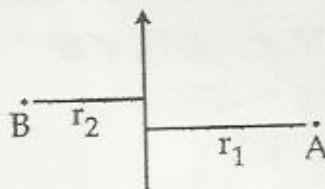
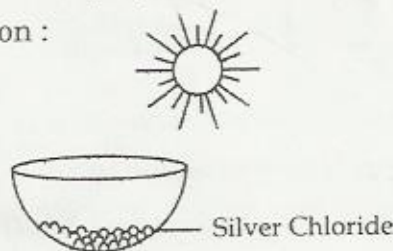


- 1D Give two characteristics of magnetic field lines. ? (1)
- 2B Name the part of the brain which controls posture and balance of the body? (1)
- 3D Mention two different ways of harnessing energy from ocean. (1)
- 4C Identify the type of chemical reaction and also write the chemical equation for the reaction that takes place when a solution of potassium chloride is mixed with silver nitrate solution. Write the chemical name of one of the products obtained. (2)
- 5C Why do ionic compounds have high melting points? State reason. (2)
- 6D How much current will an electric bulb draw from 220 V source if the resistance of the bulb is 1200Ω ? If in place of bulb, a heater of resistance 100Ω is connected to the sources, calculate the current drawn by it. (2)
- 7P PQ is a current carrying conductor producing magnetic field around it. A and B are two points at a distance r_1 and r_2 from it. If $r_1 > r_2$, where is the magnetic strength greater and why? (2)



- 8C The following diagram displays a chemical reaction. Observe carefully and answer the following question : (3)



- (a) Identify the type of chemical reaction that will take place and define it.
- (b) How will the colour of the salt change.
- (c) Write the chemical equation of the reaction that takes place.
- (d) Mention one commercial use of this salt.
- 9C What is rancidity? Mention any two ways by which rancidity can be prevented? (3)
- 10C Differentiate between strong and weak acids. Identify the strong and weak acids from the following list of acids. (3)
- Hydrochloric acid, acetic acid, formic acid, nitric acid. (3)
- 11C (a) Explain the formation of ionic compound CaO with electron dot structure. Atomic number of calcium and oxygen are 20 and 8 respectively.
- (b) Name the constituent metals of bronze. (3)

12.P How you would connect three resistors each of resistance $6\ \Omega$ so that the combination has a resistance of (i) $9\ \Omega$ (ii) $4\ \Omega$? Justify your answer. (3)

13.P (a) Define electric power. A device of resistance R is connected across a source of V voltage and draws a current I . Derive an expression for power in terms of voltage and resistance. (3)

(b) An electric bulb is connected to a 200 V generator. The current is 0.5 A . What is the power of the bulb?

14.P Define a solenoid. With the help of a suitable diagram show the pattern of magnetic field lines around a current carrying solenoid. State the region where field is uniform. (3)

15.B List the events that occur during the process of photosynthesis. (3)

16.B (a) State the function of plant hormones. Name a plant hormone which is essential for cell division? (3)

(b) Name the hormone which is involved in phototropism. Explain its role.

17.B (a) Identify the glands that secrete
(i) insulin (ii) thyroxin (3)

(b) Explain with an example how the timing and amount of hormone secreted are regulated in human body.

18.F Explain three disadvantages of burning fossil fuels. (3)

19.C Mention any three qualities of a good fuel. (3)

20.C (a) Write the chemical name of the coating that forms on silver and copper articles when these are left exposed to moist air. (5)

(b) Explain what is galvanisation. What purpose is served by it?

(c) Define an alloy. How are alloys prepared? How do the properties of iron change when:

(i) small quantity of carbon,

(ii) nickel and chromium are mixed with it.

OR

(a) Differentiate between roasting and calcination. Explain the two with the help of suitable chemical equations. How is zinc extracted from its ore.

(b) Name two metals that can be used to reduce metal oxides to metals.

21. Describe an activity with diagram to illustrate that the reaction of metal carbonates and metal bicarbonates with acids produces carbon dioxide. Write the relevant equations of all the reactions that take place. Name any two forms in which calcium carbonate is found in nature. (5)

OR

21. (a) Write the common name of CaOCl_2 . How is it prepared? Write the chemical equation of the reaction involved in the process. Give any two uses of it.

(b) Write the chemical of washing soda. How is it prepared? Give the relevant chemical equations.

22. (a) Two identical resistors each of resistance $10\ \Omega$ are connected in (5)

(i) series

(ii) Parallel to a $6\ \text{V}$ battery. Calculate the ratio of power consumed in the combination of resistors in two cases.

(b) Draw the circuit diagram of the two cases.

