



CHEMISTRY

BOOKS - KUMAR PRAKASHAN

CHEMICAL REACTIONS AND EQUATIONS

Questions And Answers

1. State the chemical reactions observed in daily life.



2. What type of changes are observed during chemical reaction ?

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3. How is the chemical reaction written ? Explain it with suitable

example.

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4. What is meant by unbalanced chemical equation ?
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5. State the importance of balanced chemical equation.
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6. Why is the balancing of chemical equation essential ?

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7. How do you balance the chemical equation ? Explain it stepwise

with suitable illustration.

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Questions And Answers Intext Questions

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

air ?

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2. Write the balanced equation for the chemical reactions :

Hydrogen + Chlorine Hydrogen chloride

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3. Write the balanced equation for the chemical reactions :

Barium chloride + Aluminium sulphate \rightarrow Barium sulphate + Aluminium chloride

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4. Write the balanced equation for the chemical reactions :

Sodium + Water \rightarrow Sodium hydroxide + Hydrogen

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5. Write a balanced chemical equation with physical state symbols

for the reactions :

Solutions of barium chloride and sodium sulphate in water react

to give insoluble barium sulphate and the solution of sodium chloride.

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

Sodium hydroxide solution (in water) reacts with hydrochloric acid

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



Questions And Answers Intext Questions Types Of Chemical Reactions

1. How is the product formed during the chemical reaction ?

Questions And Answers Intext Questions Types Of Chemical Reactions Combination Reaction

1. What is meant by combination reaction ? Explain it with a suitable example.

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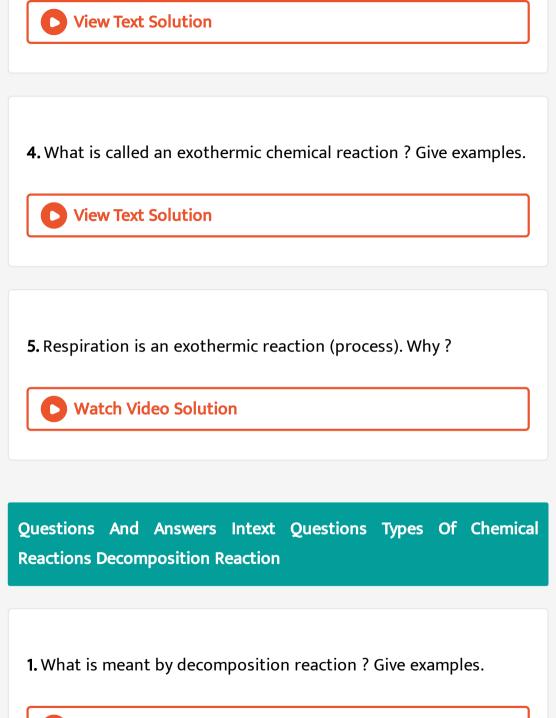
2. Mention the type of reactions involving burning of coal and

formation of water. Write equation for the reactions.

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3. What is used for whitewashing of the walls of the house carried

out ? Explain the preparation by showing chemical equation.



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2. Which substance is used in the manufacture of cement ? Write

its equation.

O Watch Video Solution	
3. Whose presence causes the decomposition reaction ? Can it be	
considered as an endothermic reaction ?	
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4. What happens, when ammonium chloride is added to barium	
4. What happens, when ammonium chloride is added to barium hydroxide ? What changes in temperature take place during the	

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5. A solution of a substance X is used for whitewashing.

(1) Name the substance .X. and write its formula.

(2) Write the reaction of the substance X named in (1) above with

water.

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6. Why is the amount of gas collected in one of the test tubes in activity double of the amount collected in the other ? Name these gases.

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Questions And Answers Intext Questions Displacement Reaction

1. What is meant by displacement reaction ? Give examples.





Questions And Answers Intext Questions Double Displacement Reaction

1. What is called double displacement reaction ? Give examples.

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2. What is meant by precipitation reaction ? Explain it with examples.



Questions And Answers Intext Questions Oxidation And Reduction

1. What is meant by oxidation and reduction reactions ? Explain it

by giving examples

View Text Solution 2. What is called redox reaction (or oxidation - reduction reactions)? Explain it with suitable examples. Watch Video Solution **Questions And Answers Intext Questions Corrosion** 1. Write a note on corrosion.

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1. Write a note on .Rancidity..



Questions And Answers Intext Questions

1. Why does the colour of copper sulphate solution change, when

an iron nail is dipped in it ?

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2. Give an example of double displacement reaction other than the

one given in activity 1.10.

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3. Identify the substances that are oxidised and the substances

that are reduced in the reaction :

 $4Na(s) + O_2 + 2Na_2O(s)$

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4. Identify the substances that are oxidised and the substances

that are reduced in the reaction :

 $CuO(s)+H_2(g)
ightarrow Cu(s)+H_2O(I)$

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Questions And Answers Activity 11

1. Aim: To study the burning of magnesium ribbon in air.

Caution : It is necessary that this activity should be performed in the presence of a teacher. For safety purpose, teacher and student should wear goggles.

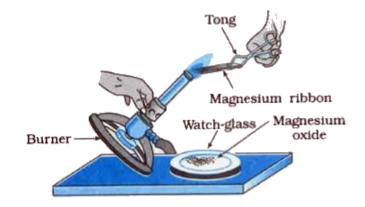
Activity:

Take approximately 3-4 cm long magnesium ribbon and make it clean by rubbing it with sand paper.

Hold it with a pair of tongs and heat on the flame of burner or spirit lamp and the ash being formed collects in the watch-glass as shown in the figure 1.1.

Collected ash in the watch-glass is of magnesium oxide.

Burn the magnesium ribbon. Keeping it away as far as possible from your eyes.



Why is magnesium ribbon selected ?



2. Aim: To study the burning of magnesium ribbon in air.

Caution : It is necessary that this activity should be performed in

the presence of a teacher. For safety purpose, teacher and student

should wear goggles.

Activity:

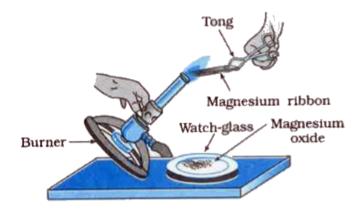
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Hold it with a pair of tongs and heat on the flame of burner or

spirit lamp and the ash being formed collects in the watch-glass as shown in the figure 1.1.

Collected ash in the watch-glass is of magnesium oxide.

Burn the magnesium ribbon. Keeping it away as far as possible from your eyes.



What is the colour of magnesium ribbon initially?



3. Aim: To study the burning of magnesium ribbon in air.

Caution : It is necessary that this activity should be performed in

the presence of a teacher. For safety purpose, teacher and student

should wear goggles.

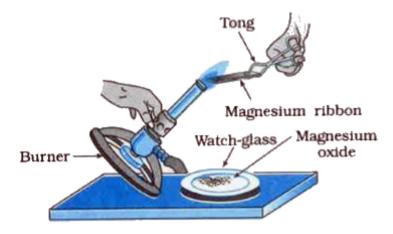
Activity:

Take approximately 3-4 cm long magnesium ribbon and make it clean by rubbing it with sand paper.

Hold it with a pair of tongs and heat on the flame of burner or spirit lamp and the ash being formed collects in the watch-glass as shown in the figure 1.1.

Collected ash in the watch-glass is of magnesium oxide.

Burn the magnesium ribbon. Keeping it away as far as possible from your eyes.



Which type of flame is formed during the burning of magnesium

ribbon?



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4. Aim: To study the burning of magnesium ribbon in air. Caution : It is necessary that this activity should be performed in the presence of a teacher. For safety purpose, teacher and student should wear goggles.

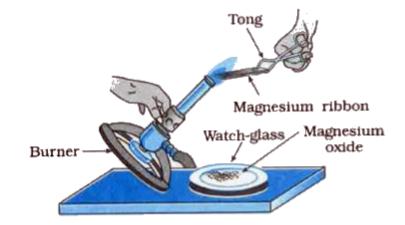
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Take approximately 3-4 cm long magnesium ribbon and make it clean by rubbing it with sand paper.

Hold it with a pair of tongs and heat on the flame of burner or spirit lamp and the ash being formed collects in the watch-glass as shown in the figure 1.1.

Collected ash in the watch-glass is of magnesium oxide.

Burn the magnesium ribbon. Keeping it away as far as possible from your eyes.



What is the composition of ash collected in watch-glass ?



5. Aim: To study the burning of magnesium ribbon in air.

Caution : It is necessary that this activity should be performed in

the presence of a teacher. For safety purpose, teacher and student

should wear goggles.

Activity:

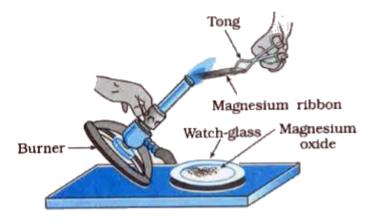
Take approximately 3-4 cm long magnesium ribbon and make it clean by rubbing it with sand paper.

Hold it with a pair of tongs and heat on the flame of burner or

spirit lamp and the ash being formed collects in the watch-glass as shown in the figure 1.1.

Collected ash in the watch-glass is of magnesium oxide.

Burn the magnesium ribbon. Keeping it away as far as possible from your eyes.



Write the chemical reaction of forming the magnesium oxide.

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Questions And Answers Activity 1 2

1. Aim : To study the reaction between lead nitrate and potassium iodide.

Activity:

Take lead nitrate solution in a test tube.

Add the solution of potassium iodide in it.

What is the colour of lead nitrate solution ?



2. Aim : To study the reaction between lead nitrate and potassium iodide.

Activity:

Take lead nitrate solution in a test tube.

Add the solution of potassium iodide in it.

What is the colour of an aqueous solution of potassium iodide ?

