

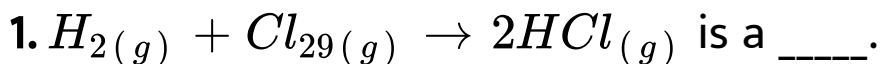


# CHEMISTRY

## BOOKS - SURA CHEMISTRY (TAMIL ENGLISH)

### TYPES OF CHEMICAL REACTONS

Textbook Evaluation Choose The Correct Answer



A. Decompostion Reactiion

B. Combination Reaction

C. single Displacement reaction

D. Double Displacement Reaction

**Answer: B**



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2. Photolysis is a decomposition reaction caused by \_\_\_\_\_.

A. heat

B. electricity

C. light

D. mechanical energy

**Answer: C**



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**3.** A reaction between carbon and oxygen is represented by  $C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)} +$   
Heat . In which of the type (s) , the above

reaction can be classified ?

(i) Combination Reaction

(ii) Combustion Reaction

(iii ) Decomposition Reaction

(iv ) Irreversible Reaction

A. I and ii

B. I and iv

C. I,ii and iii

D. I,ii and iv

**Answer: D**



#### 4. The chemical equation



represents which of the following types of reaction ?

- A. Neutralisation
- B. Combustion
- C. Precipitation
- D. single displacement

**Answer: C**



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5. Which of the following statements are correct about a chemical equilibrium?

(i) It is dynamic in nature

(ii) The rate of the forward and backward reactions are equal at equilibrium

(iii) Irreversible reactions do not attain chemical equilibrium

(iv ) the concentration of reactants and products may be different

A. I,ii and iii

B. I,ii and iv

C. ii,iii and iv

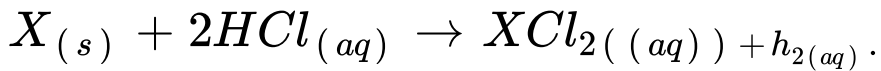
D. I,iii and iv

**Answer: A**



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6. A single displacement reaction is represented by



which of the following (s) could be x?

(i) Zn (ii) Ag (iii) Cu (iv) Mg.

Choose the best pair .

A. I and ii

B. ii and iii

C. iii and iv

D. I and iv

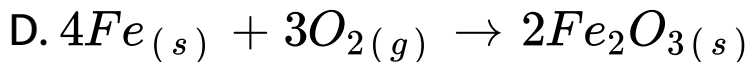
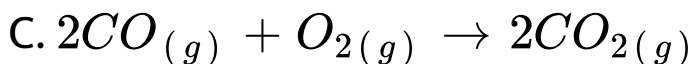
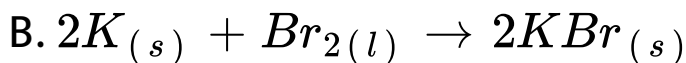
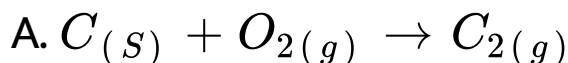


**Answer: D**



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7. Which of the following is not an "element + element  $\rightarrow$  compound" type reaction?

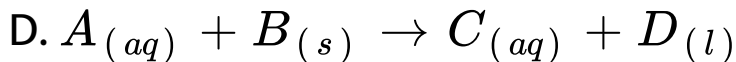
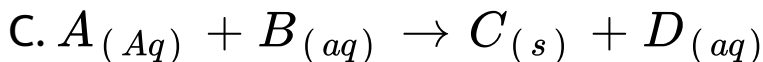
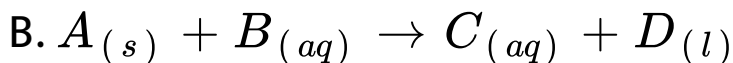
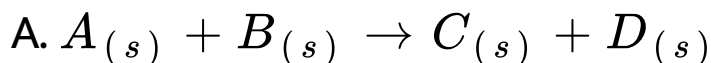


**Answer: C**



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8. which of the following represents a precipitaion reaction ?



**Answer: C**



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9. The pH of a solution is 3. Its  $[OH^-]$  concentration is \_\_\_\_\_.

