

BHARATIYA VIDYA BHAVAN'S V M PUBLIC SCHOOL, VADODARA

QUESTION BANK

CHAPTER 3 – METALS & NON-METALS

Very short answer type questions – 1 Mark each

- Q1 : Name the metal which is most abundant in earth's crust.
- Q2 : What is the difference between calcination and roasting?
- Q3 : What is the chemical formula of rust?
- Q4 : Name the process used for the enrichment of sulphide ore.
- Q5 : Out of zinc and iron, which evolves hydrogen more readily on reacting with dilute HCl.
- Q6 : Write the chemical formulae of the main ores of iron and aluminium.
- Q7 : Name the non-metal which can conduct electricity.
- Q8 : Write the names of two neutral oxides.
- Q9 : Name the chemical formula of zinc blend and galena.
- Q10 : Arrange the following metals in the order of their decreasing reactivity : Fe, Zn, Ca, Mg, Cu, Ag

Short answer type questions – 2 Marks each

- Q11 : Name two non-metals which exist in the solid state and two non-metals which exist in the gaseous state.
- Q12 : Alloys are used in electrically heating devices rather than pure metals. Give one reason.
- Q13 : A shining metal 'X' on heating in air becomes black in colour. Name the black coloured compound formed and identify 'X'.
- Q14 : All ores are minerals but all minerals are not ores. Justify.
- Q15 : A copper was dipped in a solution of AgNO_3 . After sometime, a black layer was deposited on the copper plate. State the reason for it. Write the chemical equation for the reaction involved.

Q16 : Write one point of difference between electrolytic reduction and reduction with carbon. Give an example of each.

Q17 : Give reason for the following - Metals replace hydrogen from dilute acids whereas non-metals do not.

Q18 : (a) Why is ZnO called an amphoteric oxide? Name another amphoteric oxide.
(b) What are alkalies? Give one example of alkalies.

Q19 : What is the main ore of mercury? How is mercury obtained from this ore?

Q20 : Metallic compound 'A' reacts with dilute hydrochloric acid to produce effervescence and a gas 'B'. The gas extinguishes a burning candle and also turns lime water milky. Identify A and B. Write balanced chemical equations for the reactions involved.

Short answer type questions – 3 Marks each

Q21: (a) Name a metal which does not stick to glass

(b) Name a non-metal which is a good conductor of electricity.

(c) What is deposited at the cathode - a pure or impure metal?

Q23 : How will you demonstrate that ionic compounds do not conduct electricity in the solid state and can do so in solution?

Q24 : Give reasons for the following :

(a) Zinc can displace copper from copper sulphate solution.

(b) Silver articles become black after some time when exposed to air.

(c) A metal sulphide is converted to its oxide to extract the metal from sulphide ore.

Q25 : (a) What happens when an iron strip is put into separate beakers containing aqueous solutions of copper sulphate and zinc sulphate? Where is iron placed in the activity series with respect to copper and zinc?

(b) Describe the steps involved in the extraction of zinc from its sulphide and carbonate ores. Support your answer with balanced chemical equations for the chemical reactions involved in the process.

26. (a) Which important properties of Al are responsible for its great demand in industry?

(b) An iron knife kept in blue copper sulphate solution turns the blue solution into light green .explain.

Q27 (a) .Distinguish between calcination and roasting.

(b) Write a chemical reaction to illustrate the use of aluminium for joining cracked railway lines.

(c) Name the anode and cathode in the electrolytic refining of impure copper.

Q28. Give reason:

(a) Pt, Ag and Au are used to make jewellery.

(b) Ionic compounds have generally high melting point.

© Lemon is using for sorting shine of the tarnished copper decorations.

Q29. (a) Write the electron dot structure of sodium and oxygen (b)

Give any three properties of ionic compounds.

© Show the formation of MgO by transfer of electrons.

Q30. (a) Why sodium chloride has a high melting point?

(b) Show the formation of sodium chloride from Na and Cl by the transfer of electrons.

Long answer type questions – 5 Marks each

Q31 : (a) Give an example of a metal which

(i) is a liquid at room temperature

(ii) is kept immersed in kerosene for storing

(iii) is both malleable and ductile (iv) is the best conductor of heat

(b) (i) Write the balanced chemical equation for the extraction of copper metal from its ore. What is the reducing agent used?

(ii) What is the chemical substance formed as green coating when copper reacts with atmospheric gases in moist conditions?

Q32 : Which method will you use to reduce the following ? Explain by giving a suitable example.

- (a) Oxides of less reactive metals
- (b) Oxides of moderately reactive metals
- (c) Oxides of highly reactive metals