



CHEMISTRY

CH: 3 Metals & Non-Metals

Name: _____

Date: _____

Class: XSec: ____

1. Give the difference between electrolytic reduction and reduction with carbon?
2.
 1. Name the following.
 - A) Two metals which are found in nature in free state.
 - B) Two metals which are poor conductors of heat.
 - C) Two metals with very low melting points.
 - D) Two allotropes of carbon.
 - E) Two alloys of iron.
3. Give an example of sulphide ore which is reduced to metal by heating alone.
4. How would you show that Ag is less reactive than Cu?
5. A, B & C are three elements which undergo chemical change according to the following equations.
$$A_2O_3 + 2B \rightarrow B_2O_3 + 2A$$
$$3CSO_4 + 2B \rightarrow B_2(SO_4)_3 + 3C$$
$$3CO + 2A \rightarrow A_2O_3 + 3C$$
Arrange the elements in order of decreasing reactivity
6. Explain the terms i) anodizing ii) aqua regia.
7. Give reasons
 - a) Ionic compounds conduct electricity in the molten state not in the solid state?
 - b) Carbon can reduce copper oxide to copper but not CaO to Ca.
8.
 - a) Name a metal for each case
 - i) It doesn't react with cold as well as hot water but reacts with steam.
 - ii) It doesn't react with any physical state of H₂O.
 - iii) It reacts with dilute HNO₃ and evolves H₂ gas
9. Explain why metals can displace hydrogen from acids, but non-metals cannot.



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10. Choose the acidic, basic and neutral oxides from the following.
 Na_2O , NO_2 , CO_2 , CO , SO_2 , MgO , H_2O , CaO .
11. Show the formation of i) LiF ii) Na_2O by the transfer of electrons between combining atoms.
12. An ore gives CO_2 on treatment with dilute acid. What steps would you take to convert such concentrated ore into free metal?
13. What is thermite process? Give its application.
14. Why are food cans tin-plated instead of zinc plated though Zn is cheaper than tin?
15. Why are metals good conductors of electricity?
16. Explain how the properties of an alloy are different from those of constituent metals.
17. An element forms an oxide A_2O_3 which is acidic in nature. Identify A as a metal or non-metal.
18. When calcium metal is added to water the gas evolved does not catch fire but the same gas evolved on adding sodium metal to water catches fire. Why is it so?
19. A metal that exists as a liquid at room temperature is obtained by heating its sulphide in the presence of air. Identify the metal and its ore and give the reaction involved.
20. Two ores A and B were taken. On heating, ore A gives CO_2 whereas, ore B gives SO_2 . What steps will you take to convert them into metals?