

Scientific Aptitude

Metals & Non-Metals

Skill Bases Questions

Q.1. Multiple choice questions:

Directions: Read the following questions and choose the answer that best answers the questions.

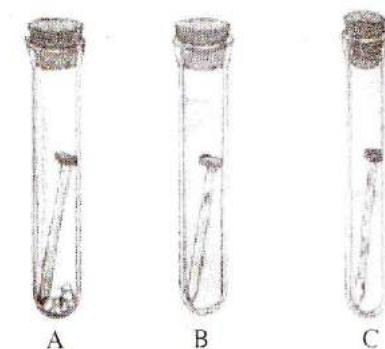
1. Shashi performed an activity to test the properties of four unknown substance. She found the following result.

Substance	Conducts electricity	Malleable	Hard	Conducts heat
I.	✓	×	×	✓
II.	✓	✓	✓	×
III.	✓	×	✓	✓
IV.	✓	✓	✓	✓

Which substance is most likely to be a metal?

- (a) I (b) II (c) III (d) IV
2. An element 'X' is light, resists corrosion and is a good conductor of heat and electricity. It can be used to make alloys that are light and strong. The element 'X' is
- (a) Aluminium (b) Copper (c) Zinc (d) Iron
3. On burning, ____ i ____ reacts with oxygen to produce metal oxides that are ____ ii ____ in nature. The information in which row completes the given statement?
- (a) i-Metals; ii-acidic (b) i-Non-metal; ii-acidic
(c) i-Metals; ii-basic (d) i-Non-metal; ii-basic

4. In an activity, Shyam took three test tubes and labeled them as A, B and C. In each test tube he placed a clean iron nail. Then to test tube A, he added a small amount of anhydrous calcium chloride, which is a dehydrating agent and dries the air. In test tube B, he poured boiled distilled water to remove dissolved oxygen and above it added some vegetable oil to keep air out. In test tube C, he poured a small amount of tap water. He then closed all the three tubes with rubber stoppers and kept them undisturbed for 3-4 days.



Which of the following statements is correct?

- (a) Nails in test tube A and B have not rusted, while test tube C has rusted.
- (b) Nails in test tube A and C have not rusted while test tube B has rusted.
- (c) Nails in all the three test tubes have not rusted.
- (d) Nails in all the three test tubes has rusted.

Q.2. Subjective questions:

1. Sonia's teacher showed her two boxes - A and B that were similar in appearance. One box was made of wood and other of metal. How can Sonia tell which box is made of metal?

Ans.
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2. Sanjana lives nearer to a sea shore. She finds that her steel window grills get rusted very often. Can you suggest a method to overcome her by this problem?

Ans.
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3. Why stainless steel is used to build bridges?

Ans.
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4. You are given a hammer, a battery, a bulb, wires and a switch.

(a) How could you use them to distinguish the samples of metals and non-metals?

(b) Assess the usefulness of these tests in distinguishing between metals and non-metals.

Ans.
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5. Name the following:

(i) A molten metal that catches fire in chlorine gas and gives off white fumes.

(ii) A metal that forms two types of oxides and rusts in moisture; write their formulae also.

(iii) A metal used in hot water systems.

(iv) A metal used in long distance cables wires.

(v) A metal added to gold to harden it.

Ans.
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6. Complete the given table.

Alloy	Constituents
Steel	
Brass	
Bronze	
Duralumin	
Magnalium	

7. Why should the food stuffs with acid components be not stored in utensils made of iron, aluminium and copper containers?

Ans.

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