



CHEMISTRY

NCERT - NCERT CHEMISTRY(HINGLISH)

CHEMICAL REACTIONS AND EQUATIONS

Exercise

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



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

(i) Hydrogen + Chlorine \rightarrow Hydrogen chloride

(ii) Barium chloride + Aluminium sulphate \rightarrow
Barium sulphate + Aluminium chloride

(iii) Sodium + Water \rightarrow Sodium hydroxide +
Hydrogen



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3. Write a balanced chemical equation with state symbols for the following 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) reacts with hydrochloric acid solution (in water) to produce sodium chloride solution and water.



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4. A solution of the substance 'X' is used for white washing.

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

(ii) Write the reaction of the substance 'X' with water.



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



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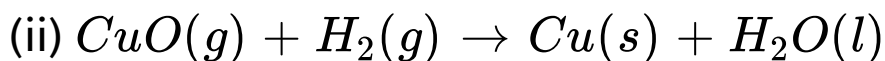
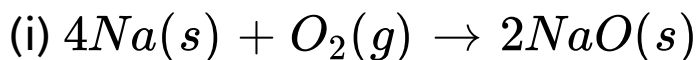
7. Give an example of a double displacement reaction other than the one given in Activity

1.10.



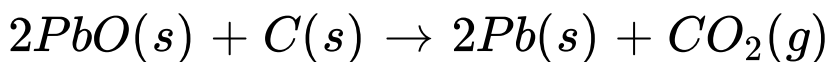
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8. Identify the substances that are oxidised and the substances that are reduced in the following reactions.



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9. Which of the statements 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)

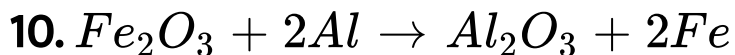
C. (a), (b) and (c)

D. all

Answer: A



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The above reaction is an example of a

- (i) combination reaction.
- (ii) double displacement reaction
- (iii) decomposition reaction.
- (iv) displacement reaction.

A. combination reaction.

B. double displacement reaction

C. decomposition reaction.

D. displacement reaction.

Answer: D



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

(i) Hydrogen gas and iron chloride are produced.

(ii) Chlorine gas and iron hydroxide are produced.

(iii) No reaction takes place.

(iv) Iron salt and water are produced.

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



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

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

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

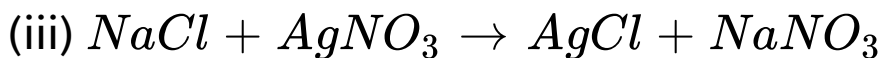
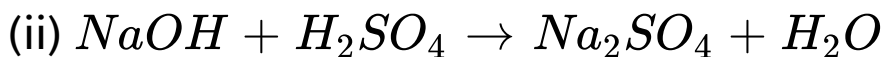
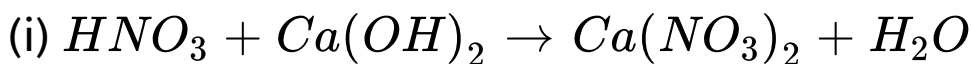
(iii) Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of barium sulphate.

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

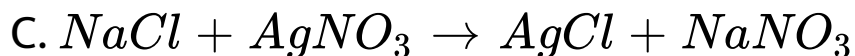
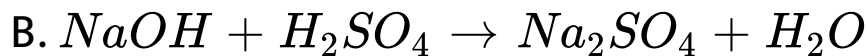
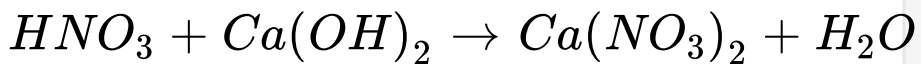


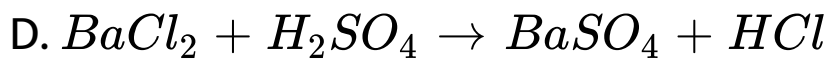
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14. Balance the following chemical equations.



A.





Answer:



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15. Write the balanced chemical equations for the following reactions:

(i) Calcium hydroxide + Carbon dioxide \rightarrow
Calcium carbonate + Water

(ii) Zinc + Silver nitrate \rightarrow Zinc nitrate +
Silver

(iii) Aluminium + Copper chloride →

Aluminium chloride + Copper

(iv) 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 chloride →

Aluminium chloride + Copper

D. Barium chloride + Potassium sulphate

→ Barium sulphate + Potassium

chloride

Answer:



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

(i) Potassium bromide(aq) + Barium iodide(aq)

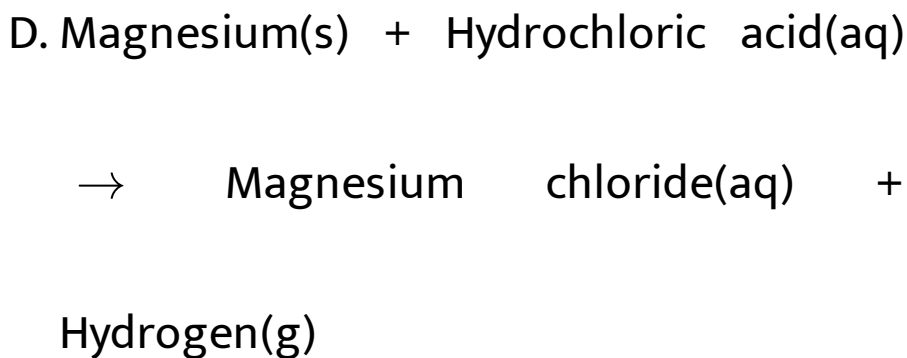
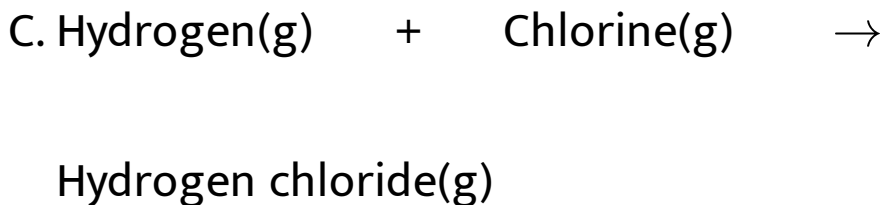
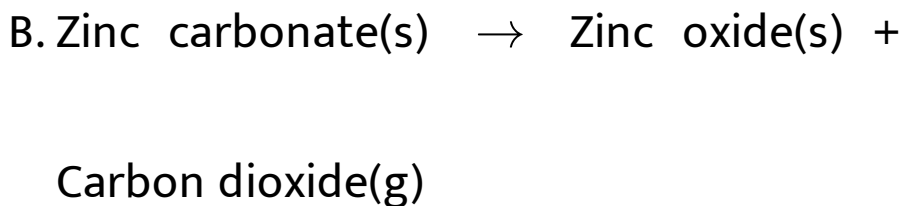
→ Potassium iodide(aq) + Barium
bromide(s)

(ii) Zinc carbonate(s) → Zinc oxide(s) +
Carbon dioxide(g)

(iii) Hydrogen(g) + Chlorine(g) → Hydrogen
chloride(g)

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

A. Potassium bromide(aq) + Barium
iodide(aq) → Potassium iodide(aq) +
Barium bromide(s)



Answer:



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



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



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



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



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



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



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



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

(a) Oxidation

(b) Reduction



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25. 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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26. Why do we apply paint on iron articles?



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



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28. Explain the following terms with one example each.

(a) Corrosion

(b) Rancidity



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