



CHEMISTRY

BOOKS - CAMBRIDGE CHEMISTRY (KANNADA ENGLISH)

CHEMICAL REACTIONS AND EQUATIONS

Questions

1. Why should a magnesium ribbon be cleaned before is burnt in air ?



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2. Write the balanced equation for the following chemical reaction.

(i) Hydrogen + Chlorine \rightarrow Hydrogen+Chloride.

(ii) Barium Chloride + Alumunium sulphate \rightarrow Barium sulphate + Aluminium chloride.

(iii) Sodium +Water \rightarrow Sodiumhydroxide + Hydrogen.



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3. Write the balanced equation with state symbols for the following chemical reactions.

(i) Solutions of barium chloride and sodium sulphate in water react to give insoluble barium sulphate and the solution of sodium chloride.

(ii) Sodium hydroxide solution (in water) with hydrochloric acid

solution (in water) to produce sodium chloride solution and water.

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4. A solution of a substance 'X' is used for whitewashing.

(i) Name the substance 'X' and write its formula.

(ii) Write the substance of the substance 'x' named in (i) above with water.

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5. Why is the amount of gas collected in one of the test tubes in activity 1.7 see textbook double of the amount collected in the other ? Name this gas

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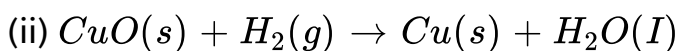
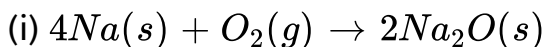
6. Why does the colour of copper sulphate solution change when an iron nail is dipped in it ?

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7. Give an example of a double displacement reaction other than the one given in Activity 1.10.

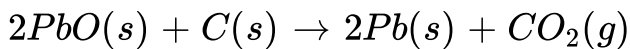
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8. Identify the substances that are oxidised and the substances that are reduced in the following reactions.



Exercise

1. Which of the statement about the reaction below are incorrect ?



- (a) Lead is getting reduced.
- (b) Carbon dioxide is getting oxidised.
- (c) Carbon is getting oxidised.
- (d) Lead oxide is getting reduced.

A. (a) and (b)

B. (a) and (b)

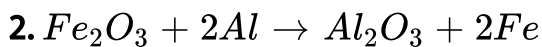
C. (a), (b), (c)

D. all

Answer: A::B::D



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the above reaction is an example of a

- A. combination reaction
- B. double displacement reaction
- C. decomposition reaction
- D. displacement reaction

Answer:



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3. What happens when dilute hydrochloric acid is added to iron filling ? Tick the correct answer.

- A. Hydrogen gas and iron chloride are produced.
- B. Chlorine gas and iron hydroxide are produced.
- C. No reaction takes place.
- D. Iron salt and water

Answer:

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4. What is a balanced chemical equation ? Why should chemical equations be balanced ?

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5. Translate the following statements into chemical equations and then balance them .

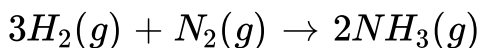
(a) Hydrogen gas combines with nitrogen to form ammonia .

(b) Hydrogen sulphide gas burns in air to give water and sulphur dioxide.

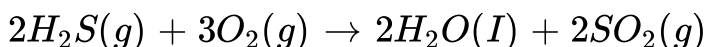
(c) Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of barium sulphate.

(d) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas .

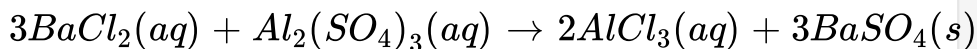
A. Hydrogen gas combines with nitrogen to form ammonia.



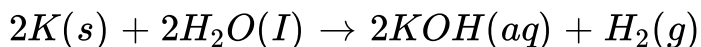
B. Hydrogen sulphide gas burns in air to give water and sulphur dioxide.



C. Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of barium sulphate.



D. Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.



Answer:



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6. Write the balanced chemical equations for the following reactions.

(a) Calcium hydroxide + Carbon dioxide \rightarrow Calcium carbonate
+water

(b) Zinc + Silver nitrate → Zinc nitrate + Silver

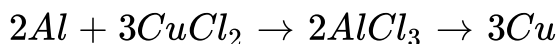
(c) Aluminium + Copper chloride → Aluminium chloride + Copper

(d) Barium chloride + Potassium sulphate → Barium sulphate + Potassium chloride

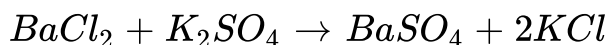
A. Calcium hydroxide + Carbon dioxide → Calcium carbonate + water

B. Zinc + Silver nitrate → Zinc nitrate + Silver

C. Aluminium + Copper → Aluminium chloride + Copper



D. Barium chloride + Potassium sulphate → Barium sulphate + Potassium chloride



Answer:

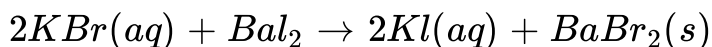


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7. Write the balanced chemical equation for the following and identify the type of chemical reaction in each case.