A.  $1 \times 10^{-3} M$

B.  $3M$

C.  $1 \times 10^{-11} M$

D.  $11M$

**Answer: C**



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**10.** Powdered  $CaCO_3$  reacts more rapidly than flaky  $CaCO_3$  because of \_\_\_\_\_.

- A. Large surface area
- B. high pressure
- C. high concentration
- D. high temperature

**Answer: A**



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## Textbook Evaluation Fill In The Blanks

1. A reaction between an acid and a base is called \_\_\_\_\_.



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2. When lithium metal is placed in hydrochloric acid, \_\_\_\_\_ gas is evolved.



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3. The equilibrium attained during the melting of ice is known as \_\_\_\_\_.



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4. The pH of a fruit juice is 5.6 . If you add slaked lime to this juice , its pH \_\_\_\_\_  
(increase / decrease )



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5. The value of ionic product of water at  $25^{\circ}C$  is \_\_\_\_\_.



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6. The normal pH of human blood is \_\_\_\_\_



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7. Electrolysis is type of \_\_\_\_\_ reaction .



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8. The number of products formed in a synthesis reaction is \_\_\_\_\_



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9. chemical volcano is an example for \_\_\_\_\_ type of reaction .



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10. The iron formed by dissolution of  $H^+$  in water is called \_\_\_\_\_.



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1. 

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## Textbook Evaluation True Or False If False Give The Correct Statement

1. Silver metal can displace hydrogen gas from nitric acid.

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2. The pH of rain water containing dissolved gases like  $SO_3$ ,  $CO_2$ ,  $NO_2$  will be less than 7.



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3. At the equilibrium of a reversible reaction , the concentration of the reactants and the products will be equal .



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4. Periodical removal of one of the products of a reversible reaction increases the yield .



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5. On dipping a pH paper in a solution , it turns into yellow , then the solution is basic .



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**Textbook Evaluation Short Answer Questions**

1. When an aqueous solution of potassium chloride is added to an aqueous solution of silver nitrate, a white precipitate is formed.

Give the chemical equation of this reaction.



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2. Why does the reaction rate of a reaction increase on raising the temperature ?



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3. Define combination reaction . Give one example for an exothermic combination reaction .



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4. What is meant by reversible and irreversible processes ?



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1. What are called thermolysis reactions?



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2. Explain the types of double displacement reactions with examples .



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3. Explain the factors influencing the rate of a reaction



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4. How does pH play an important role in everyday life?



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5. What is a chemical equilibrium? What are its characteristics?



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## Textbook Evaluation Hot Questions

1. A solid compound 'A' decomposes on heating into 'B' and a gas 'C'. On passing the gas 'C' through water, it becomes acidic. Identify A, B and C.



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2. Can a nickel spatula be used to stir copper sulphate solution? Justify your answer.



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## Textbook Evaluation Solve The Following Problems

1. Lemon juice has a pH 2, What is the concentration of  $H^+$  ions ?



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2. Calculate the pH of  $1.0 \times 10^{-4}$  molar Solution of  $HNO_3$ .



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3. What is the pH of  $1.0 \times 10^{-5}$  molar solution of KOH ?



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4. The hydroxide ion concentration of a solutions is  $1 \times 10^{11}$  M . What is the pH of the solution ?



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## Government Exam Questions Answers

1. Why does the reaction rate of a reaction increase on raising the temperature ?



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## Additional Question Answers Choose The Correct Answer

1. Which of the following information is not conveyed by a balanced chemical equation ?

A. physical states of reactants and products

B. Symbols and chemical formula of reactants and products

C. Number of atoms / molecules of the reactants and products formed

D. Feasibility of a chemical reaction

**Answer: D**



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2. The products formed when calcium oxide reacts with water is \_\_\_\_\_.

- A. Slaked lime
- B. Carbon dioxide
- C. Calcium oxide
- D. Oxygen gas

**Answer: A**



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3. The reaction between hydrogen and oxygen gas to form water is \_\_\_\_\_ reaction .

A. combination

B. redox

C. exothermic

D. all of these

**Answer: A**



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4. An element 'A' on exposure to moist air turns to form compound 'B' Which is reddish brown . Identify 'A' and 'B'.