OR

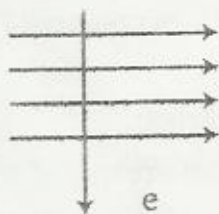
22. Given that $R_1=10\ \Omega$, $R_2=40\ \Omega$, $R_3=30\ \Omega$, $R_4=20\ \Omega$ and R_A is the parallel combination of R_1 and R_2 where as R_B is the parallel combination of R_3 and R_4 . combination R_A is connected to the positive terminal of $12\ \text{V}$ battery while combination R_B is connected to the negative terminal. Ammeter A is connected between the resistors R_A and R_B .

(a) Find R_A and R_B . Also calculate total resistance in the circuit.

(b) Draw the circuit diagram showing above combinations connected to battery and ammeter.

23. (a) Explain two safety measures commonly used in electric circuits and appliances. (5)

(b) An electron enters a magnetic field at right angles to it as shown in figure. What will be the direction of force acting on the electron. State the rule which gives direction of force on electron.



(c) If instead of electron, a neutron enters a field, what will be its direction of motion? Give reason for your answer.

OR

23. (a) An electric oven of $2\ \text{kW}$ power rating is operated in a domestic electric circuit of $220\ \text{V}$ that has a current rating of $5\ \text{A}$. What result do you expect? Explain.

(b) Describe an activity with diagram to show that current is induced in a coil when magnetic field around it is changed.

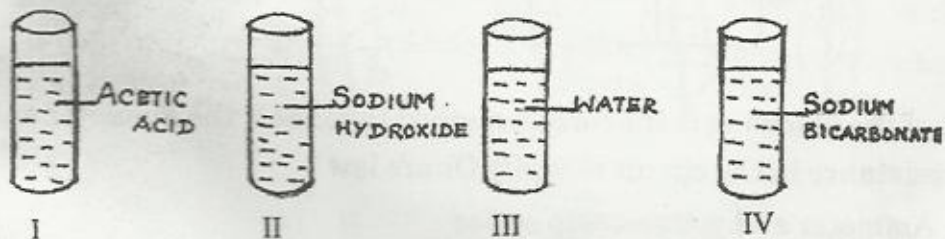
24. ✓ (a) Draw a sectional view of the human heart and label on it, (5)
- (i) Pulmonary artery (ii) Right auricle
(iii) Venacava (iv) pulmonary vein
- (b) Explain why ventricles have thick muscular walls than the atria ?

Or

- ✓ (a) Define excretion. Name any two substances that are selectively reabsorbed.
- ✓ (b) Draw and label the following parts in the human excretory system.
- (i) Right Kidney
(ii) Urinary Bladder
(iii) Right renal artery

Section-B

25. When iron nails are kept in copper sulphate solution for 30 minutes, the colour of solution changes into : (1)
- (a) red (b) pink (c) orange (d) light green
26. The colour of the precipitate formed when barium chloride solution react with sodium sulphate solution is : (1)
- (a) yellow (b) orange (c) green (d) white
27. A student adds a few drops of universal indicator to a solution and observes colour changes to orange. The solution would be : (1)
- (a) strong acid (b) strong base
(c) weak acid (d) weak base
28. Observe the following figures and choose the correct option. (1)



- (a) pH of I is greater than of II and III
(b) pH of IV is less than of I and II
(c) pH of IV is greater than of I, II and III
✓ (d) pH of I is less than of III and IV

29. When hydrochloric acid reacts with zinc : (1)
- (a) surface of zinc becomes white.
 - (b) surface of zinc becomes black and dull.
 - (c) zinc becomes powder.
 - (d) the reaction mixture turns red.

30. Freshly prepared iron sulphate was taken in each of four test tubes. Strips of Cu, Fe, Zn and Al were introduced in different test tubes, a black residue was observed in two test tubes. The pair of metals forming the residue is : (1)

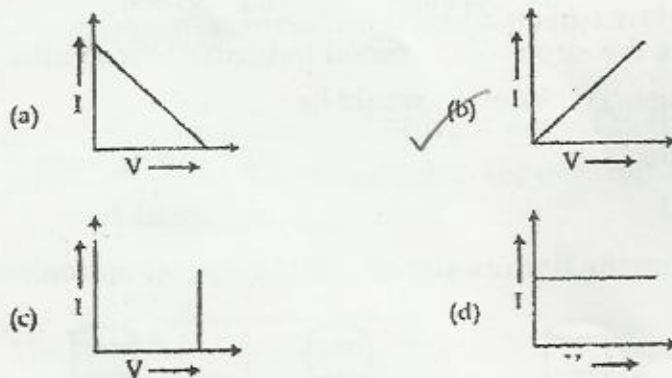
$FeSO_4$

- (a) Cu and Zn
- (b) Al and Cu
- (c) Fe and Al
- (d) Zn and Al

31. A student added a piece of zinc metal to four test tubes I, II, III, IV which respectively contain aqueous solution of aluminium sulphate, zinc sulphate, ferrous sulphate and copper sulphate. In which solution he observed that the reaction had taken place. (1)