3. Aim : To study the reaction between lead nitrate and potassium iodide.

Activity:

Take lead nitrate solution in a test tube.

Add the solution of potassium iodide in it.

Write the balanced chemical equation for the reaction that takes

place between lead nitrate and potassium iodide.



4. Aim : To study the reaction between lead nitrate and potassium

iodide.

Activity:

Take lead nitrate solution in a test tube.

Add the solution of potassium iodide in it.

What is the colour of PbI_2 ?



5. Aim : To study the reaction between lead nitrate and potassium iodide.

Activity:

Take lead nitrate solution in a test tube.

Add the solution of potassium iodide in it.

Identify the type of the above reaction.

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Questions And Answers Activity 13

1. Aim: To study the reaction between zinc metal and dilute sulphuric acid.

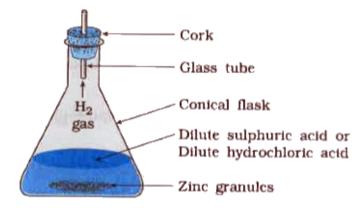
Caution: Use the acid with care.

Activity:

Take a conical flask.

Add a piece of zinc granules in it.

Then add dilute hydrochloric acid or dilute sulphuric acid.



What appears around the zinc granules ?



2. Aim: To study the reaction between zinc metal and dilute sulphuric acid.

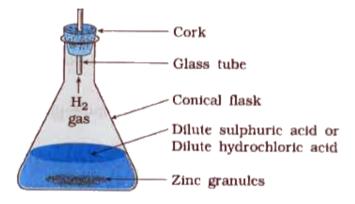
Caution: Use the acid with care.

Activity:

Take a conical flask.

Add a piece of zinc granules in it.

Then add dilute hydrochloric acid or dilute sulphuric acid.



What happens to the conical flask?



3. Aim: To study the reaction between zinc metal and dilute sulphuric acid.

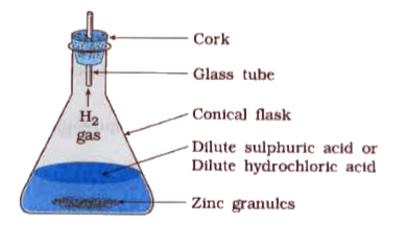
Caution: Use the acid with care.

Activity:

Take a conical flask.

Add a piece of zinc granules in it.

Then add dilute hydrochloric acid or dilute sulphuric acid.



State the reaction occurring between the pieces of zinc and dilute

HCI.



4. Aim: To study the reaction between zinc metal and dilute sulphuric acid.

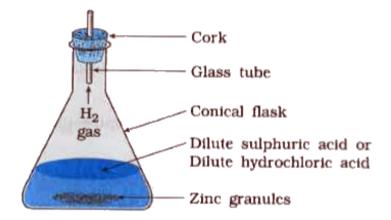
Caution: Use the acid with care.

Activity:

Take a conical flask.

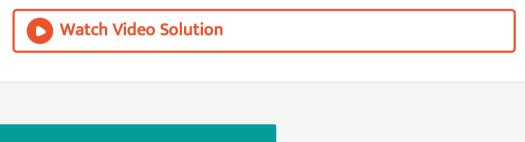
Add a piece of zinc granules in it.

Then add dilute hydrochloric acid or dilute sulphuric acid.



Which type of reaction takes place between the pieces of zinc and

dilute HCI ?



Questions And Answers Activity 14

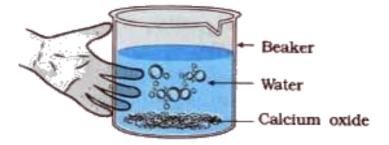
1. Aim: To study the reaction between calcium oxide and water.

Activity:

Take some quick lime (Calcium oxide - CaO) in a beaker. Add water

to it slowly.

Touch the beaker as shown in the figure 1.3.



What is formed by reaction of quick lime with water ? Write reaction.

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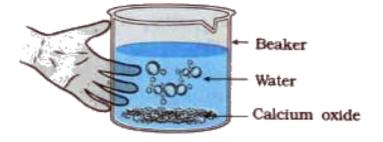
2. Aim: To study the reaction between calcium oxide and water.

Activity:

Take some quick lime (Calcium oxide - CaO) in a beaker. Add water

to it slowly.

Touch the beaker as shown in the figure 1.3.



What is called the reaction occurring between quick lime and water ?

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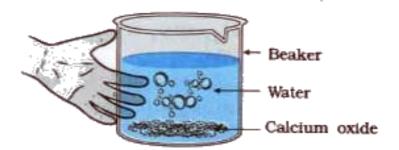
3. Aim: To study the reaction between calcium oxide and water.

Activity:

Take some quick lime (Calcium oxide - CaO) in a beaker. Add water

to it slowly.

Touch the beaker as shown in the figure 1.3.



What do you feel by touching the beaker outside ?

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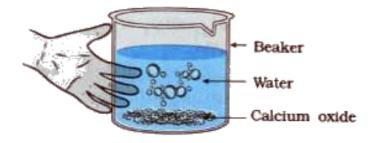
4. Aim: To study the reaction between calcium oxide and water.

Activity:

Take some quick lime (Calcium oxide - CaO) in a beaker. Add water

to it slowly.

Touch the beaker as shown in the figure 1.3.



What is slaked lime ?

Questions And Answers Activity 1 5

1. Aim : To study the decomposition of ferrous sulphate on heating Activity:

Take approximately 2 g of ferrous sulphate crystals in a dry boiling tube.

Heat the boiling tube over the flame of a burner.

Observe the colour of the ferrous sulphate crystals carefully during the heating.

Observe the colour of the crystals after heating it.



What is the colour of crystals of ferrous sulphate ?

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2. Aim : To study the decomposition of ferrous sulphate on

heating

Activity:

Take approximately 2 g of ferrous sulphate crystals in a dry boiling

tube.

Heat the boiling tube over the flame of a burner.

Observe the colour of the ferrous sulphate crystals carefully during the heating.

Observe the colour of the crystals after heating it.



Which colour is observed on heating the crystals of ferrous

sulphate?



3. Aim : To study the decomposition of ferrous sulphate on

heating

Activity:

Take approximately 2 g of ferrous sulphate crystals in a dry boiling tube.

Heat the boiling tube over the flame of a burner.

Observe the colour of the ferrous sulphate crystals carefully during the heating.

Observe the colour of the crystals after heating it.



On heating ferrous sulphate in boiling tube, a gas evolved which

has a characteristic smell. What is its reason ?

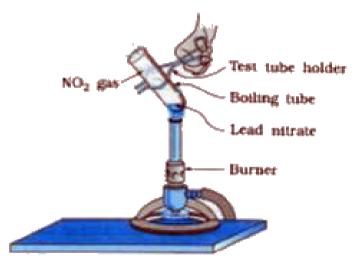


1. Aim : To study the decomposition of lead nitrate.

Activity:

Take about 2g of lead nitrate powder in a boiling tube.

Hold the boiling tube with a pair of tongs and heat it over the flame of a burner.



Which gas is evolved from boiling tube on heating lead nitrate ?

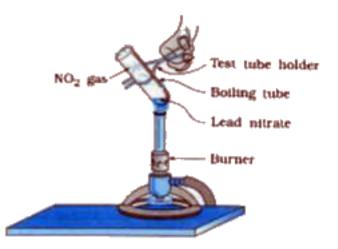


2. Aim : To study the decomposition of lead nitrate.

Activity:

Take about 2g of lead nitrate powder in a boiling tube.

Hold the boiling tube with a pair of tongs and heat it over the flame of a burner.



Write the equation of reaction of heating lead nitrate.



Questions And Answers Activity 17

1. Aim: To study electrolysis of water.

Activity:

Take a plastic mug. Drill two holes at the base of the mug. Fix two rubber corks in it, as shown in the figure 1.6.

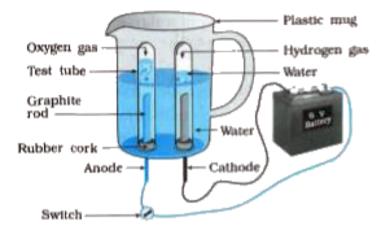
Arrange the test tubes in inverted position such that carbon electrodes remains in it as shown in the figure.

Add water in a mug such that electrodes are immersed.

Add a few drops of dilute sulphuric acid to water.

Connect electrodes to a 6 volt battery.

Now, switch on the current and leave the apparatus undisturbed for some time.



What is an electrode ?



2. Aim: To study electrolysis of water.

Activity:

Take a plastic mug. Drill two holes at the base of the mug. Fix two rubber corks in it, as shown in the figure 1.6.

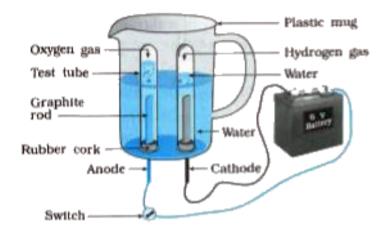
Arrange the test tubes in inverted position such that carbon electrodes remains in it as shown in the figure.

Add water in a mug such that electrodes are immersed.

Add a few drops of dilute sulphuric acid to water.

Connect electrodes to a 6 volt battery.

Now, switch on the current and leave the apparatus undisturbed



for some time.

Which gas is evolved at anode during electrolysis of water ?



3. Aim: To study electrolysis of water.

Activity:

Take a plastic mug. Drill two holes at the base of the mug. Fix two

rubber corks in it, as shown in the figure 1.6.

Arrange the test tubes in inverted position such that carbon

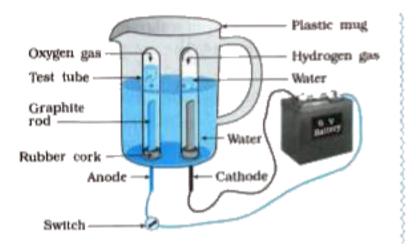
electrodes remains in it as shown in the figure.