A. A is Ag , 'B' is  $Ag_2s$

B. A is Cu,'B' is CuO

C. A is Mg ,'B' is MgO

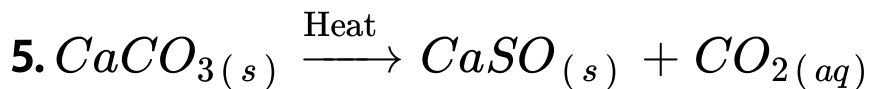
D. A is Fe , 'B' is  $Fe_2O_3$

**Answer: D**



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The above thermal decomposition reaction is an \_\_\_\_\_ reaction .

- A. endothermic
- B. exothermic
- C. Both (a) and (b)
- D. Neither (a) nor (b)

**Answer: A**



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6. Formation of ammonia from nitrogen and hydrogen is an example of \_\_\_\_\_ reaction .

A. Thermal decomposition

B. combination

C. Precipitation

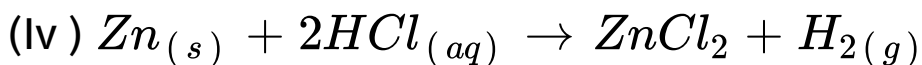
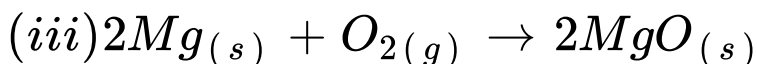
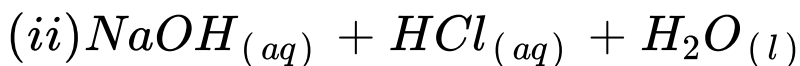
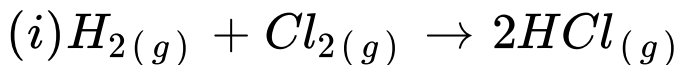
D. Displacement

**Answer: B**



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7. Which among the following chemical reaction is an example of combination reaction ?



A. Only (i)

B. Both (i) and (ii)

C. Only (iii)

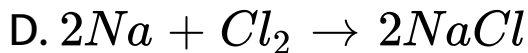
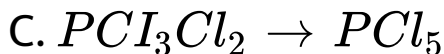
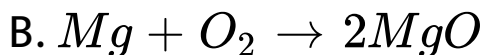
D. Both (i) and (ii)

**Answer: A**



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**8. Pick out : compound + element  $\rightarrow$   
compound type of combination reaction**



**Answer: C**



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9. Decomposition reactions are brought about by \_\_\_\_\_.

A. Heat

B. light

C. electric current

D. all the above

**Answer: D**



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**10.** When Zinc metal is placed in hydrochloric acid , the gas evolved is \_\_\_\_\_.

A.  $CO$

B.  $CO_2$

C.  $H_2$

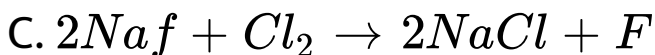
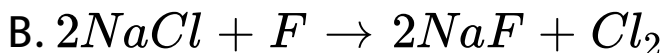
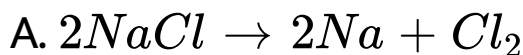
D.  $H_2O$

**Answer: C**



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**11.** Pick out a chemical reaction which is not feasible



**Answer: C**



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**12.** Pick out the metal that displaces hydrogen from hydrochloric acid .

A. Zinc

B. silver

C. copper

D. Gold



**Answer: A**



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**13.** When a double displacement reaction takes place , one of the products must be \_\_\_\_\_.

A. Precipitate

B. Water

C. either (a) or (b)

D. neither (a) nor (b)

**Answer: C**



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**14.**  $Pb(NO_3)_2 + 2KI \rightarrow PbI_2 + 2KNO_3$  is a  
\_\_\_\_\_ reaction

- A. neutralization
- B. Precipitation
- C. decomposition
- D. Combustion

**Answer: B**



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**15.** Heat is evolved during \_\_\_\_\_ reaction .

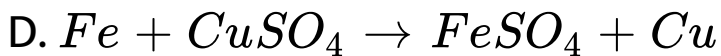
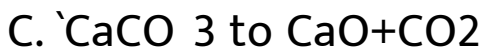
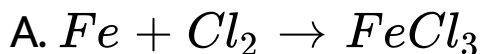
- A. Combination
- B. Combustion
- C. decomposition
- D. Endothermic

**Answer: B**



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16. Which among the following is not a balanced equation ?