- (a) I, II
- (b) II, III
- (c) III, IV
- (d) I, IV

32. The graph between current (I) and the potential difference in the experimental verification of Ohm's law were drawn by four students as shown in fig. Which one of the following is correct ? (1)



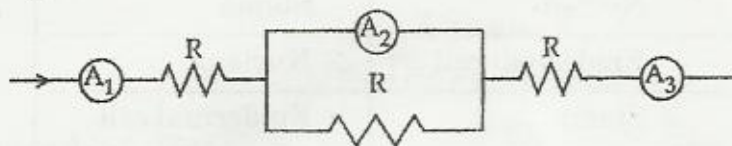
33. Which of the following is the correct method to connect the ammeter and voltmeter with resistance in the circuit to verify Ohm's law ? (1)

- (a) Ammeter and voltmeter in series
- (b) Ammeter in series and voltmeter in parallel
- (c) Ammeter in parallel and voltmeter in series
- (d) Ammeter and voltmeter in parallel.

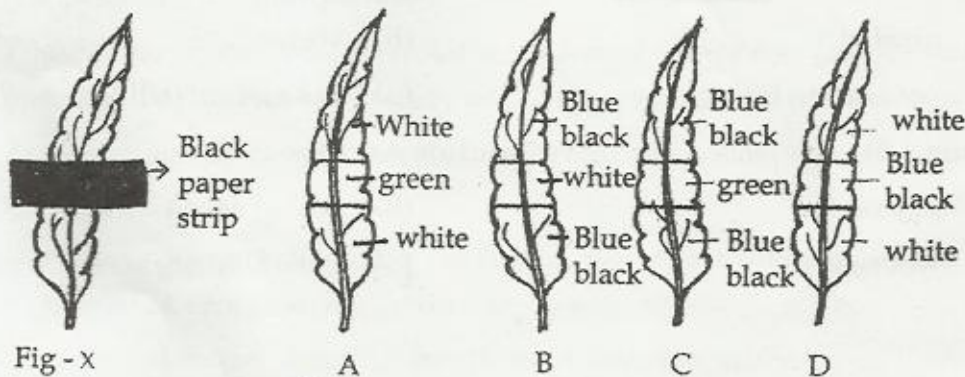
34. An ammeter has a range of (0 - 3) ampere and there are 30 divisions on its scale. What is its least count ? (1)

- (a) 1.0 A
- (b) 0.5 A
- (c) 0.1 A
- (d) 0.01 A

35. The statement that is most correct about the readings of ammeters A_1 , A_2 and A_3 connected in the following circuit (currents read by each are shown by I_1 , I_2 , I_3 respectively). (1)



- (a) $I_1 < I_2$ (b) $I_3 < I_2$
 (c) $I_1 = I_2 = I_3$ (d) $I_1 = I_3$
36. Equivalent resistance of three resistors each of resistance of 2Ω connected in series as determined experimentally should be : (1)
- (a) 4Ω (b) 6Ω
 (c) 9Ω (d) 2Ω
37. A leaf is boiled in alcohol before using iodine for starch test in order to : (1)
- (a) dissolve starch (b) dissolve chlorophyll
 (c) soften the leaf (d) to kill the enzymes
38. A leaf from a destarched plant is covered with black paper strip as shown in the figure "X" and then *exposed to sunlight for 4 hours after which* starch test is made on the leaf. The results of Iodine test will be shown as in the diagram : (1)



- (a) A (b) B (c) C (d) D
39. Four students Sheela, Mala, Bina and Heena, made the records given below for the parts marked X and Y in the diagram. (1)



Student	X	Y
Sheela	Stoma	Nucleus
Mala	Nucleus	Stoma
Bina	Epidermal cell	Nucleus
Heena	Stoma	Epidermal cell

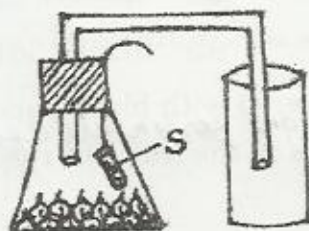
The correct record of these is the one given by :

- (a) Sheela (b) Mala (c) Bina (d) Heena

40. While preparing a temporary stained mount of a leaf epidermal peel the extra stain is removed by : (1)

- (a) Washing with water (b) Washing with alcohol
 (c) Absorbing with filter paper (d) Absorbing with cotton

41. In the experimental set up shown in the figure, the chemical taken in the small test tube hanging inside the conical flask marked as S is : (1)



- (a) alcohol (b) water
 (c) potassium hydroxide (d) potassium iodide

42. To show CO_2 is released during respiration, we take : (1)

- (a) dry seeds (b) boiled seeds
 (c) wet seeds (d) germinating seeds