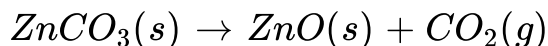
potassium bromide (aq.) + Barium iodide (aq.) \rightarrow potassium iodide (aq.) and barium bromide (aq.)

A. Potassium bromide(aq)+Barium iodide(aq) \rightarrow Barium bromide(s) +Potassium iodide



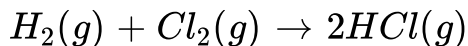
Double displacement reaction

B. Zinc carbonate(s) \rightarrow Zinc oxide(s) + Carbon dioxide(g)



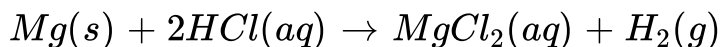
Decomposition reaction

C. Hydrogen(g) + Chlorine → Hydrogen chloride(g)



Combination reaction

D. Magnesium(s)+Hydrochloric acid(aq) → Magnesium
chloride(aq)+Hydrogen (g)



Answer:



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8. What does one mean by exothermic and endothermic reactions ? Give examples.



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9. Why is respiration considered an exothermic reaction ?

Explain.

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10. Why are decomposition reactions called the opposite of combination reactions ? Write equations for these reactions.

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11. Write one equation for decomposition reactions where energy is supplied in the form of heat, light or electricity.

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12. What is the difference between displacement and double displacement reactions ? Write equations for these reactions.



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13. In the refining of silver, the recovery of silver from silver nitrate solution involves displacement by copper metal. Write down the reaction involved.



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14. What do you mean by a precipitation reaction ? Explain by giving examples.



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15. Explain the following in terms of gain or loss of oxygen with two examples each .

(a) Oxidation (b) Reduction

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16. A shiny brown -coloured element 'X' on heating in air becomes black in colour. Name the element 'X' and the black - coloured compound formed.

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17. Why do we apply paint on iron articles ?

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18. Oil and fat containing food items are flushed with nitrogen.

Why ?



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19. Explain the following terms with one example each .

(a) Corrosion

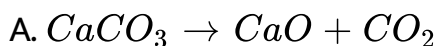
(b) Rancidity

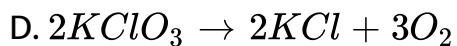
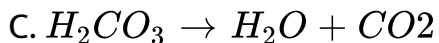
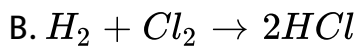


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Additional Questions Choose The Correct Answer

1. Which of the following is not a decomposition reaction ?





Answer: B



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2. Which of the following is not an oxidising agent

A. Oxygen

B. Conc Sulphuric acid

C. Chlorine

D. Hydrogen

Answer: D



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3. The oxidation reaction which produces heat and light is

- A. Endothermic
- B. Photochemical
- C. Combustion
- D. Exothermic

Answer: C



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4. $2Pb(NO_3)_2 \rightarrow 2PbO + nA + O_2$. What is nA in the given reaction ?

A. $4NO$

B. $4NO_2$

C. $2PbNO_2$

D. NO_2

Answer: B



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5. A slow combustion in which glucose present in the body cells combine with oxygen to provide energy is

A. Digestion

B. Excretion

C. Respiration

D. None of the above

Answer: C



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6. When the gases Sulpherdioxide and Hydrogen sulphide mix in the presence of water, the reaction $SO_2 + 2H_2S \rightarrow 2H_2O + 3S$ occur. Here hydrogen sulphide is acting as

- A. an oxidising agent
- B. a reducing agent
- C. a dehydrating agent
- D. a catalyst

Answer: B



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7. What is the chemical name of quick lime ?

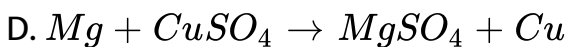
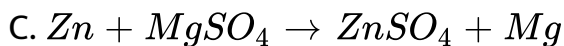
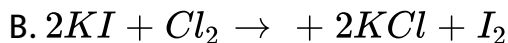
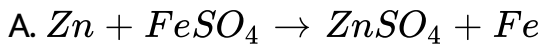
- A. Calcium Oxide
- B. Calcium carbonate
- C. Calcium hydroxide
- D. Carbon dioxide

Answer: A



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8. Which of the following reaction will not take place ?



