following:
∴ (i) Magnesium wire is burnt in air. (ii) Electric current is passed through water. (iii) Ammonia and hydrogen chloride gases are mixed.
9. Describe an activity to show how the following metals can be arranged in the decreasing order of reactivity with dil sulphuric acid : Al, Zn, Cu, Fe, Mg
10. What is meant by electrolytic reduction? How is sodium obtained from its molten chloride? Explain.
11. Explain how the movement of leaves of a sensitive plant different from movement of shoots towards light?
12. In mammals and birds why is it necessary to separate oxygenated and de-oxygenated blood?
13. Draw a flow chart to show the breakdown of glucose by various pathways.
14. A metal wire has diameter of 0.25 mm and electrical resistivity of $0.8 \times 10^{-8} \Omega \text{ m}$. What will be the length of this wire to make a resistance 5 Ω ? (a) How much will the resistance change if the diameter of the wire is doubled?
15. Find the direction of magnetic field due to a current carrying circular coil held :
(i) vertically in North - South plane and an observer looking at it from east sees the current to flow in anticlockwise direction.
(ii) vertically in East - West plane and an observer looking at it from south sees the current to flow in anticlockwise direction.
(iii) horizontally and an observer looking at it from below sees current to flow in clockwise direction.
16. You have two electric lamps having rating 40 W ; 220 V and 60 W ; 220 V. Which of the two has a higher resistance? Give reason for your answer. If these two lamps are connected to a source of 220 V, which will glow brighter?

17. Kritika observed that the tube lights in the corridor of her school were always switched on the whole day. She brought the matter to the notice of her class teacher who talked to the Principal about it. The Principal took immediate action. (i) Kritika helped in a way to reduce air pollution. Explain. How? (ii) Kritika was appreciated by the teachers and the principal for portraying which values (iii) How can the consumption of electricity be reduced in a school ?

18. State any two impacts on the environment caused due to increase in demand for energy. Suggest any two steps to reduce energy consumption.

19. Define rancidity. What kind of substances are used to prevent rancidity ? Explain any three methods to prevent rancidity.

20.(a) Write three properties each of acids and bases. (b) How will you show with an example that metal oxides are basic in nature Give chemical equation also?

21. Name the hormone which is secreted by the adrenal gland. How does this hormone help to deal with scary situations.

22. Obtain an expression for the heat produced in a conductor when a voltage V is applied across it. Heating effect of electric current is desirable as well as undesirable. Explain this statement.

23. What are magnetic field lines? List three characteristics of these lines. Describe in brief an —activity to study the magnetic field lines due to a current carrying circular?

24. What is meant by resistance of a conductor? Name and define its SI unit. List the factors on which the resistance of a conductor depends. How is the resistance of a wire affected if -(i) its length is doubled, (ii) its radius is doubled ?

SECTION – B

25. Out of the following substances, the example of alkali is : (a) HNO_3 (b) NaOH (c) AlCl_3 (d) NaHCO_3

26. A student was asked to collect apparatus from laboratory store, for doing experiment of pH of given sample.

Identify the article which he is not supposed to pick. (a) pH paper (b) dropper (iii) litmus paper (d) petridish

27. While describing the experiment of 'Study of properties of HCl and NaOH by their reaction with zinc metal,' the teacher told her students that zinc metal shows amphoteric nature. It means that :

(a) Zn reacts with HCl only (b) Zn reacts with NaOH only
(iii) Zn reacts with HCl and NaOH both (d) Zn does not react either with HCl and NaOH

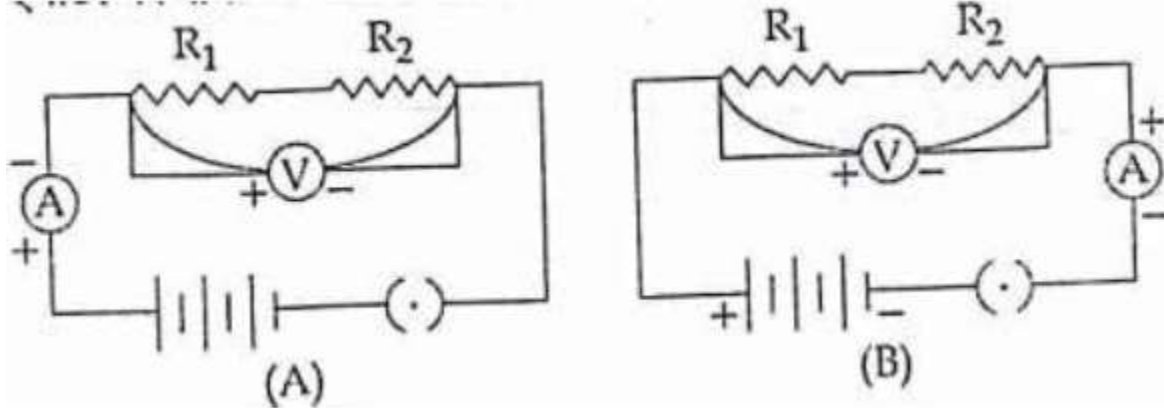
28. Raju put an iron nail each in four test-tubes containing solutions of zinc sulphate, aluminium sulphate, copper sulphate and ferrous sulphate. He observed a reddish brown coating on the surface of the nail in the test tube which contains:

