

Time allowed : 3 hours

Maximum marks : 80

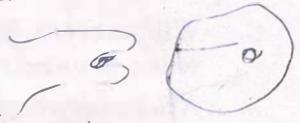
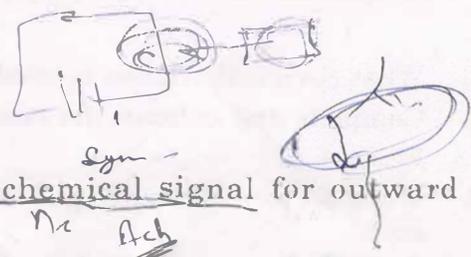
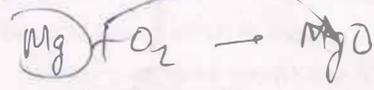
General Instructions:

- (i) All questions are compulsory.
- (ii) Questions numbers 1 to 2 in section A are one mark questions. These are to be answered in one word or one sentence.
- (iii) Question numbers 3 to 11 are two marks questions, to be answered in about 30 words.
- (iv) Question numbers 12 to 21 are three marks questions, to be answered in about 50 words.
- (v) Question numbers 22 to 27 are five marks questions, to be answered in about 70 words.

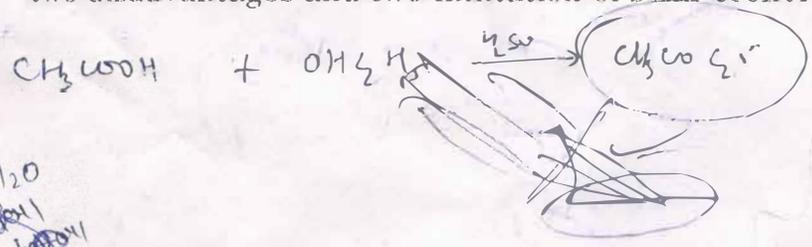
1. What chemical process is used for obtaining a metal from its oxide?
2. Complete and balance the reaction $Fe_2O_3 + Al \longrightarrow$
 $Mg + H_2 \rightarrow Mg + H_2O$
3. What do the following symbols denote in a circuit. Write the name and one function each.
 (i)  (ii) 
4. Draw a diagram to show how a magnetic needle deflects when it is placed above or below a straight conductor carrying current depending on the direction of the current in the conductor.
5. What do you see when penta hydrated copper sulphate crystals are heated? Give reaction too.
6. (a) $Fe + CuSO_4 \longrightarrow FeSO_4 + Cu$
 (b) $Cu + FeSO_4 \longrightarrow CuSO_4 + Fe$
 Which of the above two reactions will take place and why?
 $CuSO_4 \cdot 5H_2O$ (blue) \rightarrow $CuSO_4$ (white) + H_2O
7. Will you get the same result if you perform the experiment without de-starching the plant? Give reason.
8. Will current flow more easily through a thick wire or a thin wire of the same material when connected to the same source? Why?
9. Are binary fission and budding faster process of reproduction when compared to sexual reproduction? Justify.
10. A TV set shoots out a beam of electron. The beam current is $10 \mu A$. How many electrons strike the TV screen in each second? How much charge strike the screen in a minute?
11. Why is sodium kept immersed in kerosene oil?
12. Name two salts that are used in black and white photography. Give reactions when they are exposed to light.
13. Equal lengths of magnesium ribbons are taken in test tubes A and B. Hydrochloric acid is added to test tube A while acetic acid is added to test tube B. Amount and concentration taken for both the acids are same. In which test tube will the fizzing occur more vigorously and why?
14. What product is released after the first step of glucose break-down? Where does it take place?
 2 mg

$$R = \frac{\rho l}{A}$$

15. You have been provided with three test tubes. One of them contains distilled water and the two contain an acidic solution and a basic solution respectively. If you are given only red litmus paper, how will you identify the contents of each test tube?
16. Why is it not possible to make use of solar cells to meet ~~all our~~ energy needs? State at least three reasons to support your answer. (S < G) AL
17. (a) Why an ammeter likely to burn out if you connect it in parallel?
 (b) Why is series arrangement not found satisfactory for domestic lights?
18. A copper wire of length 3m and the area of cross section $1.7 \times 10^{-6} \text{ m}^2$ has a resistance of 3×10^{-2} ohms. Calculate the resistivity of copper. + $\frac{AR}{L}$
19. (a) What do you see when a magnesium ribbon is burnt? Is magnesium oxidized or reduced in this reaction?
 (b) Define corrosion. AL
20. Explain the magnetic effects of current for Oersted's experiment with the help of labelled diagram.
21. In a neuron:
 (i) Where is information received?
 (ii) Through what, information travels as an impulse?
 (iii) Where does the impulse get converted into a chemical signal for outward transmission?
22. (a) What is vegetative propagation? Write two examples where it is used. State two reasons of practising vegetative propagation for giving same type of plants.
 (b) What is reproduction? Mention the importance of DNA copying in reproduction.
23. (a) Two circular coils A and B are placed closed to each other. If the current in the coil A is changed, will some current be induced in the coil B? Give reason
 (b) State the rule to determine the direction of a:
 (i) Magnetic field produced around a straight conductor-carrying current.
 (ii) Force experienced by a current-carrying straight conductor placed in a magnetic field, which is perpendicular to it.
 (iii) Current induced in a coil due to its rotation in a magnetic field.
24. (a) Explain the process of nutrition in Amoeba with suitable diagram.
 (b) What are capillaries? What is their function?
25. (a) All ores are minerals but all minerals are not ores. Justify the statement.
 (b) What is Galvanisation?
 (c) Give composition of brass and bronze.
 (d) Explain roasting with the help of a reaction.
 (e) What do you mean by amalgam?
26. (a) Distinguish between esterification and saponification reactions of organic compounds.
 (b) With the help of a labelled diagram, describe an activity to show the formation of an ester.
27. Describe the construction of a box type solar cooker or show it with the help of a diagram. How is the rise in temperature obtained in this set up? Mention two advantages and two disadvantages and two limitation of solar cooker?



PL



$$R \propto l$$

$$R \propto \frac{l}{A}$$

$$R = \frac{\rho l}{A}$$

$$R = \frac{\rho l}{A}$$

$\text{R}_2\text{O} + \text{H}_2\text{O}$
 better
 better