Five properties of Metals Chemistry Questions with Solutions

Q1. Which of the following is ferrous metal?
(a) Aluminium
(b) Iron
(c) Zinc
(d) None of the above
Answer: (b) Iron

Q2. Which of the following metal is present in the bauxite?
(a) Aluminium
(b) Magnesium
(c) Calcium
(d) None of the above
Answer: (a) Aluminium

Q3. Which of the following metal catches fire?
(a) Sodium
(b) Potassium
(c) Both (a) and (b)
(d) None of the above
Answer: (c) Both (a) and (b)

Q4. Which of the following property of metals is used for making bells and strings of musical instruments?
(a) Sonorousness
(b) Ductility
(c) Both (a) and (b)
(d) None of the above
Answer: (a) Sonorousness

Q5. Which of the following property of metals is used for drawing metal into the thin wire?
(a) Sonorousness
(b) Ductility
(c) Both (a) and (b)
(d) None of the above
Answer: (b) Ductility

Q6. Name any two soft metals.
Answer: Sodium and potassium

Q7. What are the properties of metals?
Answer: A few properties of metals are mentioned below.
1. They are good conductors of heat and electricity.
2. They have a high boiling point.
3. They are solid at room temperature.
4. They are ductile.
5. They are shiny.
6. They are ductile.
7. They are malleable.
8. They are sonorous.

Q8. What do you understand by the term malleability?
Answer: Malleability is the property of metals, allowing them to be beaten into flat sheets. If we hammer metal, it becomes lengthier and larger but does not break. This process can obtain thin sheets.

Q9. What do you understand by the term ductility?
Answer: Ductility is the property of metals, allowing them to be drawn into wires. They are drawn into wires and are used for electrical purposes.

Q10. What happens when a magnesium ribbon is heated?
Answer: Magnesium ribbon burns with a flashy white flame, forming white granular magnesium oxide.
$2\ Mg + O_2 \rightarrow 2\ MgO$

Q11. How do metals react with water?
Answer: Metal reacts with water to form oxide or hydroxide. Reactive metals like sodium and potassium react with water vigorously to liberate a large amount of heat.
$Na + H_2O \rightarrow NaOH + H_2$
Magnesium reacts with boiling water, whereas iron reacts with moisture. Non-reactive metals like gold and silver do not react with water.

Q12. Which of the following metal is added to platinum to give toughness?
(a) Lanthanum
(b) Osmium
(c) Both (a) and (b)
(d) None of the above
Answer: (b) Osmium

Q13. Draw the electrochemical series of metals.

Answer:

Electrochemical Series			
K	Potassium		Most electropositive
Na	Sodium		
Ca	Calcium		
Mg	Magnesium		
Al	Aluminium		Electrpositive
Zn	Zinc		
Fe	Iron		
Pb	Lead		
H	Hydrogen		Increasingly electropositive
Cu	Copper		
Hg	Mercury		
Ag	Silver		
Au	Gold		Least electropositive

Q14. What happens when active metals react with oxygen?
Answer: An active metal donates its electrons to oxygen to form metal oxide.
For alkali metals, $M + O_2 \rightarrow M_2O$.
For alkaline earth metals, $2\ M + O_2 \rightarrow MO$

Q15. Differentiate between metal and non-metal.
Answer:

S. No.	Metal	Non-Metal
1.	They are solid at room temperature except mercury.	They exist in all three states
2.	They are tough except for sodium and potassium.	They are soft except for diamonds.
3.	They are lustrous.	They are non-glossy except for

		iodine.
4.	**They are ductile and malleable, i.e. can be drawn into wires and sheets.**	**They are brittle and can break down into pieces.**
5.	**They have high densities.**	**They have low densities.**
6.	**They are electropositive.**	**They are electronegative.**

Practise Questions on Five properties of Metals

Q1. Why do we store sodium and potassium in kerosene?
Answer: We store sodium and potassium in kerosene as they are highly reactive metals. If kept open, they readily react with oxygen in the atmosphere. The reaction is so quick that sodium and potassium easily catch fire when exposed to air. To prevent accidental fire, they are stored in kerosene.

Q2. Why can copper not displace zinc from its salt solution?
Answer: Copper can not displace zinc from its salt solution because copper is less reactive than zinc. It can be confirmed from the electrochemical or activity series in which Zinc has a lower reduction potential than Copper. It signifies that zinc is more reactive than copper. Thus, copper cannot displace zinc from its salt solution.

Q3. Why are aluminium foils used to wrap food items?
Answer: Aluminium foils are used to wrap food items because it is one of the less reactive metals, so it does not react with food items and does not alter the taste. Moreover, being a metal, aluminium is highly malleable and can be made into very thin foils, which are perfect for wrapping food.

Q4. Why are immersion rods for heating liquids made up of metal?
Answer: Immersion rods for heating liquids are made of metal because metals are good conductors of heat and electricity. The immersion rod needs an electric supply to get heated and, in turn, heat liquids.

Q5. Why is copper used for making hot water tanks instead of steel?
Answer: Copper does not react with cold water, hot water or steam. However, iron reacts with moisture. If water tanks are made of steel, an iron alloy, iron would react with steam from hot water.
$3\ Fe + 4\ H_2O \rightarrow Fe_3O_4 + 4\ H_2$.
Thus, copper is used to make hot water tanks and not steel.