(a) Ferrous sulphate (b) Zinc sulphate (c) aluminium sulphate (d) copper sulphate

29. An aluminium foil is placed in Zinc sulphate solution. After sometime we observe that the solution:

(a) Become colourless (b) remains colourless (c) became blue (i) became green

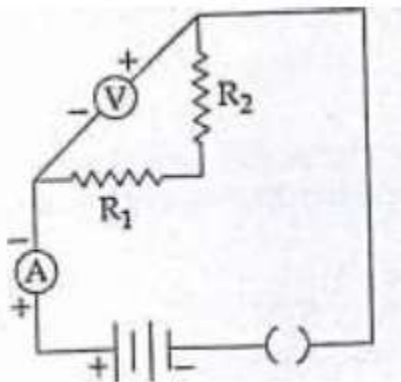
30. To find the equivalent resistance of two resistors connected in series, the connection of ammeter is correct in the circuit : (a) Circuit A (b) Circuit B (c) Both the circuits (d) Neither of the two circuits



31. (i) The resistors R_1 and R_2 have not been correctly connected in parallel.
 (ii) The Voltmeter has not been correctly connected in the circuit
 (iii) The ammeter and the key have not been correctly connected in the circuit.

Out of these three, the actual fault in his circuit is/are :

- (a) Both (i) and (ii) (b) Both (ii) and (iii)
 (c) Only (i) (d) only (ii)

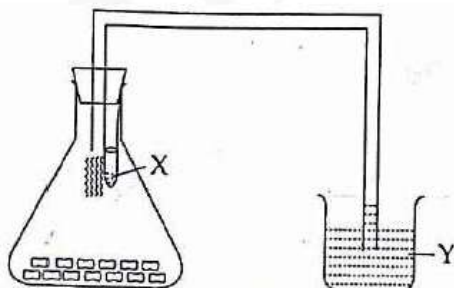


32. On completion of the experiment to demonstrate that "light is necessary for photosynthesis", four students reported the inference as follows. Identify the correct inference.

- (a) Part of the leaf covered with strip can only undergo photosynthesis
 (b) Uncovered parts of the leaf cannot synthesize starch
 (c) Photosynthesis takes place only in the presence of sunlight
 (d) Light is necessary for synthesis of starch in green plants

33. In the given set up to show that CO_2 is released during respiration. Identify 'X' and 'Y' :

- (a) X - KCl, Y - water (b) X - KOH, Y - water
 (c) X - KOH, Y - HCl (d) X - KCl , Y - HCl



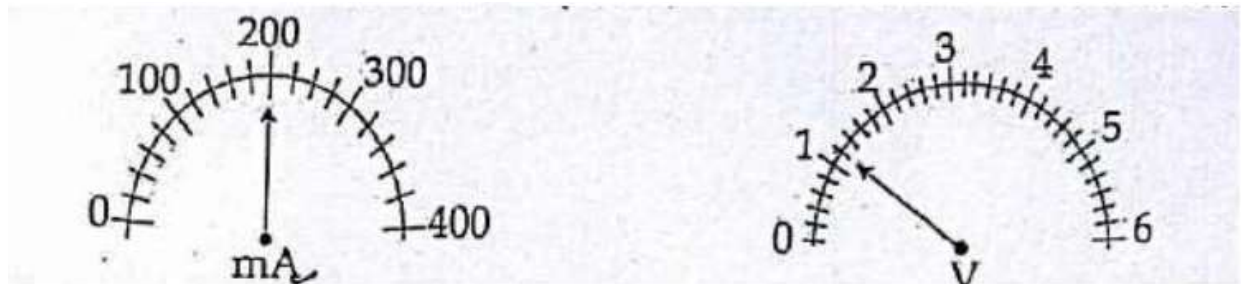
34. The following given chemical reactions can be classified in two different types of reactions each. Write the names of two types of reactions for each statement,

(i) Quick lime + water \rightarrow slaked lime + Heat

(ii) Sodium sulphate solution + Barium chloride solution \rightarrow Barium sulphate (solid) + sodium chloride solution (precipitate)

35. Electric current I and potential difference V are shown in the following figures across a resistor:

(a) What are the reading of voltmeter and ammeter in the given (b) Calculate resistance



36. A student prepared the temporary mount of stained leaf peel. After observing the slide under microscope, he drew the following sketch. Correct the parts A, B, C and D labelled by him.