Add water in a mug such that electrodes are immersed.

Add a few drops of dilute sulphuric acid to water.

Connect electrodes to a 6 volt battery.

Now, switch on the current and leave the apparatus undisturbed for some time.



Which gas is evolved at cathode during electrolysis of water ?



4. Aim: To study electrolysis of water.

Activity:

Take a plastic mug. Drill two holes at the base of the mug. Fix two rubber corks in it, as shown in the figure 1.6.

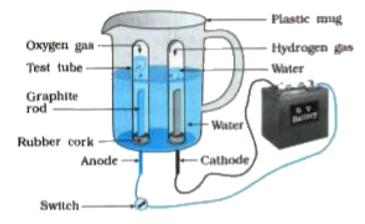
Arrange the test tubes in inverted position such that carbon electrodes remains in it as shown in the figure.

Add water in a mug such that electrodes are immersed.

Add a few drops of dilute sulphuric acid to water.

Connect electrodes to a 6 volt battery.

Now, switch on the current and leave the apparatus undisturbed for some time.



State the chemical equation of reaction of electrolysis of water.



5. Aim: To study electrolysis of water.

Activity:

Take a plastic mug. Drill two holes at the base of the mug. Fix two

rubber corks in it, as shown in the figure 1.6.

Arrange the test tubes in inverted position such that carbon

electrodes remains in it as shown in the figure.

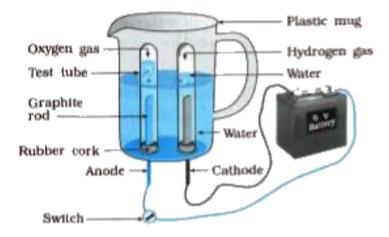
Add water in a mug such that electrodes are immersed.

Add a few drops of dilute sulphuric acid to water.

Connect electrodes to a 6 volt battery.

Now, switch on the current and leave the apparatus undisturbed

for some time.



What happens when $O_2(g)$ and $H_2(g)$ evolved are brought close

to the burning candle ?

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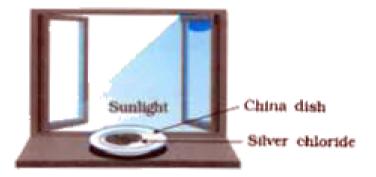
Questions And Answers Activity 18

1. Aim : To study photochemical decomposition of silver chloride.

Activity:

Take about 2 g of silver chloride in a china dish.

Put this china dish in sunlight for some time.



What was the colour of silver chloride before exposure to sunlight?



2. Aim : To study photochemical decomposition of silver chloride.

Activity:

Take about 2 g of silver chloride in a china dish.

Put this china dish in sunlight for some time.



What is the change in colour of silver chloride during its exposure

to sunlight for sometime ?

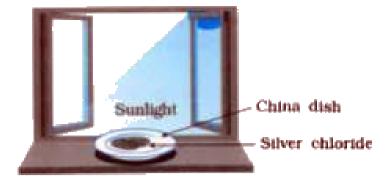
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3. Aim : To study photochemical decomposition of silver chloride.

Activity:

Take about 2 g of silver chloride in a china dish.

Put this china dish in sunlight for some time.



State the chemical equation of decomposition reaction of silver

chloride and silver bromide in presence of sunlight.

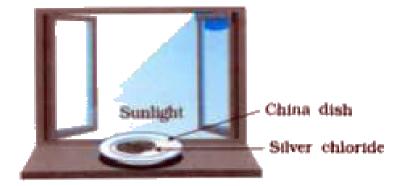


4. Aim : To study photochemical decomposition of silver chloride.

Activity:

Take about 2 g of silver chloride in a china dish.

Put this china dish in sunlight for some time.



State the uses of AgCl and AgBr.



Questions And Answers Activity 19

1. Aim : To study the displacement reaction taking place between

iron nail and solution of copper sulphate.

Activity:

Take three iron nails and clean their surface by rubbing them with a sand paper.

Take two test tubes labelled as (A) and (B). Take about 10 mL

solution of copper sulphate in each test tube.

Tie two iron nails with a thread and immerse them in copper sulphate solution for about 20 minutes.

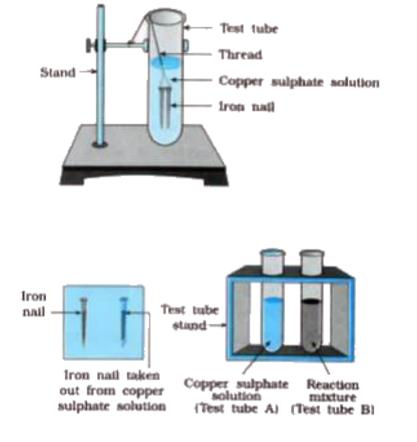
Keep one iron nail aside for comparison.

Take out the iron nails from the copper sulphate solution after 20 minutes.

Compare the colour of both iron nails with the nail kept aside.

Compare the intensity of the colour of copper sulphate solutions

of both the test tubes, (A) and (B).



What would be the colour of iron nail placed in the solution of

 $CuSO_4$?



2. Aim : To study the displacement reaction taking place between

iron nail and solution of copper sulphate.

Activity:

Take three iron nails and clean their surface by rubbing them with a sand paper.

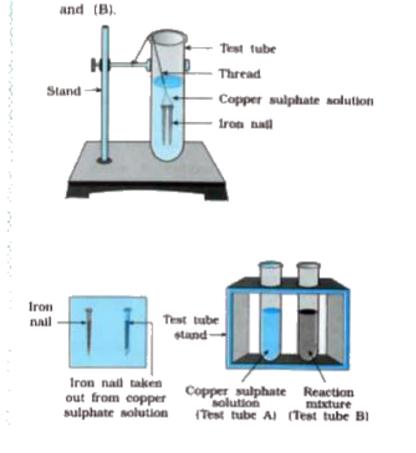
Take two test tubes labelled as (A) and (B). Take about 10 mL solution of copper sulphate in each test tube.

Tie two iron nails with a thread and immerse them in copper sulphate solution for about 20 minutes.

Keep one iron nail aside for comparison.

Take out the iron nails from the copper sulphate solution after 20 minutes.

Compare the colour of both iron nails with the nail kept aside. Compare the intensity of the colour of copper sulphate solutions of both the test tubes, (A) and (B).



What would be the change in colour of solution of copper

sulphate?



3. Aim : To study the displacement reaction taking place between

iron nail and solution of copper sulphate.

Activity:

Take three iron nails and clean their surface by rubbing them with a sand paper.

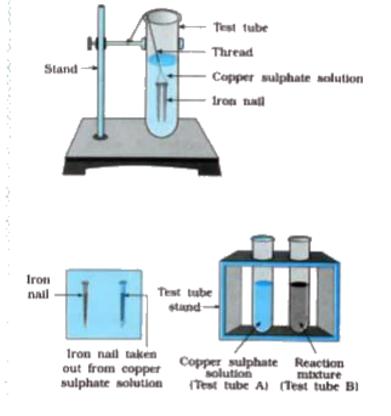
Take two test tubes labelled as (A) and (B). Take about 10 mL solution of copper sulphate in each test tube.

Tie two iron nails with a thread and immerse them in copper sulphate solution for about 20 minutes.

Keep one iron nail aside for comparison.

Take out the iron nails from the copper sulphate solution after 20 minutes.

Compare the colour of both iron nails with the nail kept aside. Compare the intensity of the colour of copper sulphate solutions of both the test tubes, (A) and (B).



Which reaction takes place when iron nail is dipped in the solution

of copper sulphate ?



4. Aim : To study the displacement reaction taking place between

iron nail and solution of copper sulphate.

Activity:

Take three iron nails and clean their surface by rubbing them with a sand paper.

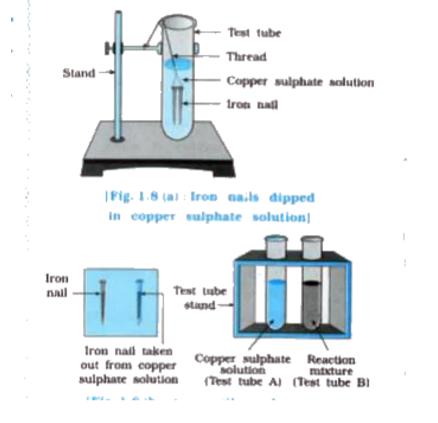
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Tie two iron nails with a thread and immerse them in copper sulphate solution for about 20 minutes.

Keep one iron nail aside for comparison.

Take out the iron nails from the copper sulphate solution after 20 minutes.

Compare the colour of both iron nails with the nail kept aside. Compare the intensity of the colour of copper sulphate solutions of both the test tubes, (A) and (B).



What type of chemical reaction occur, when iron nail is dipped in

copper sulphate solution ?



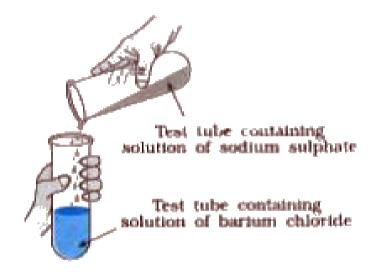
Questions And Answers Activity 1 10

Activity:

Take about 3 mL of sodium sulphate solution in a test tube.

In another test tube, take about 3 mL of barium chloride solution.

Mix the two solutions as shown in the figure.



What is the colour of sodium sulphate and barium chloride solutions ?

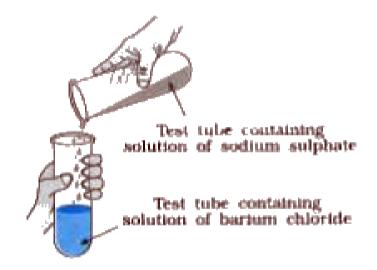
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Activity:

Take about 3 mL of sodium sulphate solution in a test tube.

