Scientific Aptitude

Metals & Non-Metals

Check Your Concepts

Q.1. Match the following:

Directions: Given below are two columns - column I and column II. Match the two columns and write the correct answer in the given blank grid.

1. Match the following:

Column – I		Column – II	
(A)	Lustrous	(i)	Can be beaten into thin sheets.
(B)	Conductor	(ii)	Can be pulled into wire form.
(C)	Ductile	(iii)	Has a shiny apperance.
(D)	Sonorous	(iv)	Allows heat or electricity to pass through.
(E)	Malleable	(v)	Gives a ringing sound when hit.

Q.2. Fill in the blanks:

Directions: Complete the following statements with an appropriate word / term to be in the blank space(s).

- **1.** ______ is the most abundant metal in the earth's crust.
- 2. Stainless steel contains iron _____ and _____.
- **3.** Most abundant non-metal in the earth's crust is ______.
- **4.** An example of a metal that can be cut with knife is ______.
- **5.** The white powder when magnesium ribbon burns in oxygen is ______.
- **6.** Bronze is an alloy of copper and ______.
- **7.** Brass is an alloy of copper and ______.
- **8.** Magnesium liberates _____ gas an reacting with boiling water.
- **9.** Generally the oxides of non-metals are ______ in nature.
- **10.** Liquid ______ is used to preserve blood, corneas or other donated organs..

Q.3. *Multiple choice questions:* **Directions:** Read the following questions and choose the answer that best answer the questions.

Dire	chons. Redu the jo	nowing questions and a	noose me answer ma	i best answer the questions.				
1.	A silvery liquid element 'X' is a good conductor of heat and electricity at room temperature. The element							
	'X' is							
	(a) Aluminium	(b) Magnesium	(c) Mercury	(d) Lead				
2.	Which of these metals is found in the alloys of brass and bronze?							
	(a) Copper	(b) Zinc	(c) Iron	(d) Tin				
3.	A mixture of coppe	A mixture of copper and zinc is called						
	(a) Brass	(b) Bronze	(c) Solder	(d) Steel				
4.	<u>i</u> reacts with dilute acids and produce a pop sound. The pop sound indicates the presence of <u>ii</u>							
	gas.							
	The information in	The information in which row completes the given statements?						
	(a) i-Metals; ii-hydrogen		(b) i-Metals; ii-carbon dioxide					
	(c) i-Non-metal; ii-hydrogen		(d) i-Non-metal; ii-carbon dioxide					
5.	Electric wires are usually made of							
	(a) Aluminium	(b) Magnesium	(c) Copper	(d) Silver				
6.	All types of steel essentially contain							
	(a) Iron and manganese		(b) Iron and carbon					
	(c) Manganese and chromium		(d) Carbon and manganese					
7.	Aluminum metal is not acted upon by pure water as							
	(a) It is a light meta	(a) It is a light metal.						
	(b) It is not a reactive metal.							

- (c) It is protected by a film of aluminium oxide.
- (d) Impurities in water are essential for reaction to occur.

8.	The non-metals generally					
	(a) Have low densities. (c) Are poor conductors of electricity.		(b) Have low me	(b) Have low melting points.(d) Show all the properties listed above.		
			(d) Show all the			
9.	Most metals can be drawn into thin unbroken wires. This property is called					
	(a) Allotropy	(b) Conductivity	(c) Ductility	(d) Malleability		
10.	Most metals react with water under different conditions. Which of the following reacts violently with water, evolving hydrogen?					
	(a) Iron	(b) Magnesium	(c) Sodium	(d) Zinc		
11.	Gun metal is an alloy of					
	(a) Copper and aluminium		(b) Copper, tin a	(b) Copper, tin and zinc		
	(c) Copper, zinc and nickel		(d) Copper and tin			
12.	Which one is the best conductor of electricity?					
	(a) Ni	(b) Ag	(c) Au	(d) Na		
13.	Which one of the following is used for the vulcanisation of rubber?					
	(a) Carbon	(b) Phosphorus	(c) Sulphur	(d) Chlorine		
14.	The use of tungsten in electric bulb is based on the fact that					
	(a) Tungsten is sonorous.		(b) Tungsten is a	(b) Tungsten is a metal.		
	(c) Tungsten has a high tensile strength.		(d) Tungsten has a high density.			
15.	Stainless steel (an alloy containing iron, chromium and nickel) does not rust because					
	(a) Iron form a hard chemical with chromium.					
	(b) Chromium form a coating of oxide that protects iron.					

- (c) Nickel does not rust.
- (d) None of these.

Q.4. Subjective questions:

1. You must have seen tarnished copper vessels being cleaned with lemon or tamarind juice. Explain why these sour substances are effective in cleaning the vessels?

Ans.

An element 'X' on reacting with oxygen forms an oxide 'X₂O'. This oxide dissolves m water and turns blue litmus red. State whether element X is metal or a non-metal.

Ans.

- **3.** Differentiate between metals and non-metals.
- Ans.
- 4. What is galvanization?
 Ans.
- **5.** A light and strong alloy is needed for making instruments. Which metal should be mixed with a small amount of magnesium to obtain the alloy?

Ans.

6. What for is vulcanization of rubber done?

Ans.

7. Copper wires are generally used for domestic wiring and aluminium wires for long distance electrical transmission. Why?

Ans.	