



## CHEMISTRY

### BOOKS - VGS PUBLICATION-BRILLIANT

### CHEMICAL REACTIONS AND EQUATIONS

Improve Your Learning Conceptual Understanding

1. What is balanced chemical equation? Why should chemical equations be balanced?

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2. How can you justify the the law of conservation in a chemical equation?

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3. What is a chemical equation?

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4. What is a balanced chemical equation ? Give example.

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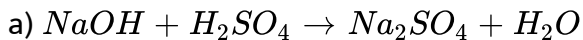
5. What is the law of conservation ?

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6. How does a chemical equation follow the law of conservation?

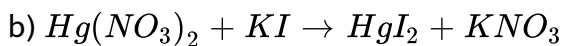
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7. Balance the following chemical equations.



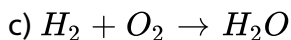
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8. Balance the following chemical equations.



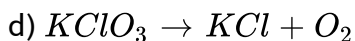
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9. Balance the following chemical equations.



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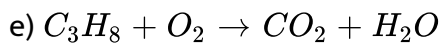
10. Balance the following chemical equations.





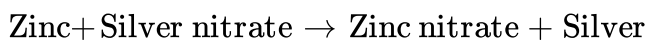
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11. Balance the following chemical equations.



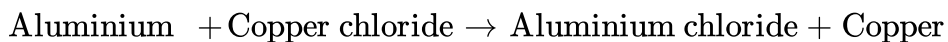
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12. Write the balanced chemical equations for the following reactions.



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



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

Hydrogen + Chlorine  $\rightarrow$  Hydrogen chloride

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

Ammonium nitrate  $\rightarrow$  Nitrous oxide + Water

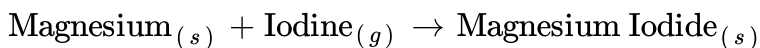
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16. Write the balanced chemical equations for the following and identify the type of reaction in each case.

Calcium hydroxide<sub>(aq)</sub> + Nitric acid<sub>(aq)</sub>  $\rightarrow$  water<sub>(l)</sub> + Calcium nitrate<sub>(aq)</sub>

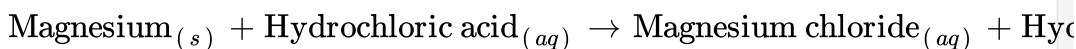
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17. Write the balanced chemical equations for the following and identify the type of reaction in each case.



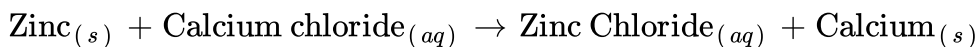
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18. Write the balanced chemical equations for the following and identify the type of reaction in each case.



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



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20. Write an equation for decomposition reaction where energy is supplied in the form of heat/light/electricity.

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21. a) What is chemical decomposition reaction?

b) In what conditions chemical decomposition reactions takes place ?

Explain various condition.

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22. Define the following and give an example to each.

a) Chemical decomposition reaction.

b) Thermal decomposition reaction.

c) Photochemical reaction.

d) Electrolysis reaction.

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23. Explain how decomposition reaction takes place.

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24. What do you mean by precipitation reaction ?

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25. How does chemical displacement reaction differ from chemical decomposition reaction ? Explain with an example for each.

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26. Differentiate between chemical displacement reactions and chemical decomposition reaction.

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27. Name the reactions taking place in the presence of sunlight.

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28. What is photochemical reaction ? Give examples.

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29. Why does respiration considered as an exothermic reaction ? Explain.

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30. Why respiration does considered as combustion reaction? Explain.

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**31.** What type of reaction takes place in lungs ?

- a) How do we get energy to stay alive ? B) Is any reaction involved in that ? C) If any, write the chemical equation to that.
- d) What type of reaction it is ?

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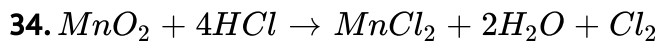
**32.** What is the difference between displacement and double displacement reactions ? Write equations for these reactions.

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**33.** a) What are chemical displacement reactions and chemical double displacement reactions ?