In another test tube, take about 3 mL of barium chloride solution.

Mix the two solutions as shown in the figure.



Which precipitate is obtained by mixing the solution of sodium

sulphate and barium chloride ? Mention its colour.

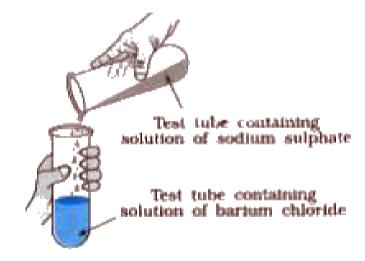


Activity:

Take about 3 mL of sodium sulphate solution in a test tube.

In another test tube, take about 3 mL of barium chloride solution.

Mix the two solutions as shown in the figure.



Write a balanced chemical equation for the reaction between barium chloride and sodium sulphate.

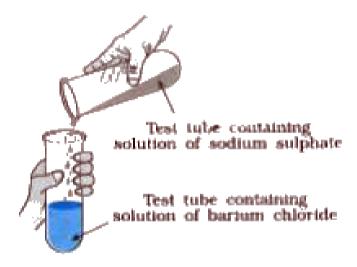


Activity:

Take about 3 mL of sodium sulphate solution in a test tube.

In another test tube, take about 3 mL of barium chloride solution.

Mix the two solutions as shown in the figure.



What type of chemical reaction takes place between barium

chloride and sodium sulphate ?

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Questions And Answers Activity 1 11

1. Aim: To study oxidation of copper to copper oxide.

Activity:

Take 1 g of copper powder in a china dish and heat it as shown in

the figure.



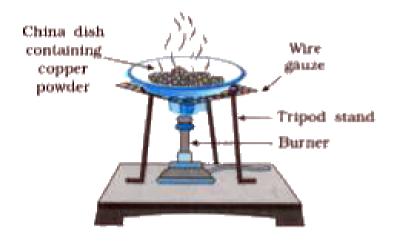
What happens on heating the copper powder ?



2. Aim: To study oxidation of copper to copper oxide.

Activity:

Take 1 g of copper powder in a china dish and heat it as shown in the figure.



State the colour of copper oxide.

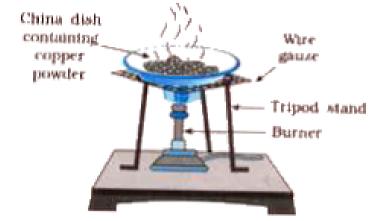


3. Aim: To study oxidation of copper to copper oxide.

Activity:

Take 1 g of copper powder in a china dish and heat it as shown in

the figure.



What type of reaction is represented by the reaction of formation

of copper oxide from copper ?

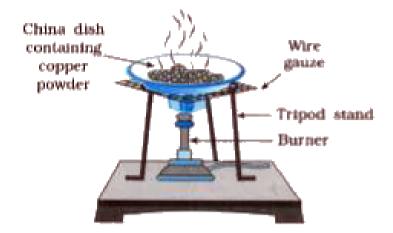
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4. Aim: To study oxidation of copper to copper oxide.

Activity:

Take 1 g of copper powder in a china dish and heat it as shown in

the figure.



Which product is obtained by passing hydrogen gas over hot

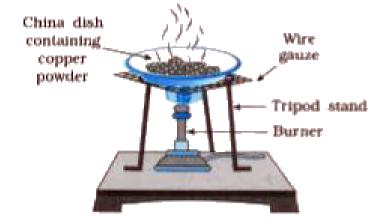
copper oxide ?

Niew Text Solution

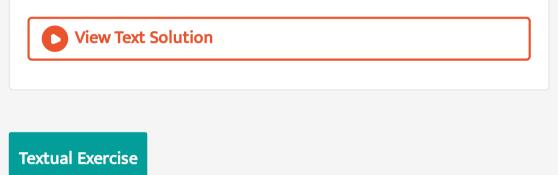
5. Aim: To study oxidation of copper to copper oxide.

Activity:

Take 1 g of copper powder in a china dish and heat it as shown in the figure.



Name the reaction of forming copper from copper oxide.



1. Which of the statements about the reaction below are incorrect

?

 $2PbO(s)+C(s)
ightarrow 2Pb(s)+CO_2(g)$

- (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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2.
$$Fe_2O_3 + 2Al
ightarrow Al_2O_3 + 2Fe$$

The above reaction is an example of a

A. combination reaction.

B. double displacement reaction.

C. decomposition reaction.

D. displacement reaction,

Answer: D

D View Text Solution

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

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:

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

equations be balanced ?

View Text Solution

5. Translate the statement into chemical equations and then balance them:

Hydrogen gas combine with nitrogen to form ammonia.

View Text Solution

6. Translate the statements into chemical equations and then balance them:

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



7. Translate the statements into chemical equations and then balance them:

Barium chloride reacts with aluminium sulphate to give aluminium

chloride and a precipitate of barium sulphate.

View Text Solution

8. Translate the statements into chemical equations and then balance them:

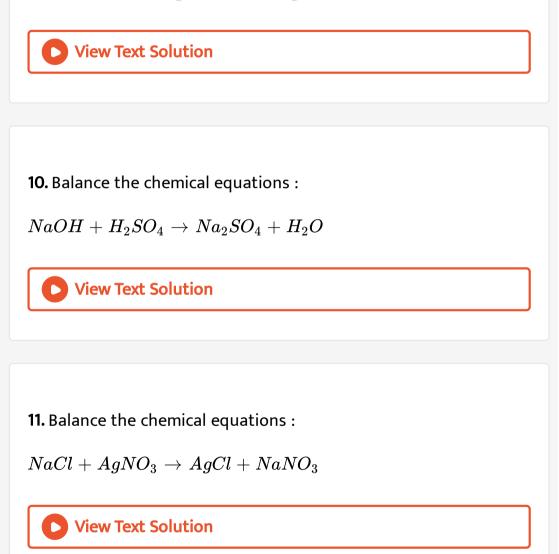
Potassiam metal reacts with water to give potassium hydroxide

and hydrogen gas.



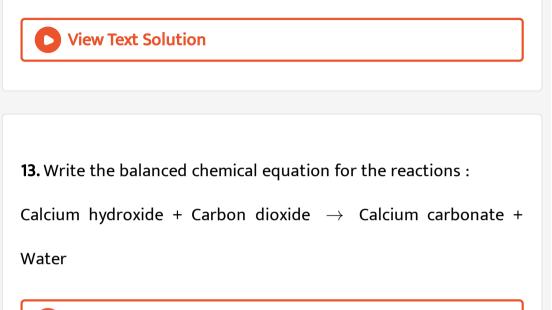
9. Balance the chemical equations :

 $HNO_3 + Ca(OH)_2
ightarrow Ca(NO_3)_2 + H_2O$



12. Balance the chemical equations :

 $BaCl_2 + H_2SO_4
ightarrow BaSO_4 + HCl$



View Text Solution

14. Write the balanced chemical equation for the reactions :

Zinc + Silver nitrate \rightarrow Zinc nitrate + Silver

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15. Write the balanced chemical equation for the reactions :

Aluminium + Copper chloride \rightarrow Aluminium chloride + Copper

View Text Solution 16. Write the balanced chemical equation for the reactions : Barium chloride + Potassium sulphate \rightarrow Barium sulphate +

Potassium chloride

View Text Solution

17. Write the balanced chemical equation and identify the type of reaction :

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



18. Write the balanced chemical equation and identify the type of

reaction :

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

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19. Write the balanced chemical equation and identify the type of

reaction :

Hydrogen(g) + Chlorine(g) \rightarrow Hydrogen chloride(g)

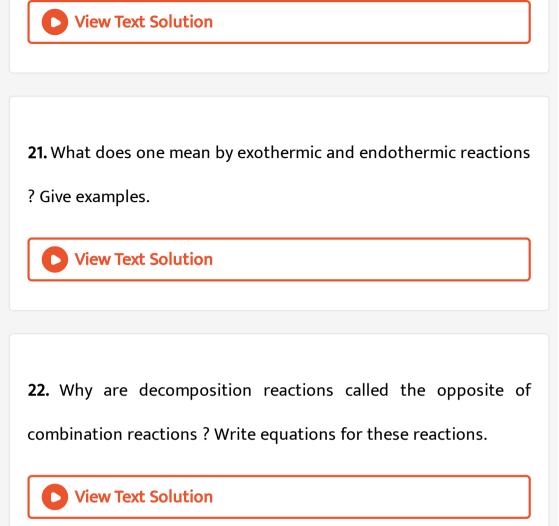
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20. Write the balanced chemical equation and identify the type of

reaction :

Magnesium(s) + Hydrochloric acid(aq) ightarrow Magnesium

```
chloride(aq) + Hydrogen(g)
```



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

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

View Text Solution	

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



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

(a) Oxidation (b) Reduction



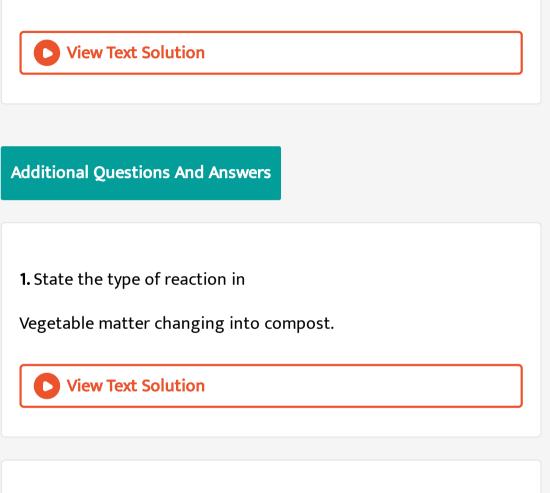
28. A shiny brown coloured element .X. on heating in air becomes black in colour. Name the element .X. and the black coloured compound formed.