**Answer: A**



17. Which among the following factors affect the rate of a reaction ?

A. Surface area of reactants

B. Pressure

C. Temperature

D. all the above

**Answer: D**



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18. The value of ionic product of water at  $25^{\circ}C$  is \_\_\_\_\_.

A.  $1.00 \times 10^{14}$

B.  $1.00 \times 10^{-14}$

C.  $1.00 \times 10^4$

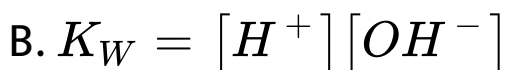
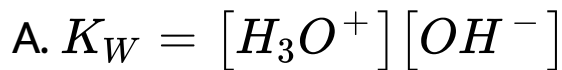
D.  $1.00 \times 10^{-4}$

**Answer: B**



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19. Ionic product of water is expressed as \_\_\_\_\_.



C. Both (a) and (b)

D. Neither (a) nor (b)

**Answer: C**



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20. Acids have pH \_\_\_.

A. Less than 7

B. greater than 7

C. equal to 7

D. less than 14

**Answer: A**



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21. chemically rust is \_\_\_\_\_.



A. hydrated ferrous oxide

B. ferrous oxide

C. hydrated ferric oxide

D. ferric oxide

**Answer: C**



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**22.** when copper sulphate is dissolved in water  
, the solution would be \_\_\_\_\_.

A. Colorless

B. Blue

C. Green

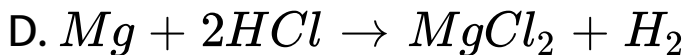
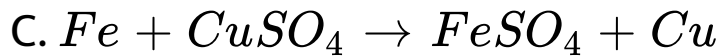
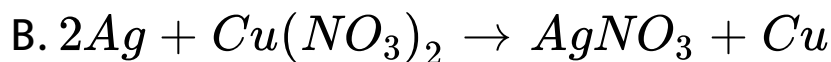
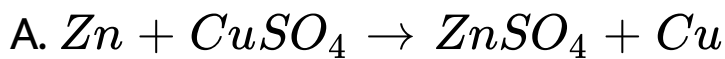
D. Brown

**Answer: B**



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**23.** Which of the following reactions is not feasible ?



**Answer: B**



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**Additional Question Answers Fill In The Blanks**

1. Water freezes into ice an example \_\_\_\_\_.

Change.



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2. When rate of backward reaction is equal to rate to rate of reaction , the stage is called when rate of backward reaction is equal to rate of forward reaction , the stage is called \_\_\_\_\_.



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3. The unit of ionic product of water is \_\_\_\_\_.



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4. pH of vinegar is \_\_\_\_\_.



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5. The pH value of milk of magnesia is 10 . It is \_\_\_\_\_ in nature .





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6. A chemical reaction which involves addition of oxygen is called as \_\_\_\_\_.



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7. A reaction in which two or more reactants combine to form a compound is known as \_\_\_\_\_.



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8. \_\_\_\_\_ is used to measure pH value of a solution in school laboratory



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9. Single compound breaks down to produce two or more substance is known as \_\_\_\_\_ reaction .



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10. \_\_\_\_\_ is the most reactive metal .



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11. The reaction that produces a precipitate is called a \_\_\_\_\_.



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12. The chemical reactions which takes place with the evolution of heat energy are called



\_\_\_\_\_. Reaction



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**13.** chemical formula for marble is \_\_\_\_\_.



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**14.** pH scale was introduced by \_\_\_\_\_.



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15.  $\text{pH} + \text{pOH} = \text{_____}$ .



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16. pH of lemon juice is \_\_\_\_\_.



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17. pH of stomach fluid is approximately \_\_\_\_\_.



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18. Rain water is \_\_\_\_\_.



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19. Rain water is polluted by oxide of \_\_\_\_\_ and \_\_\_\_\_.



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20. pH of an acidic solution is \_\_\_\_\_.



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21. When solid potassium reacts with liquid Water it produces \_\_\_ and \_\_\_\_ solution .



