RAVI MATHS TUITION CENTER , WHATSAPP - 8056206308

Metals And Non-Metals T1 Q

10th Standard

Science

20 x 1 = 20

1) Which of the following pairs will give displacement reactions?

(a) NaCl solution and copper metal (b) $MgCl_2$ solution and aluminium metal (c) $FeSO_4$ solution and silver metal

(d) $AgNO_3$ solution and copper metal

2) Which of the following methods is suitable for preventing an iron frying pan from rusting?

(a) Applying grease (b) Applying paint (c) Applying a coating of zinc (d) All of the above

3) An element reacts with oxygen to give a compound with a high melting point. This compound is also suitable in water. The element is likely to be

(a) Calcium (b) Carbon (c) Silicon (d) Iron

4) Food cans are coated with tin and not with zinc because

(a) Zinc is costlier than tin (b) Zinc has a higher melting point than tin (c) Zinc is more reactive than tin (d) Zinc is less reactive than tin

5) Which of the following properly is generally not shown by metals?

(a) Electrical conduction (b) Sonorous in nature (c) Dullness (d) Ductility

6) The ability of metals to be drawn into thin wire is known as

(a) Ductility (b) mallleability (c) Sonorousity (d) conductivity

7) Aluminium is used for making cooking utensils. Which of the following properties of aluminium are responsible for the same? (i) Good thermal conductivity (ii) Good electrical conductivity (iii) Ductility (iv) High melting point

(a) (i) and (ii) (b) (i) and (iii) (c) (ii) and (iii) (d) (i) and (iv)

8) Which one of the following metals do not react with cold as well as hot water?

(a) Na (b) Ca (c) Mg (d) Fe

9) Which of the following oxide(s) of iron would be obtained on prolonged reaction of iron with steam?

(a) FeO (b) Fe_2O_3 (c) Fe_3O_4 (d) Fe_2O_3 and Fe_3O_4

10) What happens when calcium is treated with water? (i) It does not react with water. (ii) It reacts violently with water. (iii) It reacts less violently with water. (iv) Bubbles of hydrogen gas formed stick to the surface of calcium.

(a) (i) and (iv) (b) (ii) and (iii) (c) (i) and (ii) (d) (iii) and (iv)

11) Which one of the following properties is not generally exhibited by ionic compounds?

(a) Solubility in water (b) Electrical conductivity in solid state (c) High melting and boiling points (d) Electrical conductivity in molten state

12) Which one of the following four metals would be displaced from the solution of its salts by other three metals?

(a) Mg (b) Ag (c) Zn (d) Cu

13) Stainless steel is very useful material for our life. In stainless steel, iron is mixed with

(a) Ni and Cr (b) Cu and Cr (c) Ni and Cu (d) Cu and Au

14) An element A is soft and can be cut with a knife. This is very reactive to air and cannot be kept open in air. It reacts vigorously with water. Identify the element from the following

(a) Mg (b) Na (c) P (d) Ca

15) The electronic configurations of three elements X, Y and Z are X - 2, 8; Y - 2, 8, 7 and Z - 2, 8, 2. Which of the following is correct?

(a) X is a metal (b) Y is a metal (c) Z is a non-metal (d) Y is a non-metal and Z is a metal

16) Which of the following can undergo a chemical reaction?

(a) $MgSO_4 + Fe$ (b) $ZnSO_4 + Fe$ (c) $MgSO_4 + Pb$ (d) $CuSO_4 + Fe$

17) An alloy of Zn and Cu is dissolved in dil. HCl. Hydrogen gas is evolved. In this evolution of gas

(a) only zinc reacts with dil. HCl (b) only copper reacts with dil. HCl (c) both zinc and copper react with dil. HCl

(d) only copper reacts with water

18) A student placed an iron nail in copper sulphate solution. He observed the reddish brown coating on the iron nail which is

(a) soft and dull (b) hard and flading (c) smooth and shining (d) rough and granular

19) 5 mL each of cone. HCl, HNO_3 and a mixture of cone. HCl (15 mL) and cone. HNO_3 (5 mL) were taken in test tubes labelled as A, Band C. A small piece of metal was put in each tube. No change occurred in test tube A and B but the metal got dissolved in test tube C. The metal could be

(a) Al (b) Au (c) Cu (d) Na

20) Which of the following oxides, on reduction with carbon gives metal ?

(a) Al_2o_3 (b) ZnO (c) MgO (d) All of these

4 x 1 = 4

21) **Assertion**: Iron does not bum on heating

Reason: Iron filings bum vigorously when sprinkled in the flame of the burner.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false.

22) **Assertion**: Anodising is a process of forming a thick oxide layer of aluminium.

Reason: This aluminium oxide coat makes it resistant to further corrosion.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false.

23) **Assertion**: Hydrogen gas is evolved when a metal reacts with nitric acid.

Reason: All acids release hydrogen gas when reacted with metals.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false.

24) **Assertion**: Metals do not displace hydrogen gas when reacted with bases

Reason: There are few metals like copper that can displace hydrogen from base.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false.

4 x 2 = 8

25) Explain the meanings of malleable and ductile.

26) What chemical process is used for obtaining a metal from its oxide?

27) State two ways to prevent the rusting of iron.

28) Give reason why copper is used to make hot water tanks and not steel (an alloy of iron).

5 x 3 = 15

29) Differentiate between metal and non-metal on the basis of their chemical properties.

30) Describe with a labelled diagram, the froth Floatation Process used to separate the gangue from a Sulphide ore.

31) On adding dilute HCl acid to copper oxide powder, the solution formed is blue-green. Predict the new compound formed which imparts a blue-green colour to the solution.

32) From amongst the metals sodium, calcium, aluminium, copper and magnesium, name the metal.

(i) which reacts with water only on boiling and

(ii) another which does not react even with steam.

33) List three properties of sodium in which it differs from the general physical properties of most metals.

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