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29. Why do we apply paint on iron articles ?

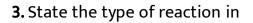
30. Oil and fat containing food items are flushed with nitrogen.

Why?

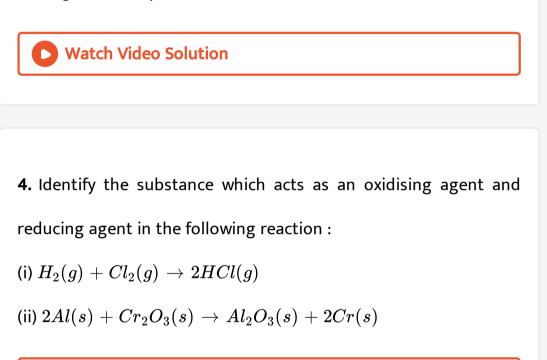


2. State the type of reaction in

Burning of natural gas



Adding water to quick lime to form slaked lime.



Watch Video Solution

5. $AgNO_{3}(aq) + NaCl(aq)
ightarrow AgCl(s) \downarrow + NaNO_{3}(aq)$

 $FeS(s) + H_2SO_4(aq)
ightarrow FeSO_4 + H_2S \uparrow$

6. Distinguish between :

Endothermic reaction and Exothermic reaction

View Text Solution			
7. Distinguish between :			
Oxidation reaction and Reduction reaction			
View Text Solution			
8. What happens when carbon dioxide and water react in the same			
ratio ?			
View Text Solution			

9. How can the black coating of copper oxide be removed chemically ?



10. When quick lime is added to water, a hissing sound is produced. Write the chemical reaction and state the type of reaction that takes place.

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11. Write the name of the products obtained and type of reaction

given below:

 $Na_2SO_4 + BaCl_2 \rightarrow \ldots + \ldots$

12. Reactants A and B react together and forms zinc chloride and

hydrogen gas. Identify A and B. Write the chemical equation.

13. State the ascending order of reactivity for Cu, Ag and Fe metals based on the reaction given below:

(i)
$$Fe(s)+CuSO_4
ightarrow FeSO_4(aq)+Cu(s)$$

(ii) $Cu(s) + FeSO_4(aq)
ightarrow$ No reaction

(iii)
$$Cu(s)+2AgNO_3(aq)
ightarrow Cu(NO_3)_2(aq)+2Ag(s)$$

(iv) $2Ag(s) + Cu(NO_3)_2
ightarrow$ No reaction

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14. State the true and false option for the chemical reaction given

below:

 $3Fe(s)+4H_2O(g)
ightarrow Fe_3O_4
ightarrow FeO_4(s)+4H_2(g)$

(i) Fe is being oxidised.

(ii) Water is being reduced.

(iii) Water acts as reducing agent.

(iv) Water acts as oxidising agent.

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15. Choose the true and false statements for the reaction

 $CuO+H_2
ightarrow Cu+H_2O$.

- (i) Cuo is an oxidising agent.
- (ii) H_2 is being oxidised.
- (iii) The reaction is a displacement reaction.
- (iv) The valency of Cu is not changing.

16. Three test tubes are taken and marked as .X., .Y. and .Z.. In test tube X, iron nail is dipped in water. In test tube Y, iron nail is dipped in mixture of water and oil. In test tube Z, iron nail is added with dry $CaCl_2$. In which test tube, the iron nail will rust ? Why ?

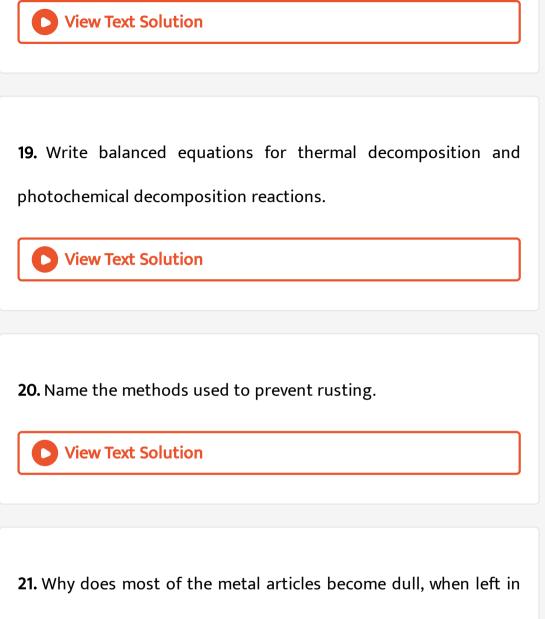


17. A metal .M. kept in air turns green and when it is heated, it turns black. Name the metal and the compound formed in both cases.



18. State the equations of zinc and lead, where it displaces copper

from its compounds.

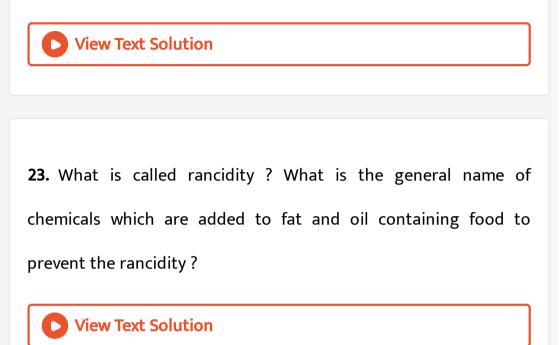


an open air ?



22. Give two examples of a reaction which is both endothermic

and decomposition in nature.



24. Why is photosynthesis considered as an endothermic reaction

?

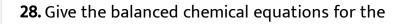
25. What is meant by electrolysis ? Mention its two uses with examples.



26. Write the definition of displacement reaction. Give one example of it and explain, how is it different from double displacement reaction.

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27. How does a chemical equation makes a reaction more informative ?



Reaction used in black and white photography

View Text Solution 29. Give the balanced chemical equations for the Reaction of oxidation of glucose

Watch Video Solution

30. Give the balanced chemical equations for the

Formation of water from H_2 and O_2



31. What is a redox reaction ? When a magnesium ribbon is burnt in air, it burns with a dazzling white flame and white powder is formed. Is magnesium oxidised or reduced ? Why ?

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32. Name different types of chemical reactions, and explain it with

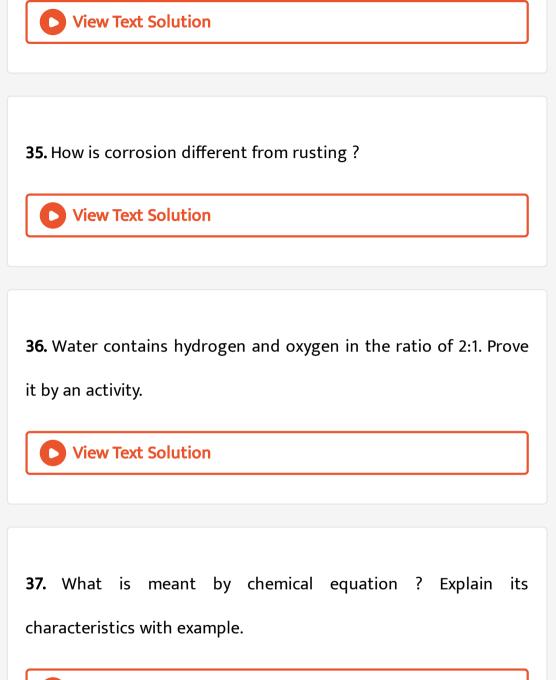
suitable example.

D View Text Solution

33. What is called rancidity?

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34. Suggest two methods to reduce the effect of rancidity.





Additional Questions And Answers Give Scientific Reasons For The Following Statements

1. Food items should be stored in air tight closed containers.

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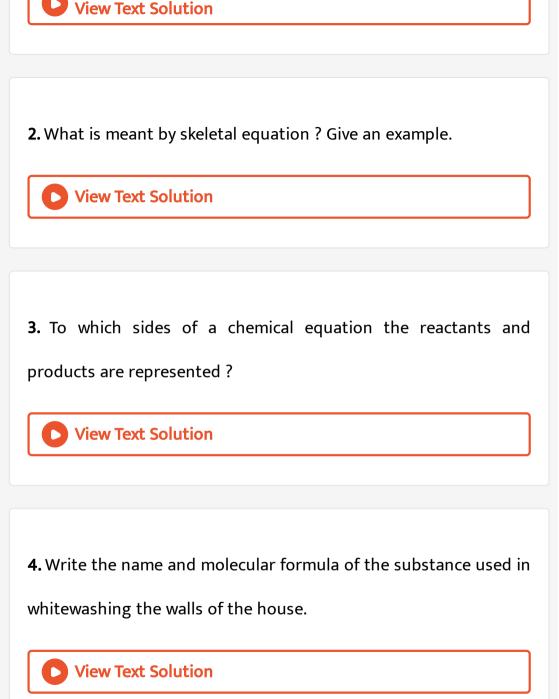
2. A thin layer of zinc is applied on the plates of steamer to

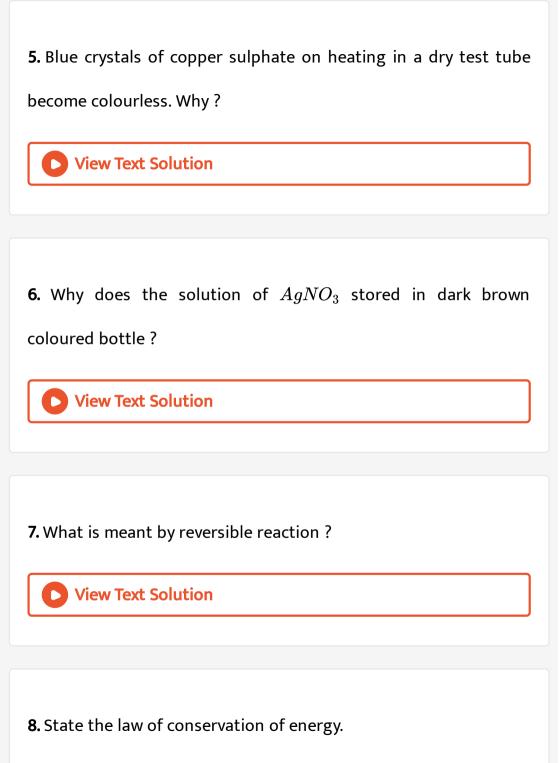
prevent its rusting.

