



Science

Grade 10





Changes in Matter

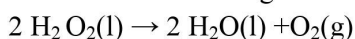
(Grade 10 Part II : Pages 86-109)

(1) Underline the correct answer

1) Which of the following metals can displace Fe from a FeSO_4 solution

- (1) Cu (2) Mg (3) Sn (4) Pb

2) Consider the following reaction ,



What kind of a reaction is it?

- (1) Chemical decomposition reaction (2) Chemical combination reaction

- (3) Single displacement reaction (4) Double displacement reaction

3) Which metal out of the given, burns with a bright flame leaving a white powder?

- (1) Zn (2) Al (3) Mg (4) Cu

4) Which of the following gas can be collected by downward displacement of air?

- (1) O_2 (2) CO_2 (3) Cl_2 (4) H_2

5) Physical properties of some gases are given below

- Supporter of combustion
- Use as a fuel
- Non supporter of combustion

What are the gases that exhibits the above properties respectively

- (1) Oxygen , Carbon dioxide, Hydrogen (2) Carbon dioxide, Oxygen, Hydrogen

- (3) Oxygen, Hydrogen, Carbon dioxide (4) Hydrogen , Oxygen , Carbon dioxide

6) Which of the following is not an instance for a chemical change?

- (1) Release of heat (2) Evolution of a gas
- (3) Vaporization of a liquid (4) Formation of a precipitate

7) What is the gas that could be obtained upon heating potassium permanganate ?

- (1) H_2 (2) O_2 (3) CO_2 (4) Cl_2

8) Which one of the following is not a raw material used in extraction of iron?

- (1) Hematite (2) limestone (3) cork (4) slag



9) Which of the following exists as a native metal in nature?

- (1) Au (2) Na (3) Mg (4) Al

10) A strip of Zn is added to a copper sulfate solution which of the following is not an observation

- (1) Dissolution of Zn (2) Gradual reduction intensity of the blue colour
(3) Evolution of gas (4) Formation of a brown colour precipitation

Part II

Answer all the questions

(1) Opposite to each of the following statements, place a tick(✓) if it is true and a cross (X) if it is false

- (i) Carbon dioxide gas is formed upon heating calcium carbonate ()
(ii) Reaction between magnesium and dilute sulfuric acid is a double displacement reaction ()
(iii) Iron (Fe) reacts with cold water ()
(iv) Barium chloride and sodium sulfate reacts together and forms a white precipitate ()
(v) When a strip of Zn is added to a solution of hydrochloric acid, hydrogen gas is evolved ()
(vi) During a chemical change, it is easy to convert products to reactants ()
(vii) Oxygen gas can be collected by downward displacement of water ()
(viii) Hydrogen gas is used in the production of margarine from vegetable oils ()
(ix) The chemical formula of hematite which is used in extraction of iron is FeO ()
(x) When a glowing splint is put into a jar containing oxygen gas, the splint relights ()

(2) Fill in the blanks using the appropriate words given below

(physical , carbon dioxide , reduction , platinum , blast furnace, chemical , oxygen , electrolysis , hydrogen , potassium)

- (i) The metal Sodium is extracted from fused sodium chloride by
(ii) When a lighted splint is introduced to the mouth of a jar containing gas , it burns with a squeaky “pop”
(iii) Rusting of iron is a
(iv) Solidified gas is known as dry ice.
(v) Melting of ice is a change .
(vi) The metal that exists at the top of the activity series is

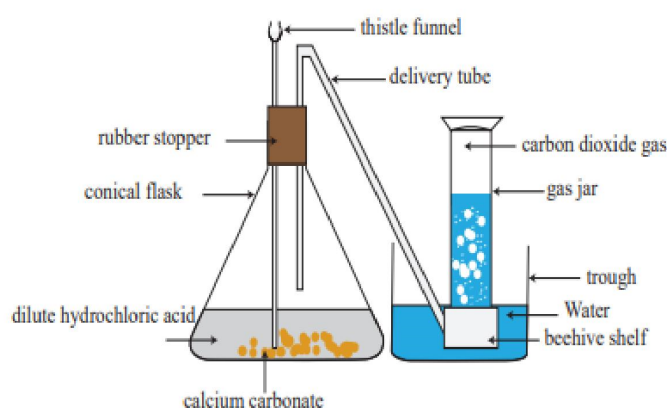


- (vii) Iron is extracted by the of haematite
- (viii) The metal, does not react with dilute hydrochloric acid
- (ix) When hydrogen peroxide is heated, it decomposes into water and
- (x) The structure used to extract iron is called

(3) Match the description in column A with the suitable substance given in column B

A	B
(i) Substance containing in slag	Zinc
(ii) Evolve oxygen gas upon heating	Carbon dioxide
(iii) Reacts vigorously with cold water	Paraffin oil
(iv) A reducing gas used in iron extraction	Potassium nitrate
(v) A gas which turns wet blue litmus into red	Calcium silicate
(vi) Exists as a brown coloured liquid in nature	Calcium hydroxide
(vii) A metal that is used in galvanizing iron	Sodium
(viii) A metal that can be extracted physical methods	Bromine
(ix) Used to store highly reactive metals	Carbon monoxide
(x) The chemical compound contains in limewater	Gold

(4) The diagram shows an apparatus used to produce carbon dioxide. Answer the questions below



I.

- (i) Write the balanced chemical equation related with the above process

.....



- (ii) Calculate the mass of calcium carbonate requires to produce 22g of CO₂? (C=12, O=16, Ca = 40)

.....

.....

.....

.....

.....

- (iii) Draw a diagram of another apparatus that can be used to collect CO₂?

- (iv) Write down a simple experiment that can be done to prove that the gas released in the reaction is carbon dioxide?

.....

.....

.....

- (v) State two physical properties of CO₂?

.....

.....

.....

- (vi) Give two uses of carbon dioxide

.....

.....