- b) Give example to each one.
- c) Write general formulae to them.
- d) How displacement does takes place in these reactions?

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In the above equation, name the compound which is oxidized and which is reduced.

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**35.** Give two examples for oxidation - reduction reaction.

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**36. a)** What is oxidation ? Give example to oxidization.

b) What is reduction ? Give example to reduction.

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**37.** Write difference between oxidation and reduction reactions.



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



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**39.** What do you mean by corrosion? How can you prevent it ?



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**40.** Explain rancidity.



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**41.** What is rancidity ? How can you prevent if ?

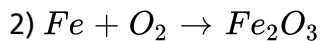
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42. Balance the following chemical equations including the physical states.



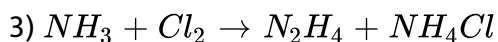
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43. Balance the following chemical equations including the physical states.



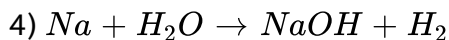
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44. Balance the following chemical equations including the physical states.



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**45.** Balance the following chemical equations including the physical states.



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**46.** Balance the chemical equation by including the physical states of the substances for the following reactions.

a) Barium chloride and sodium sulphate aqueous solutions react to give insoluble barium sulphate and aqueous solution of sodium chloride.

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**47.** Balance the chemical equation by including the physical states of the substances for the following reactions.

b) Sodium hydroxide reacts with hydrochloric acid to produce sodium chloride and water.

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**48.** Balance the chemical equation by including the physical states of the substances for the following reactions.

c) Zinc pieces react with dilute hydrochloric acid to liberate hydrogen gas and forms zinc chloride.

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**49.** A shiny brown coloured element 'X' on heating in air becomes black in colour. Can you predict the element 'X' and the black coloured substance formed? How do you support your predictions?

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50. Why do we apply paint of iron articles ?

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51. How can you prevent oxidization of iron objects?

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52. What is the use of keeping food in air tight containers?

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## Fill In The Blanks

1. The decomposition of vegetable into compost is an example of .....  
reaction.

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2. The chemical reaction in which energy is absorbed to form a new compound is called. ....

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3. The reaction  $2N_2O \rightarrow 2N_2 + O_2$  is an example for .....reaction.

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4. The reaction  $Ca + 2H_2O \rightarrow Ca(OH)_2 + H_2 \uparrow$  is an example for ..... reaction.

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5. The substances that are present on left side of a chemical equation are called .....



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6. The arrow mark between the products and reactants of a chemical equation shows .....of the reaction.

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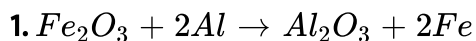
### Match The Following

1. Match the following :

- |  |                       |
|--|-----------------------|
| 1) $2AgNO_3 + Na_2CrO_4 \rightarrow Ag_2CrO_4 + 2NaNO_3$ | a) combination reacti |
| 2) $2NH_3 \rightarrow N_2 + 3H_2$                        | b) decomposition rea  |
| 3) $C_2H_4 + H_2O \rightarrow C_2H_6O$                   | c) displacement recti |
| 4) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$               | d) double displaceme  |

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### Multiple Choice Questions



The above reaction is an example of :

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

**Answer: C**



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2. What happens when dil. Hydrochloric acid is added to iron filing ?

Choose the correct answer.

- A. hydrogen gas and iron chloride are produced.
- B. Chlorine gas and iron hydroxide are produced.
- C. No reaction takes place.

D. iron salt and water are produced

**Answer: A**

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**3. The chemical equation**

$BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + 2NaCl$  represents following type of chemical reaction.

A. displacement

B. combination

C. decomposition

D. double - displacement

**Answer: D**

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4. The reaction of formation hydrogen chloride from hydrogen and chlorine represents following type of chemical reaction

- A. decomposition
- B. displacement
- C. combination
- D. double - displacement

**Answer: C**



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### Questions Given In The Lesson

1. What changes do you notice generally?



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2. "Coal is burnt", "crackers are burnt" ..... Changes

Are they physical (or) chemical changes?

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3. Are they (coal, crackers) temporary changes or permanent changes?