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Objective Questions And Answers Answer The Questions In Short

1. Write the chemical reaction taking place between lead nitrate and potassium iodide. Identify the type of reaction.









9. Which carbohydrate substances, on decomposition form

glucose?

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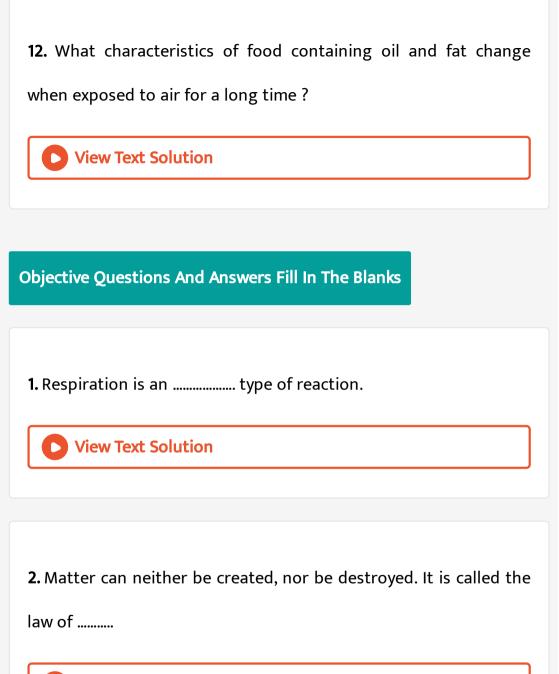
10. Which substance is reduced in the following reaction ?

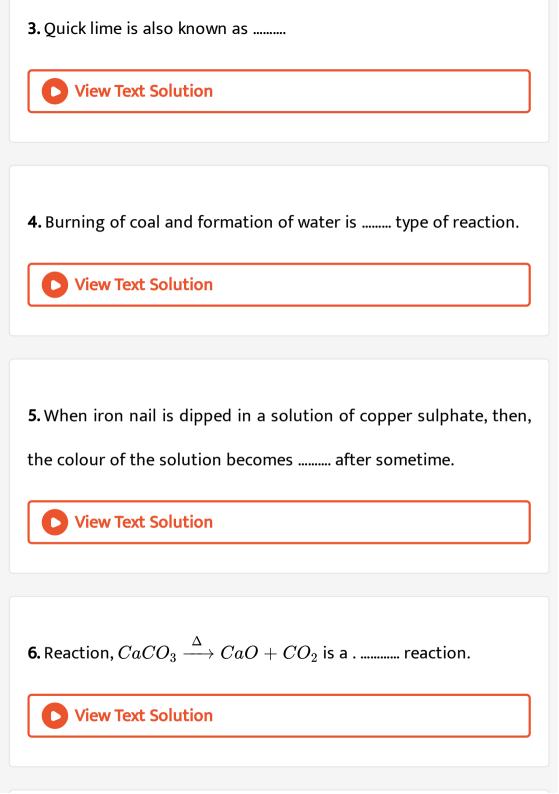
 ${\sf Reaction}: 8Al+3Fe_3O_4 \rightarrow 4Al_2O_3+9Fe$

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11. Which compound is used in black and white photography?







7 is used in black and white photography.				
View Text Solution				
8. Reducing agent undergoes				
View Text Solution				
9. $Pb(s)+\ldots\ldots$ $ToPbCl_2(aq)+Cu(s)$				
View Text Solution				

Objective Questions And Answers Choose The Correct Option From Those Given Below Each Question **1.** 6g of hydrogen is burnt in the presence of excess oxygen. The mass of water formed is:

A. 54 g

B. 108 g

C. 36 g

D. 18 g

Answer: A

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2. Which information not obtained by the balanced chemical equation ?

A. Physical states of reactants and products.

B. Symbols and formulae of all the substances involved in a

particular reaction.

C. Number of atoms / molecules of the reactants and

products formed.

D. Whether a particular reaction is actually feasible or not.

Answer: D

- 3. Which of the following are exothermic reactions ?
- (i) Evaporation of water
- (ii) Dilution of H_2SO_4
- (iii) Reaction of water with quick lime
- (iv) Sublimation of crystalline camphor

A. (i) and (ii)

B. (iii) and (iv)

C. (i) and (iv)

D. (ii) and (iii)

Answer:

View Text Solution

4. Reaction : $4NH_3(g)+5O_2(g)
ightarrow 4NO(g)+6H_2O(g)$ is an

example of:

(i) displacement reaction

(ii) combustion reaction

(iii) redox reaction

(iv) neutralisation reaction

A. (i) and (iv)

B. (ii) and (iii)

C. (iii) and (iv)

D. (i) and (ii)

Answer:

View Text Solution

5. Which of the following reaction occurs in whitewashing of walls

?

A. $2Ca+O_2
ightarrow 2CaO$

B. $CaO + H_2O \rightarrow Ca(OH)_2 + heat$

C. $Ca(OH)_2 + CO_2
ightarrow CaCO_3 + H_2O$

 $\mathsf{D.} \operatorname{Ca}(OH)_2 \xrightarrow{\Delta} \operatorname{Ca}O + H_2O$

Answer:

View Text Solution

6. What happens when crystals of lead nitrate are heated strongly

in a dry test tube ?

A. Crystals melt immediately.

B. Brown fumes are obtained.

C. White fumes get formed in the test tube.

D. Yellow precipitates are obtained.

Answer:

7. Dilute hydrochloric acid is added to test tube containing pieces of zinc. The following observations are recorded. Identify the correct observation.

A. The surface of metal becomes lustrous.

B. The reaction mixture becomes milky.

C. Odour of pungent smelling gas is experienced.

D. A colourless and odourless gas is formed.

Answer:

View Text Solution

8. Rancidity can be prevented by .

A. adding antioxidants.

B. storing the food in freeze.

C. keeping food away from the light.

D. All of the given.

Answer:

View Text Solution

9. Which of the following is not a single displacement reaction ?

A. $CuO+H_2
ightarrow H_2O+Cu$

B. $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$

 $\mathsf{C.}\,4NH_3+5O_2\rightarrow 4NO+6H_2O$

D. $Zn + 2HCl
ightarrow ZnCl_2 + H_2$

Answer:



10. An element X on exposure to moist air turns reddish brown and new compound Y is formed. Identify X and Y.

A. X = Fe,
$$Y = Fe_2O_3$$

$$\mathsf{B}.\, X = Ag, Y = Ag_2S$$

$$\mathsf{D}.\, X = Al, Y = Al_2O_3$$

Answer:



11. Identify the reducing agent in the following reaction :

 ${\sf Reaction}: 3O_2(g)+2H_2S(g) \rightarrow 2H_2O(l)+2SO_2(g)$

A. O_2

 $\mathsf{B.}\,H_2S$

 $\mathsf{C}.\,H_2O$

D. SO_2

Answer:

D View Text Solution

12. Both H_2 and CO_2 gases are...

A. heavier than air.

B. colourless.

C. acidic in nature.

D. soluable in water.

Answer:

View Text Solution

13. When reddish brown copper metal is heated it forms a black solid surface. Which of the following statement is incorrect ?

A. Black solid substance is CuO.

B. It is redox reaction,

C. It is precipitation reaction.

D. Copper undergo oxidation.

Answer:



14. Silver chloride is stored in dark coloured bottle because...

A. it is a white solid.

B. it gives redox reaction.

C. to avoid the effect of sunlight.

D. None of these

Answer:



15. On immersing the Zn rod in the solution of copper sulphate, you will observe ...

A. deposition of Cu on Zn

B. deposition of Zn on Cu.

C. Cu^{2+} oxidises.

D. blue coloured solution become more dark.

Answer:

View Text Solution

16. The reaction of H_2 gas with oxygen gas forms water. This

reaction is an example of:

A. combination reaction

B. redox reaction

C. an exothermic reaction

D. all of these reactions

Answer:

17. For the reaction, $CuO + H_2
ightarrow Cu + H_2O$, choose the correct statement.

A. CuO is an oxidising agent.

B. H_2 , undergo oxidation.

C. It is a displacement reaction.

D. All of the given

Answer:

View Text Solution

18. Select the proper option for the following statements :

Statement 1: Burning of magnesium ribbon in air is a redox

reaction.

Statement 2: Oxidation number of oxygen in its metal oxide is -1.

A. Statement 1 is correct.

B. Statement 2 is incorrect.

C. Statement 1 is correct, but statement 2 is incorrect.

D. Statement 1 and statement 2 both are incorrect.

Answer:

View Text Solution

Objective Questions And Answers Choose More Than One Correct Options From Those Given Below Each Question

1. Identify the type of reaction for

 $2Al+Cr_2O_3 \rightarrow Al_2O_3 + 2Cr$

(i) Oxidation (ii) Reduction (iii) Redox

A. Only (i)

B. Only (ii)

C. (i), (ii), (iii)

D. None of these

Answer:

- 2. What is correct for redox reaction ?
- (i) Reducing agent undergoes oxidation.
- (ii) Reducing agent undergoes reduction.
- (iii) Reduction reaction always occurs at cathode.
- (iv) Oxidising agent undergo oxidation.

