SECTION –A

Q.1. Name a plant parasite.

Q.2. Write two properties of an ideal fuel.

Q.3. Name a device that helps to maintain a potential difference across a conductor.

Q.4. What is meant by rancidity? State any two methods to prevent it.

Q.5. Give reasons :

(a) Mucus is secreted along with HCl in the stomach.

(b) Rings of cartilage are present in trachea

Q.6. Give reasons:

(a) Iron grills are frequently painted.

(b) Gold ornaments do not lose their lustre.

Q.7. What happens to the deflection of the compass needle placed at a point near a current carrying straight conductor

(a) if the current is increased?

(b) if the direction of current in the conductor is reversed?

(c) if compass needle is moved away from the conductor?

Q.8. What is nuclear fission reaction? Write its disadvantage.

Q.9. The pH of soil A is 7.5 and that of soil B is 4.5.Which of the two soils should be treated with powdered chalk to adjust its pH and why?

Q.10. Write the difference between Roasting and Calcination. Also write one reaction of each.

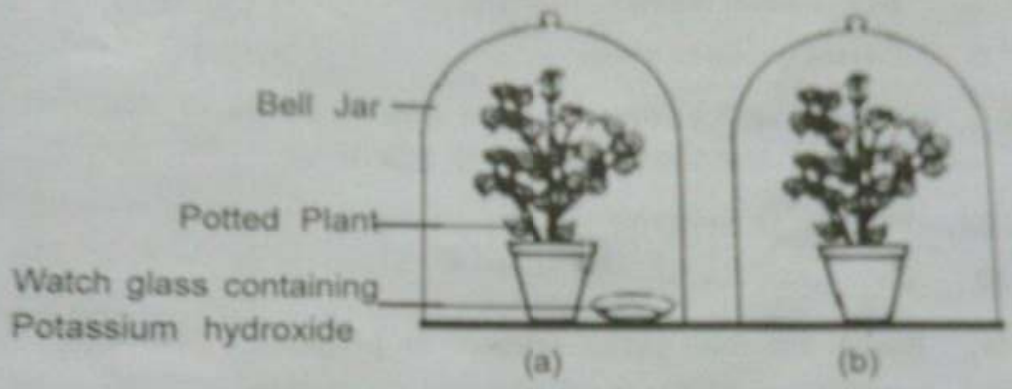
Q.11. Answer the following questions:

a) What is the direction of magnetic field outside the bar magnet?

b) What do crowded magnetic field lines indicate?

c) Write one advantage of AC over DC.

Q.12.



In the above experimental setup:

(a) Why is potassium hydroxide kept in the dish in image (a)?

(b) How will you test for presence of starch in leaves?

(c) Leaves of which plant: (a) or (b) will contain starch? Why?

For Blind Students only

Q.12. List the main events/ steps that occur during the process of Photosynthesis.

Q.13. Ram got a bike on his 18th birthday from his parents. His father instructed him to always wear helmet while driving. He reluctantly obeys him but doesn't tie the straps of the helmet properly. He meets with an accident and loses the capacity to walk in straight line.

a) Which part of the brain is damaged?

b) What values are being neglected by Ram?

Q.14. Which animal or plant hormone is associated with the following:

a) Increased sugar level in blood

b) Change at puberty in boys

c) Goitre

d) Promotes growth in plants

e) Promotes cell division

f) Causes wilting of leaves

Q.15. In the following reactions; name the substances oxidised and reduced, also identify the oxidizing agent:

a) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

b) $3\,MnO_2 + 4Al \rightarrow 3Mn + 2Al_2O_3$

Q.16. (a) Name the four gases present in biogas.

(b) Write any two advantages of using bio-gas over fossil fuels.

Q.17. An electric kettle of 2kW works for 2 hours daily.

(a) Calculate Energy consumed in SI unit and commercial unit in 30 days.

(b) Cost of running for 30 days at the rate of Rs.3/unit

Q.18. If 3mL of sodium sulphate solution is added (mixed) with 3 mL of barium chloride solution :

(a) What will you observe?

(b) Write the chemical equation for the reaction.

(c) Name the type of reaction.

