



CHEMISTRY

BOOKS - SWAN PUBLICATION

CHEMICAL REACTIONS AND EQUATIONS

Intext Questions

1. With what, magnesium ribbon is cleaned before burning it in air.



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2. Write the balanced chemical equation for the following reaction and identify the type of reaction.

$$\text{Hydrogen (g)} + \text{Chlorine (g)} \rightarrow \text{Hydrogen chloride (g)}$$


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

Barium chloride + Aluminium sulphate →

Barium sulphate + Aluminium chloride



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4. Write the balanced equation for the following chemical reaction: Sodium + water → Sodium hydroxide + Hydrogen



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5. The molecular formula of ethanol is C_2H_5OH . calculate its molecular mass.



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6. The molecular formula of ethane is C_2H_6 . calculate its molecular mass.



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Textbook Questions

1. The molecular formula of methane is CH_4 .
calculate its molecular mass.



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2. Why is the amount of gas collected in one of the test tubes in activity 1.7 double of the amount collected in the other? name this gas.



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



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4. Give an example of a double displacement reaction other than the one given in the activity 1.10 given in textbook



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5. The molecular formula of ethene is C_2H_4 .
calculate its molecular mass.



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6. The molecular formula of ethyne is C_2H_2 .
calculate its molecular mass.



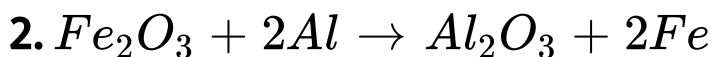
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Textbook Exercises

1. The molecular formula of carbon dioxide is CO_2 . Calculate its molecular mass.



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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: D



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3. What happens when dilute hydrochloric acid is added to iron filings? 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 chemical equations be balanced ?



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5. Translate the following statement into chemical equation and then balance that.

Hydrogen gas combines with nitrogen to form ammonia.



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6. Translate the following statements into chemical equation and balance the equations :

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





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7. The molecular formula of sulphur dioxide is SO_2 . calculate its molecular mass.



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8. The molecular formula of methanol is CH_3OH . calculate its molecular mass.



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9. The molecular formula of nitric acid is HNO_3 . Calculate its molecular mass.



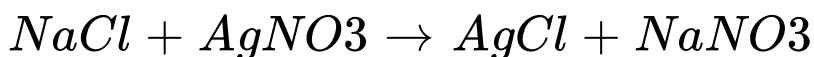
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10. The molecular formula of sulphuric acid is H_2SO_4 . Calculate its molecular mass.



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11. Balance the following chemical equation:





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12. The molecular formula of ethanoic acid is CH_3COOH . Calculate its molecular mass.



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

Calcium hydroxide + Carbon dioxide \rightarrow

Calcium carbonate + Water



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14. The molecular formula of chloroform is CHCl_3 . Calculate its molecular mass.



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15. The molecular formula of copper chloride is CuCl_2 . Calculate its molecular mass.



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16. The molecular formula of potassium sulphate is K_2SO_4 . calculate its molecular mass.



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17. The molecular formula of potassium bromide is KBr . calculate its molecular mass.



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18. The molecular formula of zinc carbonate is ZnCO_3 . calculate its molecular mass.



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19. The molecular formula of zinc oxide is ZnO . calculate its molecular mass.



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20. The molecular formula of bromoform is CHBr_3 . Calculate its molecular mass.



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



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22. The molecular formula of hydrogen sulphide is H_2S . calculate its molecular mass.



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23. The molecular formula of carbon disulphide is CS_2 . calculate its molecular mass.



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24. The molecular formula of hydrogen chloride is HCl . calculate its molecular mass.



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25. The molecular formula of aluminium chloride is AlCl_3 . calculate its molecular mass.



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26. What do you mean by ions ?



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27. Write the formula of zinc sulphate. Also write the elements present in it.



