Q-7 Metals and Non-metals

1.) Complete the table.

Property of metal	Use in everyday life
1.) Ductility	Electrical wires of copper and alluminium
2.) Malleability	Gold and silver ornaments aluminium foil.
3.) Conduction of heat	copper coating on the bottom of stainless steel untensils.
4.) Sonority	School bells.
5.) Conduction of electricity	Electrical wires of copper and alluminium.

Q2.) Identify the odd term.

1.) Gold, silver, iron, diamond.

-> Diamond.

2) Ductility, brittleness, sonority, malleability.
→ Brittleness.

3) carbon, bromine, sulphur, phosphorus.
→ Bromine

4) Brass, bronze, iron, steel
→ Iron.

Q3) Writes scientific reasons.

1) The stainless steel vessels in kicten have copper coating on the bottom.
→ Copper is good conductor of heat. It readly transfers heat to food inside the vessel. Copper is very expensive so copper utensills are also expensive. Hence, instead of copper vessels stainless steel vessels with copper coating on the bottom are used in kicten.

2) Copper and brass vessels are cleaned with leamon.
→ A green coloured deposit of copper carbonate is formed on copper and brass vessels due to corrosion. The green deposit of copper carbonate is basic in nature. Acidic ingreadients present in lemon reactos with basic deposits of copper

carbonate formed on copper and brass vessels. This helps to remove copper carbonate layer on the vessels Hence, copper and brass vessels are cleaned with lemon

c) Sodium metal is kept in kerosene.

→ Sodium is very reactive metal. It readily reacts with moisture, present in the air with moisture, sodium is kept under kerosene.

Q4) Answer the following

i) What is done to prevent corrosion of metals.

→ Corrosion can be prevented by applying layer of oil, grease, varnish and paint on metals surface so that the contact of metal surface with air and moisture is prevented. Corrosion can also be prevented by plating metals with another noncorroding metals. This isolates the metals from a direact contact with air. Corrosion of iron can be prevented by coating it with zinc.

→ Cothy the nails in the

20) What are the metals that make the alloys brass and bronze?

→ 1) Brass : It is made from copper and zinc.
2) Bronze : It is made from copper and tin.

c) What are the adverse effect of corrosion?

→ It can cause contamination of water and other products due to mechanical damage of underground water pipes. It cause loss of efficiency of machines due to damage of metallic equipments. it cause accidents due to mechanical collapse of building, bridges, ships, car, etc. Cooking vessels made of copper and brass get a greenish coating due to corrosion. This greenish coating is poisonous. If food is kept in such vessels it gets spoiled.

Q5) Three experiments to study the process of rusting are given below. Observe the three test and ~~antt~~ answer the following quest.

a) Why the nail in the test tube 2 is not rusted?

→ Rusting of iron occurs in the presence of air and moisture. In the test tube 2, the oil layer over the boiled water prevents the contact of nail with air. Thus, the nail is in contact with moisture, but not in the contact with air. Hence, the nail in the test tube 2 is not rusted.

b) Why is the nail in the test ~~ty~~ tube 1 is rusted highly?

→ In the Test tube 1, the nail is in contact with both air and water. Hence, the nail in the test tube 1 is highly rusted.

c) Would the nail in the test tube 3 get rusted

→ In the test tube 1, the nail is in contact with both air and water. Hence, the nail in the test tube 1 is Highly rusted.

c) Would the nail in the test tube 3 get rusted

→ ~~Thest~~ Test tube 3 contains dry air but it does not contain moisture. Further, calcium chloride in the test tube 3 would absorb traces of moisture if present. Thus, the nail is in contact with air but not in the contact with moisture. Hence, the nail in the test tube 3 would get rusted.

Extras

d) What are use of noble metals?

→ Gold, silver and Platinium are used in making ornaments. Silver is used in medicines as it has antibacterial property. Gold and silver can be used to make some ~~element~~ electronic devices. Platinium and palladium are used as catalyst.

e) Explain reactions of metals with water?
→ Metals like sodium and potassium react rapidly with cold water to form their respective metal hydroxide and hydrogen gas. Other metals do not show any observable change with cold water. Magnesium reacts with hot water and steam.

f) How would you distinguish between samples of metals and non-metals using hammer?
→ If a sample breaks into pieces on hammer that means it is brittle and hence it is a non-metal. If a sample flattens to form a sheet, that means it is malleable and hence, it is a metal.

g) Give four examples of metalloids.
→ Arsenic, Silicon, Germanium, Antimony.

h) Give four examples of metals that have low melting and boiling points.
→ Mercury, Gallium, Sodium, Potassium.

i) What is an alloy? How is it prepared?
→ A homogenous mixture of two or more metals or homogenous mixture of metal with non metals is called and alloy. Alloys are prepared by mixing the constituent element as per the requirement.