Answer: C



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9. In the reaction, $2FeCl_2 + Cl_2 \rightarrow 2FeCl_3$, chlorine may be regarded as

A. An oxidizing agent

B. a reducing agent

C. A catalyst

D. Providing an inert medium

Answer: A



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10. The conversion of $K_2Cr_2O_7$ into $Cr_2(SO_4)_3$ is a process of

A. Oxidation

B. Reduction

C. Decomposition

D. Substitution

Answer: B



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11. An element which never has a positive oxidation state in any of its compound is

- A. Boron
- B. Oxygen
- C. Chlorine
- D. Florine

Answer: D



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12. Amino acid is formed by decomposition of which component of our diet

- A. Carbohydrate

B. Starch

C. Protein

D. Fat

Answer: C



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13. Loss of electron is called

A. Reduction

B. Oxidation

C. Can be oxidation or reduction

D. None of these

Answer: B



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14. Single displacement reaction involves

- A. oxidation
- B. Reduction
- C. Redox
- D. Heating

Answer: C



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[Additional Questions Answers The Following Questions](#)

1. What happens when magnesium ribbon burns in air?



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2. Name the gas evolved when zinc reacts with dil. HCl



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3. What is chemical equation ?



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4. On what chemical law, balancing of chemical equation is based?



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5. Represent decomposition of ferrous sulphate with the help of a chemical equation-

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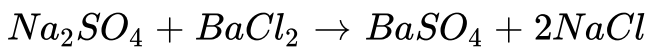
6. When carbon dioxide is passed through lime water, it turns milky. Why?

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7. A Zinc rod is left for nearly 20 minutes in Copper sulphate solution. What change would you observe in zinc rod.

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8. What type of reaction is this :



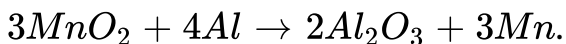
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9. Why do gold and silver do not corrode ?



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10. Name the reducing agent in the following reaction.



State which is more reactive - Mn or Al and why ?



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11. Write the balanced chemical equation for process of photosynthesis.

When do desert plants take up carbondioxide and perform photosynthesis.

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12. 2g of ferrous sulphate crystals are heated in a dry tude.

List any two observations.

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13. Why are decomposition reactions called the opposite of combination reactions ? Write equations for these reactions.

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14. Write the type of chemical reaction in the following.

reaction between acid and base



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15. Why does a copper vessel develop with green coating in rainy

season ?



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16. Why is hydrogen peroxide kept in coloured bottles ?



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17. Mention any two factors which influence the rate of the reaction.



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18. Ahmad took a magnesium ribbon and burned it on a flame. The white powder formed was taken in a test tube and water was added to it. He then tested the solution formed with red and blue litmus paper. What change was seen ? Why ?



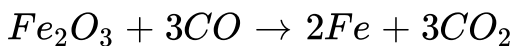
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19. An iron knife kept dipped in a blue copper sulphate solution turns the blue solution to light green.



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20. Identify the reducing agent in the following reaction :



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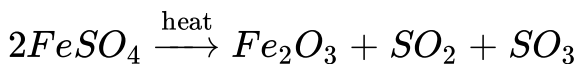
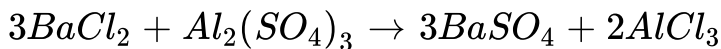
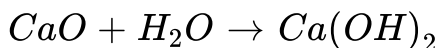
21. The marble statue often slowly corroded when kept in open for a long time. Assign a suitable explanation.

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22. Give one example of a combination reaction in which an element combines with a compound to give you a new compound.

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23. Name the type of chemical reaction represented by the following equation.



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24. Write the chemical equation of the reaction with an example each in which the following change has taken place:

- (i) Change in colour
- (ii) Change in temperature
- (iii) Formation of precipitate.



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25. Write chemical equation for the reaction taking place when carried out with the help of

Iron reacts with steam

Magnesium reacts with dil HCl

Copper is heated in air

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Unit Test Fill In The Blanks

1. Amino acid is formed by decomposition of which component of our diet

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2. Loss of electron is called



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3. The oxidation reaction which produces heat and light is



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Unit Test Answer The Following

1. What happens when magnesium ribbon burns in air?



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2. What is a balanced chemical equation ? Why should a chemical equation be balanced ?

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3. Write the balanced chemical equation for the following reactions.

Zinc + Silver nitrate \rightarrow Zinc nitrate + silver.

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4. What does one mean by exothermic and endothermic reactions ? Give examples.

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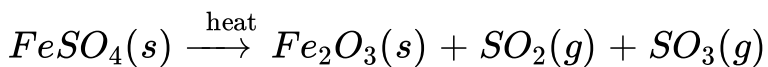
5. What do you mean by a precipitation reaction ? Explain by giving examples.

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6. Explain the term corrosion.

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7. Write balanced chemical equation



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