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

Oxidation



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

Reduction



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30. Write the formula of sodium chloride . Also write the elements present in it.



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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. Write the formula of calcium chloride . Also write the elements present in it.



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34. Explain the following term with one example : Rancidity.



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Additional Important Questions Multiple Choice Questions

1. Decomposition of vegetable matter into compost is an example of





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2. T/F $CaCO_3(s) \xrightarrow{\text{Heat}} CaO + CO_2$ is an example of:



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3. Write down the names of compounds represented by the following formulae. Also show the ions present in them. $Al_2(SO_4)_3$



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4. Write down the names of compounds represented by the following formulae. Also show the ions present in them. CaCl_2

A.

B.

C.

D.

Answer: D



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5. Iron nails are dipped in $CuSO_4$ Solution for some time. What will effect on iron nail's colour ?

- A. No effect
- B. Becomes green
- C. Becomes white
- D. Becomes brownish

Answer: D



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6. Write down the names of compounds represented by the following formulae. Also show the ions present in them. K_2SO_4



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7. Write down the names of compounds represented by the following formulae. Also show the ions present in them. $MgCO_3$



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8. Write down the names of compounds represented by the following formulae. Also show the ions present in them. KNO_3



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9. Respiration is what type of process ?



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10. Calcium oxide is called

A. Bleaching powder

B. Slaked lime

C. Lime or quick lime

D. None

Answer: C



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11. When a decomposition reaction is carried out by heating, it is called



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12. The reactions in which there is an exchange of ions between the reactants are called



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13. If a substance gains oxygen or loses hydrogen during a reaction, it is said to be

A. Reduced

B. Oxidised

C. Both (a) and (b)

D. None

Answer: B



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14. If a substance loses oxygen or gains hydrogen during a reaction, it is said to be

A. Reduced

B. Oxidised

C. Both (a) and (b)

D. None

Answer: A



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15. If in a reaction one reactant is reduced and other is oxidised, what is name of such a reaction?

A. Oxidation reactions

B. Reductions reactions

C. Oxidation-reduction reactions or redox reactions

D. None.

Answer: C



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**Additional Important Questions Very Short
Answer Type Questions**

1. What do you mean by rancidity ?



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2. To prevent rancidity of foods containing fats and oils, some substances are added to them.

What are these substances called ?



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3. What will happen when lead nitrate is heated .



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4. State any two specific observations which help us to conclude that chemical reaction has taken place.



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5. Which gases can be used for storage of fresh sample of an oil for a long time?



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6. A magnesium ribbon burns with a dazzling flame in air (oxygen) and changes into a white substance, magnesium oxide. Is magnesium being oxidized or reduced in this reaction?



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7. Define physical change and chemical change.



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8. Hydrogen being a highly inflammable gas and oxygen being a supporter of combustion, yet water which is a compound made up of hydrogen and oxygen is used to extinguish fire. Why?



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Additional Important Questions Short Answer Type Questions

1. Write the chemical equation for the following reaction :

Hydrogen sulphide reacts with sulphur dioxide to form sulphur and water.



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2. Write a balanced equation for the following reaction : Methane burns in oxygen to form

carbon dioxide and water.



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3. White coloured silver chloride change to which colour in sunlight?



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4. Name the various changes taking place in nature.



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5. Why the surface of silver metal gets tarnished on exposure to air?



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6. Burning of paper is an example of _____ change.



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7. Why is respiration considered as an exothermic reaction? explain



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8. A solution of potassium chloride when mixed with silver nitrate solution, an insoluble white substance is formed. Write the chemical reaction involved and also mention the type of the chemical reaction.



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9. Describe an activity to observe what happens when quick lime is added to water taken in a beaker. State important observation and name the type of reaction taking place.



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10. A magnesium ribbon burns with a dazzling flame in air (oxygen) and changes into a white substance, magnesium oxide. Is magnesium being oxidized or reduced in this reaction?



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11. What is oxidation reaction?



