Chapter: 7

Q.1 Find the odd one out **4**

1 Gold, Silver, Iron, Diamond

Ans **Diamond -** is the odd one out as it a non-metal while rest are metals.

2 Ductility, Brittleness, Sonority, Malleability

Ans **Brittleness -** is the odd one out as it the property of non-metal while the rest are properties of metals.

3 Carbon, Bromine, Sulphur, Phosphorus

Ans **Bromine -** is the odd one out as it the only non-metal in liquid state while others exists in solid state.

4 Brass, Bronze, Iron, Steel

Ans **Iron -** is the odd one out as it an element while rest are alloys.

Q.2 Answer the following **4**

1 What is done to prevent corrosion of metals?

Ans i. To prevent corrosion of metals, layers of oil, grease, varnish and paint are applied on them.
ii. Also plating the metal with another non-corroding metal is done. For example: To prevent Iron from rusting it is plated with zinc metal.

2 What are the metals that make the alloys brass and bronze?

Ans i. An alloy is a homogeneous mixture of two or more metals or a homogeneous mixture of metal with non-metals.
ii. The alloy bronze is formed from copper and tin.
iii. The alloy brass is made from copper and zinc.

Q.3 Write properties, uses, inferences, important factors, examples **2**

1 What are uses of Noble metals?

Ans i. Gold, silver and platinum are used to prepare ornaments.
ii. Silver is used in medicines. (It has antibacterial property)
iii. Gold and silver are also used to make few electronic devices.
iv. Platinum, palladium metals are used as catalyst.

Q.4 Give scientific reasons **6**

1 Sodium metal is kept in kerosene.

Ans i. Sodium metal is a highly reactive metal.
ii. Sodium reacts with oxygen in the air at room temperature to form sodium oxide.
iii. Therefore, it catches fire and starts burning when kept open in the air.
iv. Hence, sodium is stored under kerosene to prevent accidental fires and also to prevent its reaction with oxygen and moisture.

2 Copper and brass vessels are cleaned with lemon.

Ans i. Brass is an alloy of copper and zinc.
ii. So when copper and brass are exposed to moist air, they get corroded due to the formation of green copper carbonate.
iii. Lemon juice is acidic in nature and hence when lemon is rubbed on the corroded copper vessel, the acid dissolves the green copper carbonate and makes copper and brass shine again.

iv. Hence, copper and brass vessels are cleaned with lemon.

3 The stainless steel vessels in kitchen have copper coating on the bottom.

Ans i. Copper is an excellent conductor of heat than stainless steel.
ii. Heat spreads evenly and hence, food gets cooked fast in copper bottom vessel.
iii. Also, copper is more durable and corrosion resistant.
iv. Therefore, stainless steel vessels in kitchen have copper coating on the bottom.

Q.5 **Activity based question (3 mks)** **3**

1

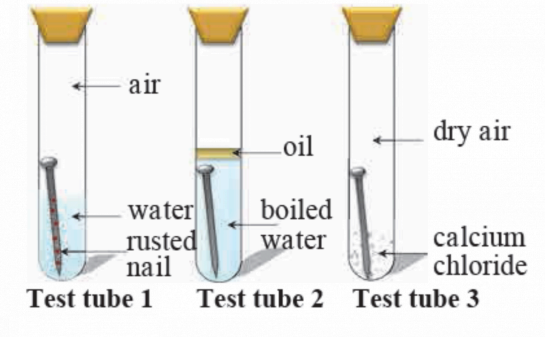
Property of metal	Use in everyday life
1. Ductility	a. .....
2. Malleability	b. .....
3. Conduction of heat	c. .....
4. Conduction of electricity	d. .....
5. Sonority	e. .....

Ans

Property of metal	Use in everyday life
1. Ductility	**Gold ornaments, Electrical wire**
2. Malleability	**Aluminium foil, Silver foil, utensils, etc.**
3. Conduction of heat	**Kitchen utensil, Iron**
4. Conduction of electricity	**Electrical conductors (wires)**
5. Sonority	**Bells in school, temples, musical instruments.**

Q.6 **Write answers based on given diagram/paragraph** **3**

1 Three experiments to study the process of rusting are given below. Observe the three test tubes and answer the following questions.



i. Why the nail in the test tubes 2 is not rusted?
ii. Why is the nail in the test tube 1 rusted?
iii. Would the nail in the test tube 3 get rusted?

Ans i. a.Rusting of iron takes places when iron is exposed to oxygen and moisture.
b.In this case, the layer of oil blocks the contact between the iron and oxygen and moisture.
c.Also the boiled water does not contain oxygen and hence the iron nail does not rust.
ii. The nail in the test tube 1 rusts because the nail gets exposed to oxygen and moisture.
iii. a.Calcium chloride present in the test tube 3 absorbs the oxygen and moisture from the test tube.
b.Hence, the iron nail in the test tube 3 does not get rusted.

Q.7 **Answer the following** **3**

1 What are the adverse effects of corrosion?

Ans i. Gases in the air react with metals in presence of moisture to form metal compounds. The metals get affected by this process and undergo what is called corrosion.
ii. The adverse effects of corrosion are:

* A reddish colour deposit is formed on iron due to its reaction with oxygen and moisture in the air. This is called rust.
* Copper reacts slowly with moist carbon dioxide in the air to form a greenish coloured deposit called copper carbonate.
* A blackish color deposit is formed on silver due to its reaction with hydrogen sulphide gas in the atmosphere.