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22. LPG is a mixture of hydrocarbon gases like \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.



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23. \_\_\_\_ is poured on a wound it decomposes into water and oxygen .



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24. The reaction that cannot be reversed is called \_\_\_\_\_.



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25. \_\_\_ plays a vital role in everyday life .



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26. \_\_\_\_\_ is a weak electrolyte.



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27. All photo decomposition reaction are \_\_\_\_\_ reactions.



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28. \_\_\_\_\_ is used for white washing walls .



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29. Calcium hydroxide reacts slowly with carbon dioxide in air to form a thin layer of \_\_\_\_\_.



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**30.** When calcium carbonate is heated , it breaks down into \_\_\_\_\_ and \_\_\_\_\_.



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**31.** Reaction , in which heat is absorbed , are called \_\_\_\_\_.



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**32.** Sodium chloride decomposes into metallic sodium and chlorine gas by a process called \_\_\_\_\_.



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**33.** IF an iron nail is placed in an aqueous solution of copper sulphate the \_\_\_\_\_ displaces \_\_\_\_\_ from its aqueous solution .



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**34.** When two compounds react . If their ions are interchngeed , then the reaction is called \_\_\_\_\_.



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**35.** One or more reactants combine to form a single product in \_\_\_\_\_ reactions.



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**36.** Single reactant is decomposed to form one or more products in \_\_\_\_\_ reactions



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**37.** The compounds formed during a chemical reaction are \_\_\_\_\_.



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**38.** The arrow indicates \_\_\_\_\_ of a reaction .



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**39.** In a chemical reaction , the atoms of the reacting molecules or elements are \_\_\_\_\_ to form new molecules .



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**40.** Bond breaking \_\_\_\_\_ energy during a chemical reaction .



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41. Bond formation \_\_\_\_\_ energy during a chemical reaction .



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42. Yellow precipitate of lead iodide from lead nitrate is an example of \_\_\_\_\_ reaction .



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**43.** Double displacement reactions are also called \_\_\_\_\_ reactions.



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**44.** A displacement reaction in which the acid reacts with the base to form a salt and water is called \_\_\_\_\_ reaction .



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**45.** Ammonium hydroxide reacts with \_\_\_\_\_ it forms ammonium nitrate and water .



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**46.** A combustion is one in which the reactant rapidly combines with \_\_\_\_\_ to form one or more oxides and energy .



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**47.** The amount of the substance present in a certain volume of the solution is called \_\_\_\_\_.



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**48.** Combustion reactions are majorly used as \_\_\_\_\_ sources .



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49. Combustion may be called as an \_\_\_\_\_  
oxidation



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50. Our Mobile phone gets energy from its \_\_\_\_  
battery by chemical reactions .



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51. On recharging the mobile \_\_\_\_\_ are reversed .



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52. IF the compound undergoes decomposition to form the products , it is \_\_\_\_\_ reaction .



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53. The combination of products in a reversible reactions is called \_\_\_\_\_ Reaction.



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54. A reversible reaction is represented by a \_\_\_\_\_ arrow with their heads in the opposite direction .



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55. Equilibrium is not attained in an \_\_\_\_\_ reaction .



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56. The negative sign in the rate of a reaction indicates the decrease in the \_\_\_\_\_ .



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57. The \_\_\_\_ in the rate of reaction indicates the increase in the concentration .



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58. The reaction of sodium with hydrochloric acid is faster than that with \_\_\_\_\_.



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59. The reaction of sodium with hydrochloric acid is faster than that with \_\_\_\_\_.



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60. \_\_\_\_\_ reactions are unidirectional .



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61. When the reaction mixture is heated the reaction rate \_\_\_\_\_.



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62. IF the reactant are \_\_\_\_\_ increasing their pressure increase the reaction rate .



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63. \_\_\_\_\_ is a substance which increases the reaction rate without being consumed in the reaction.



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64. On heating potassium chlorate , it decomposes into \_\_\_\_\_ and \_\_\_\_\_ gas .



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65. Equilibrium attained in a chemical reaction is called \_\_\_\_\_.



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**66.** Food kept at the refrigerator is safe a longer period due to \_\_\_\_\_ Reaction rate .



