Class - 7

Sub. – Chemistry

Chapter - 6

Metals and non-metals

Short answer questions.

Question 1. Name any ten metals.

Answer. Sodium, Potassium, Calcium, Gold, silver, Alluminium, zinc, Cooper, magnesium, iron.

Question 2. Metals have high tensile strength. Explain. Also, You one example of how this property of metals is used.

Answer. Metals have high tensile strength means they are strong enough to bear heavy loads. It is the tensile strength of iron that makes a bridge able to withstand high pressures.

Question 3. Why can't you

A. Draw wires from a piece of sulfur or coal?

Answer. Sulphur or coal, being a non metal does not have the property, ductility.

B. Use nylon or jute ropes for electrical transmission?

Answer. Because they are bad conductors of electricity.

C. Use a cooking utensil made of carbon?

Answer. Because carbon is a non metal and it has low melting point.

Question 4. Name five non-metals, which are gaseous at ordinary temperatures.

Answer. Carbon, Oxygen, Nitrogen, Hydrogen, Chlorine.

Question 5. Mention three uses of iron.

Answer. 1. It is used in the construction of buildings.

- 2. Iron coated with tin is used to make cars.
- **3.** Galvanized iron and is used to make pipes and sheets.

Question 6. Mention 3 uses of aluminium.

Answer. 1. It is used in making utensils.

- **2.** Aluminium paint is used on iron objects to prevent rusting.
- 3. It is used in making foils and packaging food and medicines.

Question 7. Define an alloy.

Answer. A homogeneous mixture of a metal with other metals or non metals is called an alloy.

Question 8. What do you mean by corrosion of metals?

Answer. The slow destruction of a metal or an alloy by chemical action is called corrosion.

Question 9. Give the word equation for rusting.

Answer. Iron + Oxygen + water \rightarrow rust

Question 10. What is possibly the reason why the Iraan pillar of Delhi has not rested yet?

Answers. Because it is made up of pure iron.

Question 11. What are metalloids? Name a few.

Answer. The elements which have properties intermediate between those of metals and nonmetals are called metalloids.

Examples. Boron, silicone, germanium, arsenic, antimony.

Long answer questions.

Question 1. Mention any five physical characteristics of metals.

Answer. 1. Metals are good conductor of heat.

- 2. Metals are ductile.
- 3. Metals are malleable.
- 4. Metals are sonorous.
- 5. Metals have high density.

Question 2. What are the physical properties of nonmetals?

Answer. 1. Solid nonmetals are hard and have low tensile strength.

- 2. Non-metals are non sonorous.
- 3. Non metals have low densities.
- 4. Nonmetals are bad conductors of electricity.
- 5. Solid nonmetals are not ductile.

Question 3. Describe an activity to show that the lid of a pencil conducts electricity, but a piece of sulphur does not.

Answer. Sharp a small pencil at both ends, and connect the two naked ends of the 'lead' to the circuit. 'lead' of the pencil conducts electricity. The lead of a pencil is made of a mixture of clay and graphite, and graphite(a form of carbon) is a good conductor of electricity but if in the place of lead, we put sulphur which is a non-metals will not make the bulb to glow. This shows that piece of sulphur does not conduct electricity.

Question 4. Describe three methods to prevent rusting.

Answer. 1. Painting – Applying a paint protects the metal from the chemical action of air or a solution.

- 2. Greasing Applying grease over the iron surface protects the iron from rust.
- 3. Electroplating It also prevented the metal from rust or corrosion.

Question 5. Describe an experiment to prove that rusting takes place only in moist air.

Answer. Take three test-tubes. Place clean iron nails in each test-tube.

- Pour some water in test-tube-1, cork it.
- Pour water in test-tube-2, add some oil and cork it.
- Put some anhydrous calcium chloride in test-tube-3 and cork it.

After 2-3 days we observe that the nails in test-tube 1 rust because they are exposed to air and water both, while nail in test-tube 2 and 3 do not rust. This shows rusting of iron takes place in the presence of air and moisture both.

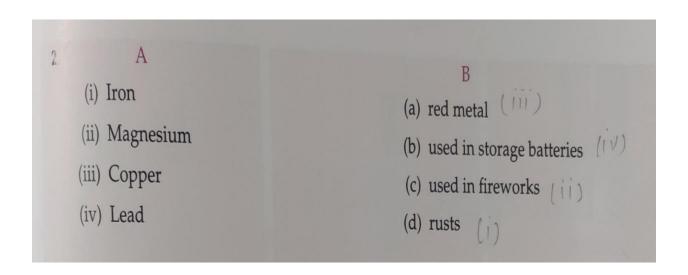
Objective questions.

Choose the correct option.

- 1. Which of the following is a liquid at ordinary temperatures? Answer. D. Bromine.
- 2. Which of the following is a solid nonmetal?
 - Answer. C. Phosphorus
- 3. Which of the following is a soft metal?
 - Answer, B. Sodium
- 4. Which of the following is the best conductor of electricity?
 - Answer. A. Silver
- Which of the following metals is used for shielding against X Rays?Answer, C. Lead.

Match columns A and B.

(i)	Sulphur	(a) a gas (iii)	
(ii)	Iodine	(b) a good conductor of	electricity (iv
(iii)	Nitrogen	(c) a yellow solid (1)	
(iv)	Aluminium	(d) a lustrous nonmetal	(11)



Fill in the blanks.

- 1. Graphite and **iodine** are lustrous nonmetals.
- 2. All **metals** are good conductors of heat and electricity.
- 3. The so-called lead of a pencil is made of graphite and clay.
- 4. Though a metal, mercury is a **liquid** at ordinary temperature.
- 5. In galvanizing, a thin layer of **zinc** forms on the surface of a metal.
- 6. Lead is **poisonous** for humans.

Write T true andF for false for the following statements.

- 1. Under ordinary conditions, bromine is a liquid. T
- 2. Iodine is lustrous as well as a good conductor of electricity. F
- 3. Graphite is a form of carbon. T
- 4. Diamond, though a non-metal, is the hardest substance known. T
- 5. Copper, on corrosion, gives a red solid. **F**
- 6. Rust has the formula Fe₂O₃.xH₂O. **T**
- 7. Depositing a layer of tin over an iron object is called galvanizing. F
- 8. Stainless steel is an alloy. T
- 9. Rusting does not take place in dry air. T
- 10. Quicklime absorbs moisture. T