Basic science class 8

Chapter Metals and Non metal Questions answer

A. Answer these Questions

1. Name ten metals?

Answer: Ten examples of metals are potassium (K), iron (Fe), platinum (Pt), tin (Sn), copper (Cu), calcium (Ca), sodium (Na), magnesium (Mg), mercury (Hg) and silver (Ag).

2. How tensile strength of metal used?

Answer: Metals have a high tensile strength, i.e., they cannot be broken easily. Example: This property of metals is used to make steel cables for carrying heavy loads.

3. Why cant you

(a) draw wires from a piece of wood or coal

(b) use nylon or jute ropes for electrical transmission

(c) use a cooking utensil made of cardboard

Answer: (a) We cannot draw wires from a piece of wood or coal because they are brittle. They break down on stretching.

(b) We cannot use nylon or jute ropes for electrical transmission because they are bad conductors of electricity.

(c) We cannot use a cooking utensil made of cardboard because it is a bad conductor of heat and it will start burning itself if kept on fire.

4. Name the five non metals found in gaseous form?

Answer: Hydrogen (H), nitrogen (N), oxygen (O), chlorine (Cl) and argon (Ar) are five nonmetals that are gaseous at room temperature

5. Name two metals react vigorously with cold water. Name one metal which,if ignited continue to burn in steam?

Answer: Potassium and sodium are two metals that react vigorously with cold water.

Magnesium is a metal that continues to burn in steam, if it is ignited.

6. Mention three uses of oxygen.

Answer: Three uses of oxygen:

(a) It is required in all combustion processes.

(b) It is used in the productions of nitric acid and sulphuric acid.

(c) It is used in extraction of metals from their ores.

7. Mention three uses of nitrogen?

Answer: Three uses of nitrogen:

(a) It is used by plants for making proteins. (b) It is used in manufacturing ammonia and urea.

(c) It is used for filling food packets.

8. Define an alloy?

Answer: An alloy is a homogenous mixture of metals or metals and nonmetals.

B. Answer these Questions

1. Mention five physical properties of metals.

Answer : Five physical characteristics of metals are:

(a) They have a high tensile strength; therefore, they cannot be broken down easily.

(b) They are malleable; i.e., they can be beaten into thin sheets.

(c) They are ductile; i.e., they can be stretched into thin wires.

(d) They are good conductors of heat.

(e) They are good conductors of electricity.

2. Mention five physical properties of non metals.

Answer: Five physical characteristics of nonmetals are:

(a) They are brittle; i.e., they are not flexible.

(b) They are not sonorous.

(c) They have no lustre (except graphite and iodine).

(d) They are bad conductors of heat.

(e) They are bad conductors of electricity.

3. Name a non metal which When redhot reacts with steam.What happen as a result of the reaction

Answer: Carbon is a nonmetal. When it is redhot, it reacts with steam. This reaction forms a gaseous mixture of carbon monoxide and hydrogen, called water gas. The following reaction occurs:

C (red hot) + O2 ----------> (water gas)

4. Mention three uses of metals, giving reason?

Answer: Three uses of metals are:

(a) Iron is used for making tools, machines and agricultural equipment because it is very strong, tough and cheap.

(b) Aluminium is malleable so Aluminium foil is used to pack food and medicines.

(c) Mercury is a good conductor of heat and does not stick to glass. Thus, it is used in thermometers.

5. Describe the uses of carbon?

Answer: Uses of carbon:

(a) Graphite is used in making pencils.

(b) Diamond is used as a gem and for cutting glass and rocks.

(c) Graphite is a good conductor of electricity. Thus, it is used as an electrode.

C. Answer these Questions

1. How would you use the activity series while studying the displacement of hydrogen from acids by metal?

Answer: Activity series is an ordered arrangement of metals and hydrogen (nonmetal) with respect to their

activities.

The reactivity of a metal decreases top to bottom in the activity series.

For example : Metals that are placed above hydrogen in the activity series can displace hydrogen from dilute hydrochloric acid and sulphuric acid.

Metals that are placed below hydrogen in the activity series cannot displace hydrogen from acids.

2 NA + 2HCl ----------> 2NaCl + H_2

Cu + HCl ----------> No reaction

2. Describe an activity to show that the lead of pencil is good conductors of electricity but sulpher doesnot.

Answer:

Following activity shows that the lead of a pencil conducts electricity and sulphur does not.

Take a pencil and sharpen both its ends. Connect the ends of the pencil to an electric circuit, formed by connecting a bulb to the cell. The bulb glows when pencil is connected to it. This shows that the lead of a pencil conducts electricity. This occurs because lead contains graphite, which is a good conductor of electricity.

Now, replace the pencil with a piece of sulphur. The bulb will stop glowing. This shows that sulphur does not conduct electricity.

D. Complete sentence:

1. Graphite and iodine are lustrous nonmetals.
2. All metals are good conductors of heat and electricity.
3. The socalled lead (black part) of a pencil is made of clay and graphite.
4. Though a metal, mercury is a liquid at ordinary temperatures.
5. Argon is used for filling electrical bulbs.
6. Liquid nitrogen is used to preserve donated organs.

E. Choose the correct options

1. (d) bromine

Bromine is a nonmetal that is liquid at ordinary temperatures.

2. (d) All of these

All the given options are solid nonme

3. Answer :

(a) silver ;

Silver is the best conductor of electricity.

4. (d) all of these

All the mentioned metals are placed above copper in the reactivity series and can replace copper from a solution of copper (II) sulphate

5. (d) neon

Neon is used in advertisement signs.

F. Match the column

Answer :

Substance	Property 1	Property 2
1. Neon	A. Metal	p. Ductile
B, s	B. Nonmetal	q. Malleable
2. Graphite	C. Solid	r. Kills germs
B, C, u	D. Liquid	s.Nonreactive
3. Iodine		t. Cuts glass
B, C, r		u. Conducts electricity
4. Aluminium		
A, C, p, q, u		
5. Diamond		
B, C, t		
6. Mercury		
A, D, s		