Q.19. (a) Draw a schematic diagram of a circuit consisting of a battery of five 2V cells, resistors of $5\,\Omega$, $10\,\Omega$ and $15\,\Omega$ and a plug key, all connected in series.

(b) What is the electric current passing through the above circuit when the key is closed ?

For blind students only

Q.19.(a) State Ohm's law. Give its mathematical expression.

(b) A circuit consisting of a battery of five 2V cells, resistors of 5Ω, 10Ω and 15Ω and a plug key, all connected in series. What is the electric current passing through the circuit when the key is closed?

(c) Define 1 ohm.

Q.20. Describe an experiment to show that both presence of oxygen and moisture are required for rusting of iron.

Q.21. Draw a well labelled diagram of human alimentary canal. Also write the function of stomach, small intestine.

OR

(a) Differentiate between aerobic and anaerobic respiration.

(b) What is meant by excretion and osmoregulation?

Q.22. (a) What is an electromagnet?

(b) Write two uses of electromagnet.

(c) Draw a diagram to show how an electromagnet is made.

(d) What is the purpose of using a soft iron core in making an electromagnet?

OR

(a) Explain what is short circuit and over loading in an electric supply.

(b) Describe two important features of domestic electric supply lines.

(c) What is the colour of live wire?

Q.23. (a) List the factors on which the resistance of a conductor depends.

(b) Explain the following (Give one reason each)

i) Why is tungsten used almost exclusively for filament of electric lamps?

ii) Why are the elements of electric heating devices, such as bread toasters and electric irons, made of an alloy rather than a pure metal?

[P.T.O.]

iii) Why are copper and aluminium wires usually employed for electricity transmission?

Q.24.(a) Why is plaster of paris written as $CaSO_4 \cdot 1/2\ H_2O$? How is it possible to have half a water molecule attached to $CaSO_4$?

(b) Why is sodium hydrogen carbonate an essential ingredient in antacids?

(c) When electricity is passed through the aqueous solution of sodium chloride, three products are obtained. Name them. Why is this process called Chlor – alkali process?

OR

(a) What is baking soda? What is its chemical name?

(b) What is the nature of this salt?

(c) How is baking soda produced?

(d) Write one of its uses.

SECTION –B

Q.25. In a voltmeter there are 20 divisions between 0 mark and 1 mark. The least count of the voltmeter is

(a) 20 V

(b) 5.0 V

(c) 0.05V

(d) 0.025V

Q.26. When dil. HCl reacts with zinc metal, the gas liberated is

(a) Oxygen

(b) Nitrogen

(c) Chlorine

(d) Hydrogen

Q.27. Reddish brown deposit obtained on iron nail, when kept in a solution of copper sulphate in water is that of :

(a) Cu_2O

(b) CuO

(c) Cu

(d) CuS

Q.28. To carry out the decomposition reaction of $FeSO_4$ the compound has to be

(a) in solution form

(b) in molten form

(c) in crystalline form

(d) in any form

Q.29. The reactivity of the metals Cu, Zn and Fe are correctly arranged in increasing order of reactivity as :

(a) Zn > Cu > Fe

(b) Zn > Fe > Cu

(c) Fe > Zn > Cu

(d) Fe > Cu > Zn

Q.30. When a pH paper is dipped in a solution, the colour of the pH paper changes to red. What will be the possible pH of the solution?

(a) 2

(b) 6

(c) 8

(d) 10

Q.31. You are given four resistors. If the equivalent resistance is to be increased, then the resistors are to be connected in

(a) Series

(b) parallel

(c) either series or parallel

(d) none of these

Q.32. Before starting experiment, the potted plant is kept in dark to :

(a) Remove chlorophyll from leaves

(b) remove starch from leaves

(c) denature the enzyme

(d) all of these

Q.33. The cell organelle associated with cellular respiration is

(a) lysosome

(b) chloroplast

(c) mitochondria

(d) nucleus

Q.34. How do you connect an ammeter and a volt meter in an electric circuit? Why?

Q.35. Green colour of ferrous sulphate is discharged when a zinc rod is dipped into it, but there is no effect when a copper rod is dipped in the same solution. Explain your observation.

Q.36. To observe stomata, why do we generally take the epidermal peel from the lower surface of the leaf?

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