A. Only (i), (ii)

B. Only (i), (iii)

C. Only (iii)

D. Given all

Answer:

D View Text Solution

3. Quick lime when added in water produces hissing sound. State

the type of reaction.

(i) Combination (ii) Endothermic

(iii) Exothermic (iv) Redox

A. Only (i),

B. Only (iii)

C. Only (i), (ii), (iii)

D. Only (iv)

Answer:

View Text Solution

Objective Questions And Answers Answer The Following Questions In One Word

1. Write the formula of rust.



2. Name the reaction observed during rancidity of food.

3. Write the formula of lead sulphate.

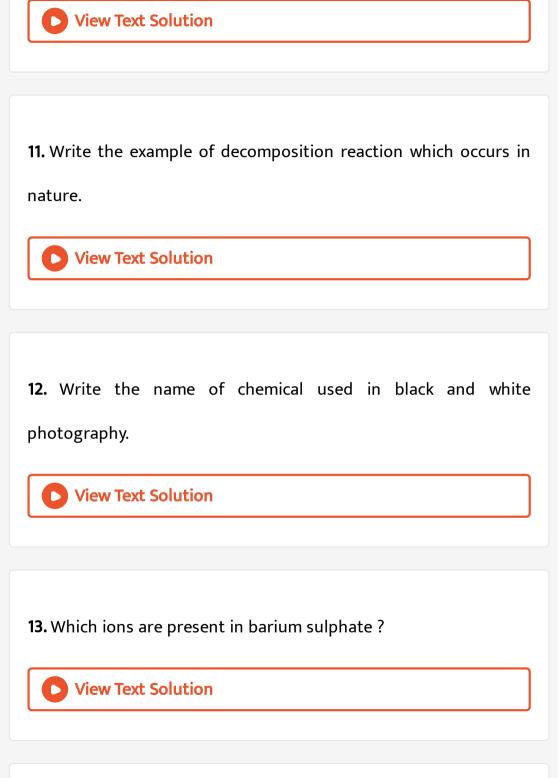
6. Name two metals which do not corrode.

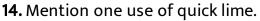


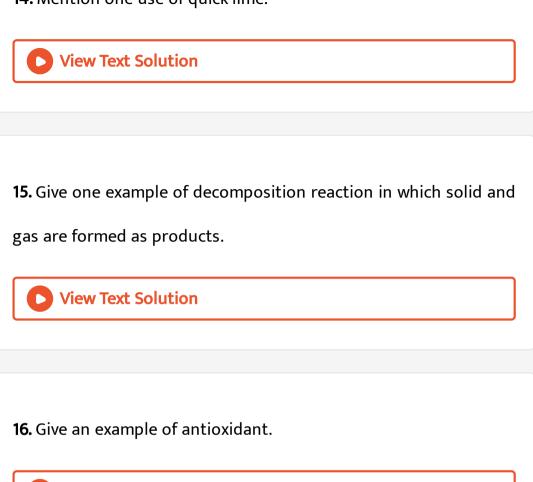
7. Which gas burns with popping sound ?

View Text Solution
8. Name the product formed, when silver bromide is exposed to sunlight.
View Text Solution
9. Which compound is used to detect the formation of carbon dioxide gas ?
View Text Solution

10. Name the gas evolved when lead nitrate is heated.





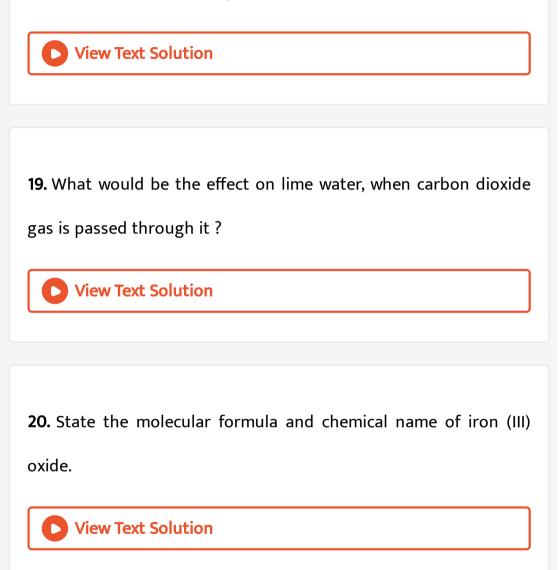


17. Write the reaction in which hydrogen acts as a reducing agent.

View Text Solution

18. Name the reaction in which two compounds exchange their

ions to form two new compounds.

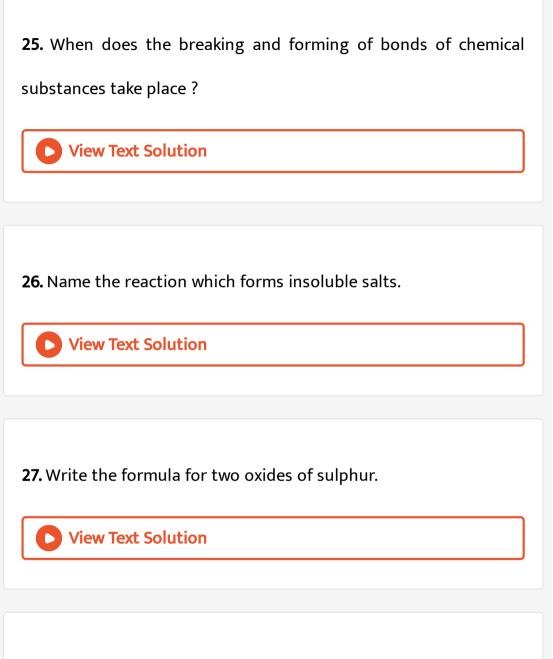


21. State different forms of energy required for breaking down the

molecules of reactant in decomposition reaction.

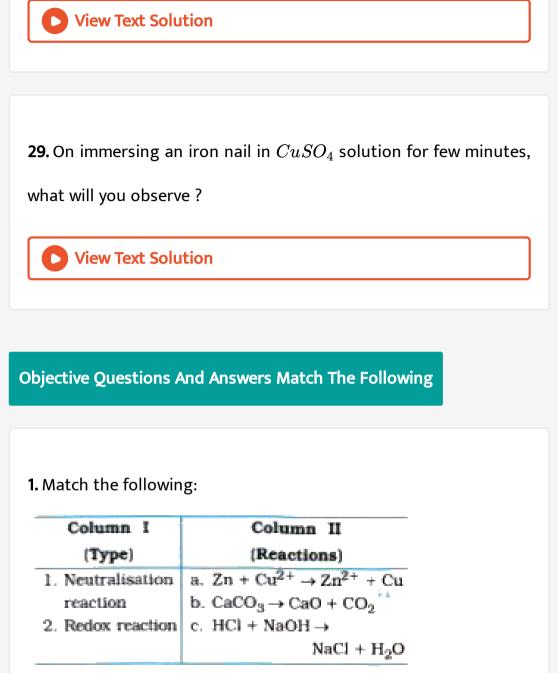
View Text Solution
22. What does (II) indicate in iron (II) oxide ?
View Text Solution
23. Give two examples of noble metals.
View Text Solution
24 Montion two examples of exothermic reactions

24. Mention two examples of exothermic reactions.



28. Identify the type of reaction for the following reaction :

 $2KClO_3(s) \xrightarrow[\mathrm{Catalyst}]{\mathrm{Heat}} 2KCl(s) + 3O_2(g)$



2. Match the following:

Column I Column II	
(Name)	(Molecular Formula)
1. Quick lime 2. Slaked lime	a. CaCO ₃ b. CaO c. Ca(OH) ₂



3. Match the following:

Column 1	Column II
(Colour)	(Substance)
1. Green	a. Copper sulphate
2. Blue	b. Barium sulphate
	c. Ferrous sulphate



4. Match the following:

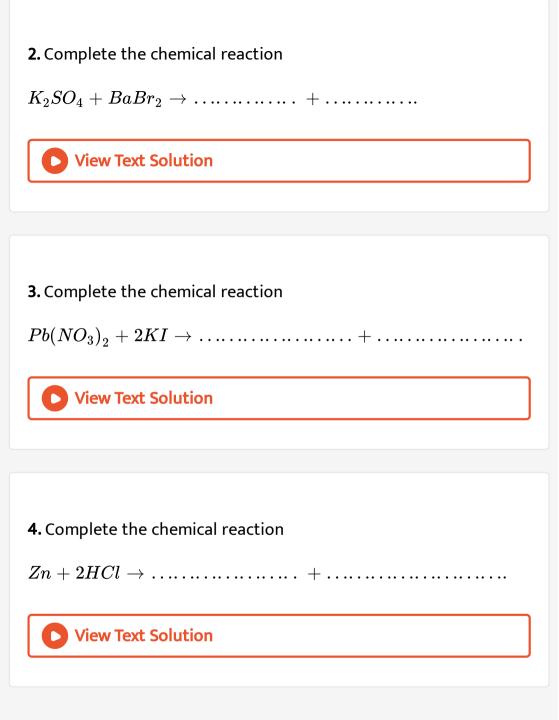
Column II (Type)		Column I (Reaction)	
	b. Double	Ca(OH) ₂ + heat	
nent	displacem	 Zn + CuSO₄ → 	
tion	c. Combinat	$ZnSO_4 + Cu$	
n	b. Double displacem	$\label{eq:Cator} \begin{array}{c} \mathbb{C}a(OH)_2 + heat \\ 2. \ Zn + \mathbb{C}uSO_4 \rightsquigarrow \end{array}$	