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4. How do we know a chemical reaction has taken place?

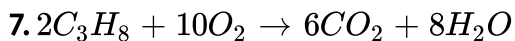
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5. Do the atoms of each element on left side equal to the atoms of the element on the right side of the equation?

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6. Are the atoms of all elements of reactants present in products ?

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Is it a balanced equation as per rules? How do you say?

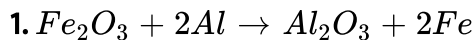
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8. Did you notice the colour coating on silver and copper articles?

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9. How can you prevent the spoiling of food?

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Name the compound which is oxidized in the above reaction.

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2. Give an example for displacement reaction.

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3. Iron gets rust but Gold doesn't, why?

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4. On adding dilute hydrochloric acid to copper oxide powder, the solution formed is blue green. Write the new compound formed.

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5. What happens if iron articles are exposed to moist air? Write the chemical equation to represent that reaction.

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6. Write the equation for the chemical decomposition reaction of silver chloride in the presence of sunlight.

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7. If you keep an iron piece in solid state  $CuSO_4$  crystals, does it get any reaction? Guess the reason.

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8. Suggest few methods to avoid corrosion.

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9. Which pipes are suggestable/ suitable for water supply? Justify your answer.

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10. Which pipes are used by you for water supply to your house ?

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11. List of metals are given under classify them into corroded and non corroded metals.

Aluminium, silver, Iron, Copper, Gold, Tin, Tungsten, Platinum.

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12. Which chemical reaction is involved in the corrosion of iron?



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13. Which indicates the arrow mark in a chemical reaction?



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14. Formula unit of  $NaCl$  is one. What do you understand by it ?



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15. What is a skeleton equation ?



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16. What do you mean by skeleton equation ? Give one example.



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17. What is gram molar volume ?

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18. How the chemical reaction takes place?

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19. What is rusting of iron?

 [Watch Video Solution](#)

20. What are the reactants and products in a chemical reaction?

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21. What is meant by balanced equation ?



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22. Define chemical combination and give an example.



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23. Give an example for decomposition reaction.



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24. What is a thermal decomposition reaction ? Give an example.



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25. What is a photochemical reaction? Give one example.



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26. Define displacement reaction and given an example.

 [Watch Video Solution](#)

27. Define double displacement reaction and give an example.

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28. What is oxidation - reduction reaction or redox reaction ? Give one example.

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29. Why the apples, pears, bananas, etc. change their colour when they cut nd exposed to air?

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**30.** What do you mean by corrosion? How can you prevent it ?

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**31.** Write the chemical equation for tarnishing of silver wear (black coatings on silver).

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**32.** What is Galvanizing?

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**33.** What is an alloy ? Give two examples for alloys.

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**34.** What type of reaction is rancidity?

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**35.** Write the chemical reaction for bleaching of coloured objects using moist chlorine?

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**36.** Why the white washig gives shiny finish to the walls?

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**37.** Why the smell and taste of food items change?

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38. "Freshly cut apple turning brown, the iron articles shiny when new, but gradually become reddish brown when left for sometime. ....". How do these changes occur ?

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39. What are new substances formed due to decomposition of lead nitrate?

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40. Balance the following chemical equation.  $C_2H_6 + O_2 \rightarrow CO_2 + H_2O$

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41. What are antioxidants?

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42. Which type of reaction involved when silver bromide is exposed to sunlight?

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43.  $NH_4Cl \rightarrow NH_3 + HCl$ . Which type of reaction is the ?

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44. Jagadeesh saw 10 grams of unknowns substance in a beaker. He pour water in the beaker. The beaker was heated up. What could be the unknown substance ? Guess the reaction.

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45. Some quantity of yellow coloured powder was kept in the sunlight for sometime. It was changed into gray colour. Guess the name powder and the reaction.

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46. Redox reaction :  $CuO + H_2 \xrightarrow{\text{Heat}} Cu + H_2O$ .

By seeing the above chemical equation on the blackboard Madhavi asked Nikhila, why it was a redox reaction.

Nikhila explained by asking Madhavi some questions. What would be those questions?

