

**Answer all the questions**

1. a) Draw a labelled diagram of Galvanic cell formed from Zn and Cu. 2
- b) Write the chemical equation of oxidation and reduction takes place here. 2
- c) Write the direction of flow of electrons. 1
2. Write the following on the basis of industrial preparation of iron.
- a) Name the substances added to the blast furnace. 1
- b) Name the gangue present along with the haematite. 1
- c) Write an equation for the formation of slag. 1
- d) Write a chemical equation showing the reduction of haematite. 1
- e) Name the reducing agent used here. 1
3. a) Name the ions present in molten sodium chloride. 1
- b) Do sodium chloride conducts electricity in solid state? Justify your answer. 2
- c) What are the products obtained in cathode and anode during electrolysis of sodium chloride. 1
- d) Write any two uses of electrolysis. 1

4. a) What is the difference between calcination and roasting? 1
- b) Name the method for the concentration of Zinc sulphide (ZnS). 1
- c) Write the characteristics of the metal which is refined by distillation. Give the name of a metal which is purified by this method. 2
- d) Write the chemical formula of ore of aluminium. 1

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