

JSUNIL TUTORIAL PANJABI COLONY GALI 01

8th

MATERIALS : METALS AND NON-METALS

Sample (Model) Questions following latest CBSE syllabus

Very Short Answer Questions (VSO)

Q.1: Name two metals which are both malleable and ductile.

Answer: Gold and Silver.

Q.2: Name a metal which exists in liquid state.

Answer: Mercury.

Q.3: Identify the most reactive and the least metal amongst the following:

K, Cu, Au.

Answer: K is the most reactive and Au is the least reactive metal.

Q.4: Which metal is used for making foils for packing of medicine tablets?

Answer: Aluminium.

Q.5: Which metal is used for decorating sweets?

Answer: Silver.

Q.6: Name a non-metal which is a good conductor of heat and electricity.

Answer: Graphite.

Q.7: Oxides of non-metals are generally of which nature?

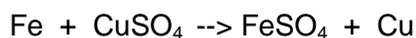
Answer: Acidic nature.

Q.8: How do non-metals react with water?

Answer: Non-metals do not react with water.

Q.9: What is displacement reaction?

Answer: A reaction in which a more reactive metal displaces the less reactive metal from its compound in aqueous solution is called displacement reaction. For example, when iron nails are dipped in copper sulphate solution, the iron being more reactive displaces copper from its solution and form ferrous sulphate solution of light green colour.



JSUNIL TUTORIAL PANJABI COLONY GALI 01

Q.10: Why silver does not displace hydrogen from dilute hydrochloric acid?

Answer: Silver is less reactive than hydrogen therefore, it can not displace hydrogen from dilute hydrochloric acid.

Short Answer Questions (SQ)

Q.11: What are Sonorous materials?

Answer: Materials which make a ringing (metallic) sound when hit hard by some other material are called sonorous materials. All metals except the soft ones are sonorous while non-metals are not sonorous.

Q.12: Define: (1) Malleability (2) Ductility (3) Metals (4) Non-metals (5) Metalloids

Answer:

Malleability: The property of metals by which they can be beaten into thin sheets. This is one of the characteristic properties of metals.

Ductility: It is the property of metals by which they can be drawn into wires is called ductility.

Metals: *Metals* are those materials which are generally hard (except Na and K), lustrous, mostly exists in solid state (except mercury), malleable, ductile, sonorous and also good conductors of heat and electricity.

Non-Metals: *Non-metals* are those materials which are found in all the three states (solid, liquid and gas), non-lustrous, non-sonorous, neither malleable nor ductile and also bad conductors of heat and electricity. The oxides of non-metals are acidic in nature.

Metalloids: *Metalloids* are those materials which possess the qualities of both metals and non-metals.

Q.13: What is *Rust* ?

Answer: In the presence of moisture iron reacts with oxygen to form Ferric Oxide (Fe_2O_3) which is brownish in colour. This is called 'Rust'.

Q.14: What is an alloy? Describe.

Answer: Mixture of two or more than two metals in order to get desired properties is called an *alloy*. For example, stainless steel is an alloy of iron, chromium and nickel. Stainless steel is very hard and also does not rust. So, it is used to make utensils, surgical instruments and many other products. Other alloys are like Brass, Bronze, Gun Metal etc.

Q.15: How do different metals react with water?

Answer: Different metals react differently with water while hydrogen being a common end product. For example,

- (a) Sodium metal reacts vigorously with water to form sodium hydroxide and hydrogen gas.
- (b) Magnesium only reacts with hot boiling water to form magnesium oxide and hydrogen.
- (c) Red hot iron reacts with steam to form iron oxide and hydrogen.
- (d) Copper, nickel, and silver do not react with water.

Long Answer Questions

Q.16: Why are utensils made of aluminium and brass?

Answer: Both aluminium and brass are ductile, malleable and also can be easily casted into different shapes. Aluminium being a metal and brass an alloy, both of them are good conductor of heat. Because of the reasons aluminium and brass are used to make utensils.

Q.17: Give reasons:

- (i) Iron is used in constructing bridges and houses.
- (ii) Aluminium is used for making electrical wires.
- (iii) Sulphur is counted as non-metal.

Answer: (i) Iron is used in construction of bridges and houses because iron being a hard metal it forms reinforced concrete when casted with cement.

(ii) Aluminium is used for making electrical wires because of its following properties:

- a. good conductor of electricity
- b. ductility
- c. cheaper than copper

(iii) Sulphur is a non-metal because:

- a. it is neither malleable nor ductile
- b. it combines with oxygen to form acidic oxide
- c. does not conduct heat or electricity.

Q.18: Give some uses of non-metals.

Answer: Following are some uses of non-metals –

1. Oxygen is used by plants and animals for respiration. It also supports the process of combustion.
2. Compounds of nitrogen provide nutrients to soil and plants. Fertilizers made of non-metallic compounds are extensively used in agriculture.
3. Chlorine is used as disinfectant.
4. Sulphur is used in germicide and as an antiseptic for skin treatment. It is also used in crackers.

Q.19: Compare the chemical properties of metals and non-metals.

Answer:

Metals	Non-metals
1. Metals react with oxygen to produce oxides which are alkaline in nature.	1. Metals react with oxygen to produce oxides which are acidic in nature.
2. Metals react with water differently to produce oxides and hydroxides.	2. Non-metals do not react with water.
3. They react with acids to produce H ₂ gas.	3. Non-metals generally react with acids
4. More reactive metals displace the less reactive metals from their compounds in aqueous solution.	4. Non-metals do not show any such reaction.