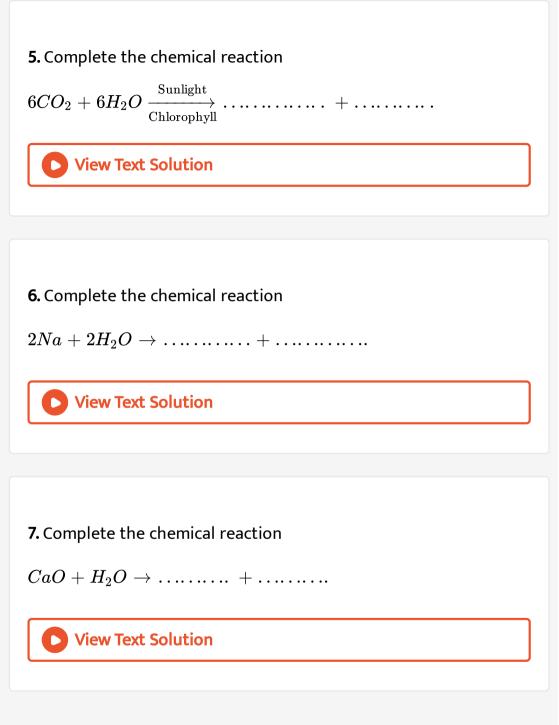
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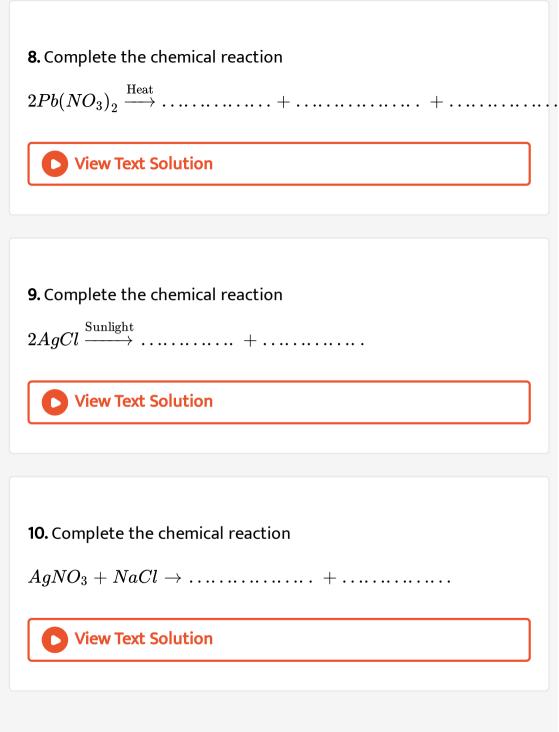
Objective Questions And Answers Complete The Following Chemical Reactions

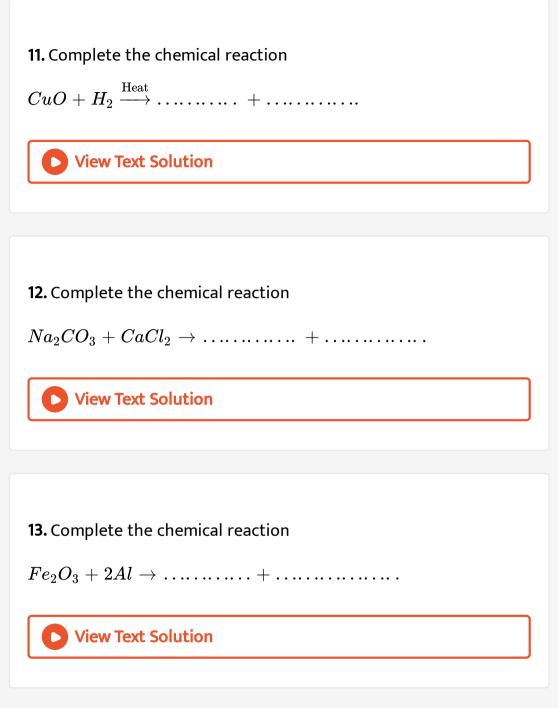
1. Complete the chemical reaction

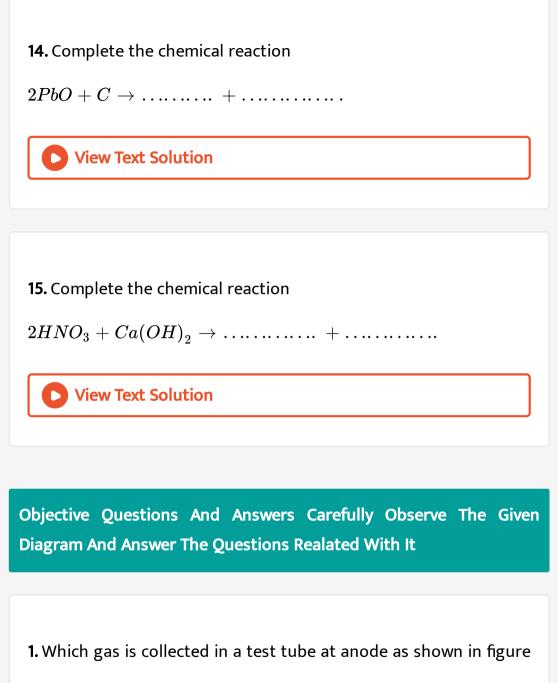
 $Fe + Cu(SO_4)
ightarrow \dots + \dots \dots$

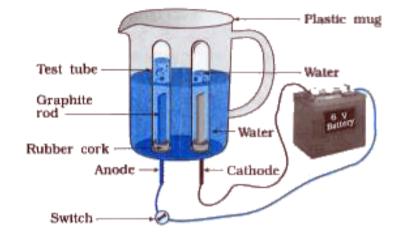












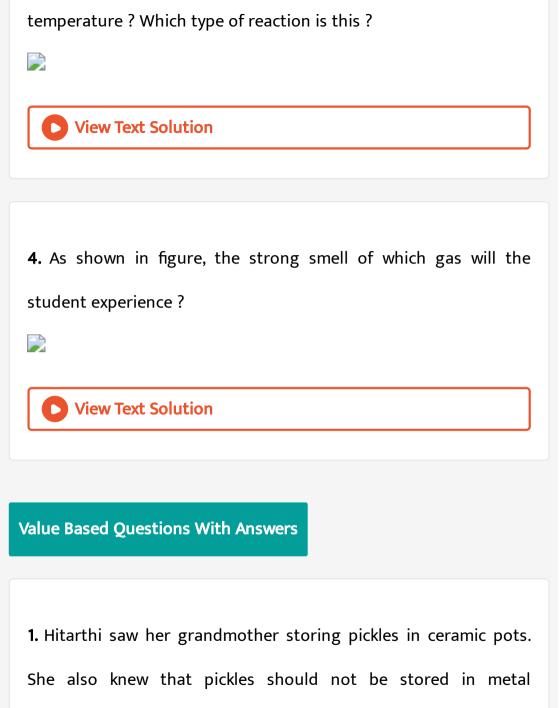


2. Does the reaction occur in the test tube as shown in the figure ?

State the change in colour.



3. Take a small amount of ammonium chloride in a beaker as shown in figure. Add water to it. What change do you observe in



containers. Her friend often brought pickles wrapped in

aluminium foil. Hitarthi advised her not to wrap pickles in foil.

Why pickles should not be stored in metal containers ?

View Text Solution

2. Hitarthi saw her grandmother storing pickles in ceramic pots. She also knew that pickles should not be stored in metal containers. Her friend often brought pickles wrapped in aluminium foil. Hitarthi advised her not to wrap pickles in foil. Which substances present in pickles reacts with the metal containers ?

View Text Solution

3. Hitarthi saw her grandmother storing pickles in ceramic pots. She also knew that pickles should not be stored in metal containers. Her friend often brought pickles wrapped in aluminium foil. Hitarthi advised her not to wrap pickles in foil.

What value of Hitarthi is seen in the above act?

View Text Solution

4. Surekha was very upset as her silver jewellary had turned black, and lost its lustre. Her father is a science teacher and he washed and cleaned the jewellary using toothpaste and brought the shine back.

Why does the silver jewellary tarnishes when left open ?

View Text Solution

5. Surekha was very upset as her silver jewellary had turned black, and lost its lustre. Her father is a science teacher and he washed and cleaned the jewellary using toothpaste and brought the shine back.

How had the toothpaste got the shine of silver back?

View Text Solution

6. Surekha was very upset as her silver jewellary had turned black, and lost its lustre. Her father is a science teacher and he washed and cleaned the jewellary using toothpaste and brought the shine back.

What value of Surekha.s father is seen in this act ?

View Text Solution

7. Rakesh visited the government hospital to meet his cousin. He observed the medicine in dark bottles were not stored properly. They were not kept away from light and heat. Rakesh immediately reported the same to the medical superintendent and made sure that all medicines are stored properly.

Why are some medicines stored at cool places in dark bottles ?



8. Rakesh visited the government hospital to meet his cousin. He observed the medicine in dark bottles were not stored properly. They were not kept away from light and heat. Rakesh immediately reported the same to the medical superintendent and made sure that all medicines are stored properly.

Why do some medicines are kept in refrigerator ?

View Text Solution

9. Rakesh visited the government hospital to meet his cousin. He observed the medicine in dark bottles were not stored properly. They were not kept away from light and heat. Rakesh immediately

reported the same to the medical superintendent and made sure

that all medicines are stored properly.

What value of Rakesh is seen in this act?



Practical Skill Based Questions With Answers

1. What would happen if you add zinc coated iron nail into the solution of copper sulphate ? Give reason for your prediction.

View Text Solution

2. How will you differentiate sodium metal and zinc metal given in the test tubes in the laboratory ? You are advised not to touch any of the metals. Identify the type of reaction used.



3. State the example of the combination reaction that is also exothermic by nature. How will you show its exothermic nature in the laboratory ?

View Text Solution

4. The teacher wishes to show in laboratory that all the crystals will decompose to give water on heating, which is collected on the upper surface inside the test tube. Name any four compounds the teacher should use in the laboratory to perform this activity.



5. A student wants to study the decomposition reaction of iron sulphate in laboratory. What care the student should take and why ?