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**67.** The state at which the rate of forward reaction becomes equal to the rate of backward reaction is called \_\_\_\_\_ state .



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68. The rate of a reaction is directly proportional to the \_\_\_\_\_.



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69. A \_\_\_\_\_ speeds up the reaction .



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70. Decomposition reaction is the opposite of \_\_\_\_\_ reaction .



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71. The number of atoms of the reactants and that of the products must be \_\_\_\_\_ in a chemical reaction.



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72. When sodium combines with chlorine .it forms an edible compound named \_\_\_\_\_.



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**73.** Most of the combination reactions are \_\_\_\_\_ in nature .



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**74.** In a \_\_\_\_\_ reaction , a single compound splits into two or more simpler substances under suitable conditions .



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75. \_\_\_\_\_ is the major phenomenon in a decomposition reaction .



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76. Chemical equilibrium can be attained in a \_\_\_\_\_.



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77. The rate of the backward reaction \_\_\_\_\_ with time .



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78. the decomposition of calcium carbonate into lime and carbon dioxide is a \_\_\_\_\_ reaction .



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79. The concentration of \_\_\_\_\_ decide whether the solution is acidic or basic .



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80. A \_\_\_\_\_ Scale is used to decide whether the solution is acidic or basic .



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81. The meaning of the German word potenz is \_\_\_\_\_.



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82. The 'P' in pH stands for \_\_\_\_\_.



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83. pH notation was devised by the the \_\_\_\_\_.



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84. The pH is the negative logarithm of the \_\_\_\_\_ concentration .



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**85.** The pOH is the negative logarithm of the \_\_\_\_\_ concentration .



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**86.** the pH of a solution can be determined by using a \_\_\_\_\_.



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87. Stomach fluid contains \_\_\_\_\_.



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88. The pH of sour milk is \_\_\_\_\_.



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89. The pH of fresh milk is \_\_\_\_\_.



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90. The pH of sea water is \_\_\_\_\_.



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91. The pH of egg white is \_\_\_\_\_.



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92. The pH of baking soda is \_\_\_\_\_.



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93. the pH of HCl is \_\_\_\_\_.



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94. pH of vinegar is \_\_\_\_\_.



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95. The pH of milk of magnesia is \_\_\_\_\_.



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96. Conductivity of water has resulted from the \_\_\_\_\_ of Water .



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97. \_\_\_\_\_ is a reaction in which two like molecules react to give ions.



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98. The ionic product of water can be expressed as \_\_\_\_\_.



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99. Acids have pH \_\_\_ than 7.



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100. Bases have pH \_\_\_\_\_ than 7.



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101. A neutral solution has pH \_\_\_\_\_ to 7.



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102. \_\_\_\_\_ is also called as auto ionization .



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103. The ionic product of water is denoted as

\_\_\_\_\_.



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**104.** Our body works within the pH range of \_\_\_\_\_ to \_\_\_\_\_.



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**105.** the pH of blood is from \_\_\_\_\_ to \_\_\_\_\_.



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**106.** The ideal pH for blood is \_\_\_\_\_.



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**107.** pH of the stomach fluid is approximately\_\_\_\_\_.



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**108.** white enamel coating of our teeth is \_\_\_\_\_.



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109. \_\_\_\_\_ Requires slightly alkaline soil.



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110. \_\_\_\_\_ requires acidic soil .



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111. \_\_\_\_\_ Requires neutral soil.



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**112.** the pH of rain water is \_\_\_\_\_.



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**113.** IF the pH of rain water is less than 7 then it is called \_\_\_\_\_.



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114. An example of a neutral solutions is \_\_\_\_.



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115. Most reactions in chemistry are \_\_\_\_\_ system .



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116. Equilibrium is possible is a \_\_\_\_\_ System .



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**117.** In humans , all bio chemical reactions take place between the pH value of \_\_\_\_\_ to \_\_\_\_\_.



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**118.** \_\_\_\_\_ is a state of a physical change at which the volume of all phases remain unchanged .



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**119.** In a chemical equilibrium , the rates of the forward and backward reactions are \_\_\_\_\_.



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**120.** Aerated soft drinks contain dissolved \_\_\_\_\_ in a pop bottle .



