



CHEMISTRY

BOOKS - SUPER COMPANION MADE

EASY

CHEMICAL REACTIONS AND

EQUATIONS

Text Book Questions

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



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

Hydrogen+Chlorine \rightarrow Hydrogen chloride



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

Barium chloride + Aluminium sulphate \rightarrow
barium sulphate and aluminium chloride.



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

Sodium + Water \rightarrow Sodium hydroxide +
Hydrogen





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5. Write a balanced chemical equation with the state symbols for the following reactions :

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



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6. Write a balanced chemical equation with the state symbols for the following reactions :

Sodium hydroxide solution (in water) reacts with hydrochloric acid solution (in water) to produce sodium chloride solution and water.



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7. 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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8. A solution of a substance 'X' is used in whitewashing.

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

(ii) Write the reaction of the substance 'X' named in (i) above with water



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9. Why is the amount of gas collected in one of the test tubes in activity 1.7 see tesxtbook double of the amount collected in the other ?

Name this gas



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



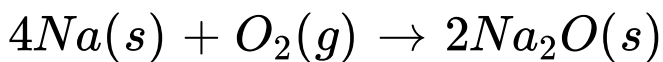
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11. Give an example of a double displacement reaction other than the one given in Activity 1.10.



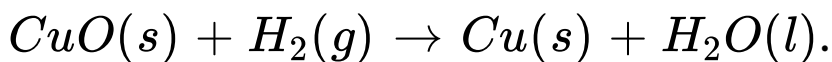
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12. Identify the substances that are oxidized and the substances that are reduced in the following reactions :



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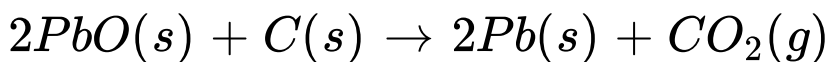
13. Identify the substances that are oxidized and the substances that are reduced in the following reactions :



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Textbook Exercise Questions

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 (c)

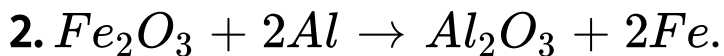
C. (a),(b) and (c)

D. all

Answer: A



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The above reaction is an example of a



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3. What happens when dilute hydrochloric acid is added to iron fillings ? 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 are produced

Answer: A



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



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

Hydrogen gas combines with nitrogen to form ammonia .



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6. Translate the following statements into chemical equations and balance them.

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



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7. Translate the following statements into chemical equations and balance them.

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



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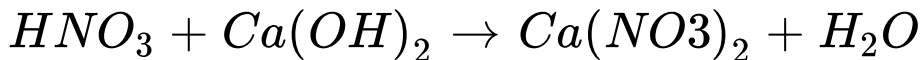
8. Translate the following statements into chemical equations and balance them.

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



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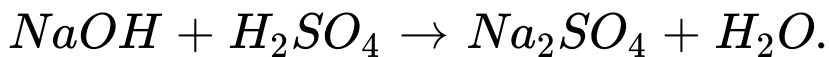
9. Balanced the following chemical equations :



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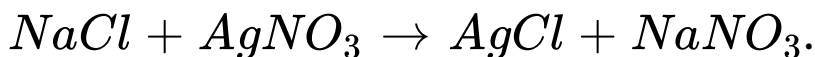
10. Balanced the following chemical equations

:



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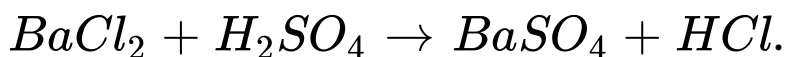
11. Balanced the following chemical equations :



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12. Balanced the following chemical equations

:





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

Calcium hydroxide + Carbon dioxide \rightarrow
calcium carbonate + water.



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

Zinc + Silver nitrate \rightarrow Zinc nitrate + silver.



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

Aluminium + Copper chloride \rightarrow Aluminium chloride + Copper.



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

Barium chloride + potassium sulphate \rightarrow
barium sulphate + potassium chloride.



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17. Write the balanced chemical equations for the following reactions and identify the type of reaction in each case.



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

zinc carbonate (s) \rightarrow zinc oxide (s) + carbon dioxide(g)



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19. Write the balanced chemical equations for the following reactions and identify the type of reaction in each case.



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

magnesium (s) + hydrochloric acid (aq.) \rightarrow
magnesium chloride (aq.) + hydrogen (g)



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



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22. Why is respiration considered an exothermic reaction ? Explain.



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



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



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



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



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

Oxidation.



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



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



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31. Why do we apply paint on iron articles ?



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32. Oil and fat containing food items are flushed with nitrogen. Why ?



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33. Explain the following terms with one example each.

corrosion.



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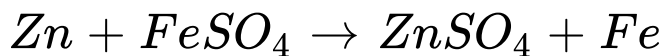
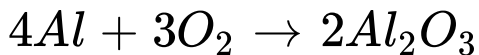
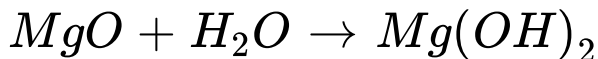
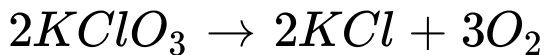
34. Explain the following terms with one example each.

rancidity.



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35. Which of the following are combination reactions?