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Additional Important Questions Long Answer Type Questions

1. Identify the type of chemical reaction taking place in the following:

Barium chloride solution is mixed with copper sulphate solution and a white precipitate is observed.



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2. Identify the type of chemical reaction taking place in the following:

On heating copper powder in air in a China dish, the surface of copper powder turns black.



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3. Identify the type of chemical reaction taking place in the following:

On heating green coloured ferrous sulphate crystals reddish brown solid is left and smell of a gas having odour of burning sulphur is experienced.



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4. Identify the type of chemical reaction taking place in the following:

Iron nails when left dipped in blue copper

sulphate solution become brownish in colour and the blue colour of copper sulphate fades away.



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5. Identify the type of chemical reaction taking place in the following:

Quicklime reacts vigorously with water releasing large amount of heat.



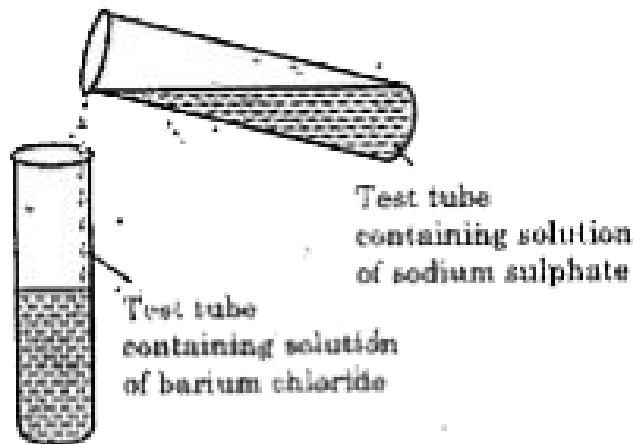
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6. Describe the electrolysis of water with the help of a labelled diagram.



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7. Observe the given figure and answer the following question :

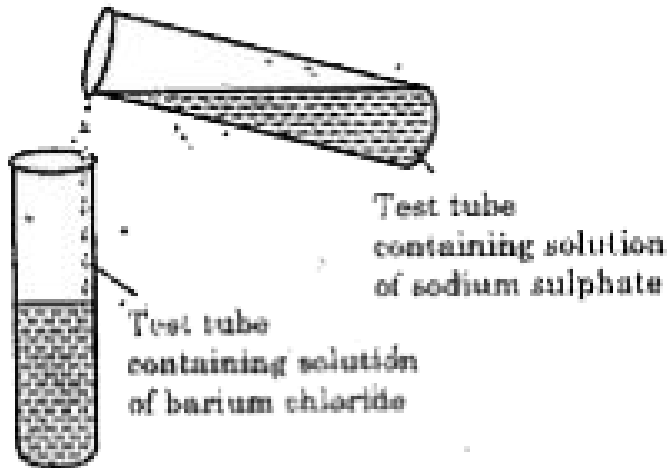


Write the complete balanced reaction.



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8. Observe the given figure and answer the following question :



What is the type of reaction involved?



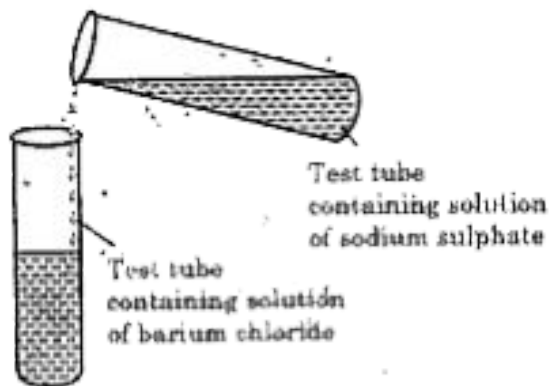
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9. Burning of coal is an example of _____ change.



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10. Observe the given figure and answer the following question :



If any precipitate is formed, write the colour of the precipitate.



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