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121. Chemical equilibrium is a \_\_\_\_\_ equilibrium .



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**Additional Question Answers State Whether The Following Statements Are True Or False Correct The False Statement**

1. pH of stomach fluid is approximately 2.0



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2. Chemical reaction involves breaking of old bonds and formation of new bonds.



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3. When a chemical bond is formed , energy is absorbed .



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4. In a chemical reaction , the number of atoms of reactants and that of the products must be equal .



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5. Decomposition reaction is the opposite of combination reaction .



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6. Chemical formula of marble is  $Ca(OH)_2$ .



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7.  $A + BC \rightarrow AC + B$  is a double displacement reaction .



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8. Lead displaces copper from copper sulphate solution .



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9. Neutralization reaction is a type of double displacement reaction .



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10. Combustion reactions are exothermic .



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**11.** Recharging of mobile battery is a irreversible reaction .



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**12.** At the equilibrium of a reversible reaction , the concentration of the reactants and the products will be equal .



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**13.** IF the reactants are gases , increasing their pressure decreases the reaction rate .



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**14.** Both physical and chemical changes attain equilibrium .



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**15.** The pH of baking soda is 9, It is acid in natural .



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**16.** if pH of rain water is approximately 7, then it is called acid rain .



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**Additional Question Answers Assertion And Reason**

1. Assertion : combustion reactions are also called as an exothermic and reason .

Reason : in these reaction , oxygen is added and heat energy is released .

A. Both assertion and reason are true and reason is correct explanation of assertion .

B. Both assertion and Reason and reason are true but reason is not the correct explanation of asseration

C. Assertion is correct but Reason is false

D. both assertion and reason are false .

**Answer:**



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2. Assertion : Colour of copper sulphate changes when an iron nail is kept in it .

Reason : copper is displacement by iron and iron sulphate is formed .



- A. Both assertion and reason are true and reason is correct explanation of assertion .
- B. Both assertion and Reason and reason are true but reason is not the correct explanation of asseration
- C. Assertion is correct but Reason is false
- D. both assertion and reason are false .

**Answer:**



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## Additional Question Answers Use The Analogy To Fill In The Blank

1. pH less than 7 : acid :: pH greater than 7 :

-----



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2. Aerobic : presence of oxygen :: Anaerobic :

-----





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3. pH 6.8 human saliva :: pH 1: \_\_\_\_\_



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4. Thermal Decomposition reaction :

Thermolysis :: electrolytic Decomposition

Reaction: \_\_\_\_\_.



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5. Energy is released : Combination reaction ::  
energy is absorbed : \_\_\_\_\_.



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## Additional Question Answers Answer In A Word Or Sentence

1. What are the ions in aqueous solutions?



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2. What are the major classes of double displacement reactions ?



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3. Can we get back the wood immediately from carbon dioxide and water ? Why ?



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**Additional Question Answers Very Short Answer**

1. Define rate of reaction.



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2. Identify whether the following reaction is reversible or irreversible



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3. Define endothermic reaction . Give an example .





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4. What is photoysis ?



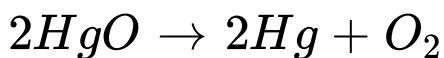
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5. Write a reaction of the type Compound +  
Compound  $\rightarrow$  compound .



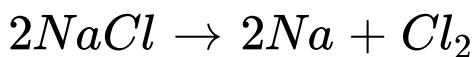
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6. Identify how the following decomposition reactions occur.



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7. Identify how the following decomposition reactions occur.



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**8. What are metathesis reaction ?**



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**9. What is LPG ?**



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**10. What is activation energy ?**



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**11. Define concentration .**



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**12. Food kept at room temperature spoils faster than that kept in refrigerator . Give reason .**



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**13.** Powdered  $CaCO_3$  reacts much faster with HCl than with solid marble chips . Account for the following .



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**14.** Define a catalyst .



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**15.** What is auto ionization ?



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**16.** Define ionic product of water .



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**17.** What is pH scale ?



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**18.** Define pH .



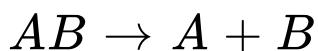
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19. What is called universal pH indicator ?