A. a and d

B. c and d

C. b and d

D. b and c

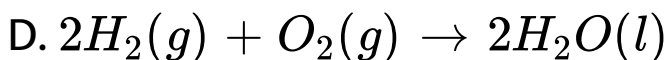
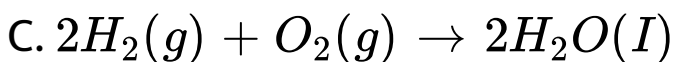
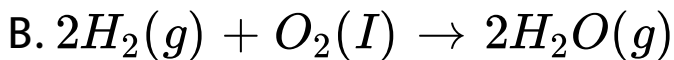
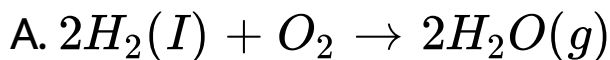
Answer: D



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Additional Questions

1. In which of the following chemical equations, the abbreviation represent the correct states of the reactants and products involved at reaction temperature?



Answer: C



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2. Which of the following is (are) an endothermic process (s)?

- (a) Dilution of sulphuric acid
- (b) Sublimation of dry ice
- (c) Condensation of water vapours
- (d) Evaporation of water

A. a and c

B. b only

C. c only

D. b and d

Answer: B



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3. In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate of lead iodide is formed. While performing the

activity if lead nitrate is not available, which of the following can be used in place of lead nitrate?

A. Lead sulphate (insoluble)

B. Lead acetate

C. Ammonium nitrate

D. Potassium sulphate

Answer: B



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4. Which of the following gases can be used for storage of fresh sample of oil for a long time ?

A. Carbon dioxide or oxygen

B. Nitrogen or oxygen

C. Carbon dioxide or helium

D. Helium and nitrogen

Answer: D



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5. A chemical reaction involves in

- A. only breaking of bonds
- B. only formation of bonds
- C. both breaking and formation of bonds
- D. none of these

Answer: C



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6. A balanced chemical equation always obeys

(a) Law of Conservatio of Mass

A. Law of Conservatio of Mass

B. Law of conservation of Energy

C. Law of conservatio of Thermal
Equilibrium

D. all of the above

Answer: A



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7. Single displacement reaction involves

A. Oxidation

B. reduction

C. Redox

D. heating

Answer: C



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8. A red brown gas is released on heating lead nitrate. It is an example of

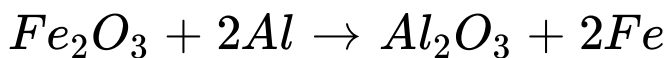
- A. Combination reaction
- B. oxidation reaction
- C. Decomposition reaction
- D. Reduction reaction

Answer: C



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9. The following reaction is an example of:



- A. Combination reaction
- B. Double displacement reaction
- C. Decomposition reaction
- D. Displacement reaction

Answer: D



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Very Short Answers

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



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



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



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Short Answers

1. Write the balanced chemical equations for the following reactions and identify the type of reaction in each case.



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2. Which among the following changes are exothermic or endothermic in nature?



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3. Identify the reducing agent in the following reactions.



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4. Identify the oxidising agent in the following reactions.



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5. Explain the difference between endothermic and exothermic reactions with examples.



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



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7. What is precipitation reaction? Explain with suitable examples.



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8. What is lime water test for the detection of carbon dioxide?



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Higher Order Thinking Skills

1. If you collect silver coins and copper coins, after some days a black coating on silver coins and a green coating on copper coins appear. Which chemical phenomenon is responsible

for these coatings? Write the chemical name of these black and green coatings.



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2. An aqueous solution of metal nitrate (P) reacts with sodium bromide solution to form an yellow precipitate of a compound (Q) which is used in photography. Q on exposure to sunlight, undergoes decomposition reaction to form the metal present in P along with a

reddish brown gas

Identify P and Q



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3. An aqueous solution of metal nitrate (P) reacts with sodium bromide solution to form an yellow precipitate of a compound (Q) which is used in photography. Q on exposure to sunlight, undergoes decomposition reaction to form the metal present in P along with a reddish brown gas

Write the chemical reaction and the type of chemical reaction.



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4. A substance X used for coating iron articles is added to a blue solution of a reddish brown metal Y, the colour of the solution gets discharged.

Identify X and Y



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5. A substance X used for coating iron articles is added to a blue solution of a reddish brown metal Y, the colour of the solution gets discharged.

The type of reaction.



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6. A student burnt a metal A found in the form of ribbon. The ribbon burnt with a dazzling flame and a white powder B is formed which is

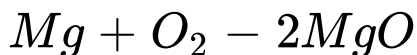
basic in nature.

Identify A and B



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7. A student burnt a metal A found in the form of ribbon. The ribbon burnt with a dazzling flame and a white powder B is formed which is basic in nature.



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Value Based Questions

1. Why do we apply paint on iron articles ?



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2. Oil and fat containing food items are flushed with nitrogen. Why ?



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



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4. Tell me

Why cannot a chemical change be normally reversed?



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5. Tell me

Why is it always essential to balance a chemical equation?



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6. Tell me

What happens when carbon dioxide gas is passed through lime water and why does it disappear on passing excess carbon dioxide?



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7. Tell me

Can rusting of iron take place in distilled water?



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8. Parents are advised to discourage their children to eat chips and junk food. Why?



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