METALLURGY WORKSHEET - 1

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1. Name:
(a) a metal which is lighter than water.
(b) a metallic oxide which cannot be reduced by hydrogen or carbon monoxide.

2. Name an alloy of:
(a) Aluminium used in aircraft construction.
(b) Lead used in electrical wiring or electrical work in joining metals.
(c) Cu used in electrical appliances or household vessels.

3. What is (a) galvanized iron? (b) passive iron?

4. (a) Name an alloy of Zn used in simple voltaic cells.
(b) Zincite is an ore of zinc. Name two other ores of zinc from which it is extracted.
(c) Give the balanced chemical equations of the reactions which take place during the extraction of Zn from the ores you have mentioned.

5. In the laboratory, metallic sodium is stored in kerosene oil. Give reasons.

6. State two ways to prevent rusting.

7. (a) Name a metal which occurs free in nature.
(b) Write balanced equations for the extraction of Zn from zinc blende.

8. Explain why carbon can reduce copper (II) oxide to copper but not calcium oxide to calcium.

9. Account for the following fact: though lead is above hydrogen in the activity series, it does not react with dilute hydrochloric acid or sulphuric acid.

10. Differentiate between the following
(a) Roasting and calcinations. (b) Mineral and Ore.

11. Explain why aluminium cannot be obtained by the reduction of its oxide with carbon.

12. What is the function of cryolite in the extraction of Al, other than as a solvent for bauxite?

13. What is the special features of each of the following:
(a) Duralumin (b) type metal

14. By which chemical process are the impurities present in the iron obtained from blast furnace removed during making of steel?

15. Which substance is added to steel to make stainless steel?

16. Zinc blende, when roasted in air, gives off a gas which, if allowed to escape, would constitute an atmospheric pollutant. What is this gas?

17. A man went door to door posing as a goldsmith. He promised to bring back the glitter of old and dull gold ornaments. An unsuspecting lady gave a set of gold bangles to him, which he dipped in a particular solution. The bangles sparkled like new but their weight was reduced drastically. The lady was upset but, after a futile argument, the man beat a hasty retreat. Can you play the detective to find out the nature of the solution he had used?

18. Give reasons why Cu is used to make hot water tanks and not steel.