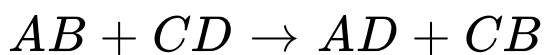
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20. Identify the type of chemical reaction



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21. Identify the type of chemical reaction



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22. Why does silver not evolve hydrogen when treated with dilute acids ?



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23. What is balanced chemical reaction ?



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24. Define reactant and product.



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25. Write the chemical equations for the following and identify the type of chemical reactions.

Burning of magnesium in air



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**26.** Write the chemical equations for the following and identify the type of chemical reactions.

Electric current is passed aqueous solution of sodium of sodium chloride



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**27.** Write the chemical equations for the following and identify the type of chemical



reactions.

Ammonium hydroxide reacts with nitric acid .



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**28.** What is acid rain ?



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**29.** Define equilibrium state .



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## Additional Question Answers Short Answer

1. What happens during a chemical change ?

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2. Differentiate combination and decomposition reactions

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## Additional Question Answers Long Answer

1. Explain the classification based on the direction of the reaction.



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**Additional Question Answers Higher Order Thinking Skills Hots**

1. you are given the following materials

1. Marble chips

2. Dilute hydrochloric acid

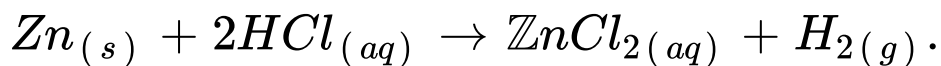
3. Zinc granules

Identify the type of reaction when marble chips and zinc granules are added separately to acid and zinc granules are added separately to acid taken in two tubes . write chemical equations in each case .

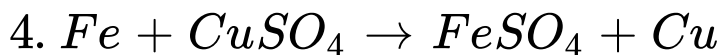
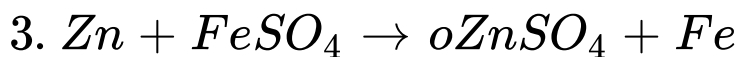
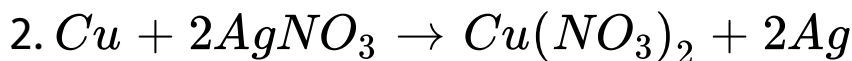
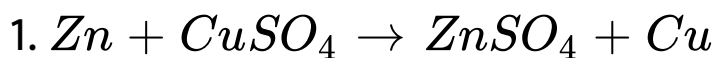


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2. Zinc granules react with hydrochloric acid to form zinc chloride accompanied by hydrogen gas . It is a displacement reaction .

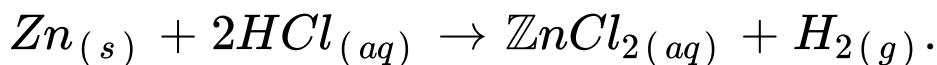


Based on the reactions given below arrange the metals involved in these reactions in decreasing order of reactivity give suitable explanation .



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3. Zinc granules react with hydrochloric acid to form zinc chloride accompanied by hydrogen gas . It is a displacement reaction .



What is the nature of the reactions .



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4. A strip of a metal X is immersed in the aqueous solution of salt  $\text{YSO}_4$  blue in colour .

After sometimes , a layer of metal Y from the

salt solution is deposited on the strip of the metal x. The metal x is used for galvanisation , the metal Y is employed in making electric cables .

Predict the metal x.



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5. A strip of a metal X is immersed in the aqueous solution of salt  $YSO_4$  blue in colour .

After sometimes , a layer of metal Y from the salt solution is deposited on the strip of the

metal x. The metal x is used for galvanisation ,  
the metal Y is employed in making electric  
cables .

what could be the metal Y ?



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**6.** A strip of a metal X is immersed in the  
aqueous solution of salt  $YSO_4$  blue in colour .  
After sometimes , a layer of metal Y from the  
salt solution is deposited on the strip of the  
metal x. The metal x is used for galvanisation ,



the metal Y is employed in making electric cables .

Can you name the salt solution ?



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7. A strip of a metal X is immersed in the aqueous solution of salt  $YSO_4$  blue in colour .

After sometimes , a layer of metal Y from the salt solution is deposited on the strip of the metal x. The metal x is used for galvanisation , the metal Y is employed in making electric

cables .

What is the nature of the chemical reaction taking place?



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