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47. Calcium oxide dissolves in water producing colourless solution. How do you test the nature of solution?

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48. Write the apparatus to be used to conduct an experiment of "Reduction of copper oxide to copper".

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49. What will happen when iron nails dipped in copper sulphate solution?

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50. What do you observe by cutting an apple after sometime ?Why

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51. Some substances are given below.

Brass, bronze, copper, gold, stainless steel, aluminium and silver.

A : Which substances not oxidize in the air?

B : Stainless steel contains iron.

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52. Fill the table with suitable answers.

Name of the metal

Cu

Substance forms after corrosion .....(2).....

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53. Name some oxides of metals and non-metals ?

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54. How do you appreciate the process Galvanizing?

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55. Write the greatness of Gold metal.

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56. Which metal is used in the manufacture of Diwali crackers?



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57. What do you mean by corrosion? How can you prevent it ?



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58. How can we prevent rusting of Iron?



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59. How can you prevent the spoiling of food?



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60. What do you observe in a pack of chips ?

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61. Which one is better to use for storage of water, an iron container or a steel container?

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62. A light yellow coloured compound 'X' is exposed to sunlight for sometime. It is turned into gray coloured material. What is the name of 'X' ? Predict the type of chemical reaction occurred in it.

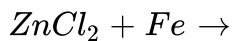
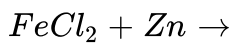
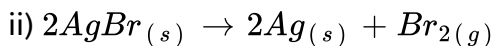
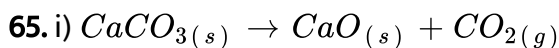
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63.  $N_{2(g)} + O_{2(g)} + \text{Heat} \rightarrow 2NO_{(g)}$

What information do you get from the above equation ? Comment.

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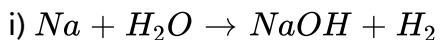
64. Write the products of given reactions, if any. Give reason.

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Mention the types of reaction of which the above equations belong. Also mention which of them is a photochemical reaction.

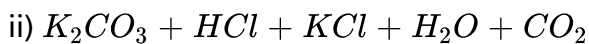
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66. Balance the following chemical equation.

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67. Balance the following chemical equation.



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68. Give some examples for corroded and non corroded metals and give the reasons for non corrosion of metals.

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69. Some metals reacts oxygen to form their oxides. It is serious problem. Give some examples for oxidation of metals and write balanced equations.

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70. Iron is a corroded metal. Through alloying we can prevent corrosion.

Justify.

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71. "Through alloying corrosion can be prevented". For the justification pose some questions.

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72. Write the properties of a chemical change.

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73. How can you conclude that the change in a substance is a chemical change ?

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74. What are reactants ? What are products ?

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75. What are the substances called to be reacting in a chemical reaction?

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76. What are the substances called to be producing in a chemical reaction?

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77. What is the law of conservation of mass according to chemical equation?

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78. How can you justify the the law of conservation in a chemical equation?

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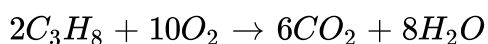
79. What is balanced chemical equation? Why should chemical equations be balanced?

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80. What is a balanced reaction?

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81. Let us assume the chemical equation



a) Is it a balanced equation as per rules ?

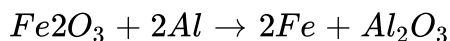
b) How do you say?

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**82.** Prasad wrote a balanced chemical equation as  $2C_3H_8 + 10O_2 \rightarrow 6CO_2 + 8H_2O$ , but Pallavi argued it is not a balanced equation. Who is right ? Why ?

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**83.** Change the following chemical equation into a more effective chemical equation by inserting the characteristic expressions of products and reactants.



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**84.** How do you express the physical state of substances in the chemical equation ?

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**85.** In a chemical equation some arrow marks  $\rightarrow$   $\uparrow$   $\downarrow$ , are written. What do they indicate? Give examples.

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**86. a)** How can you express in a chemical equation if the gas involved in the reaction?

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**87. b)** How can you express in a chemical equation if the precipitation is formed in the reaction ?



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**88.** c) How can you denote in a chemical equation the direction of the reaction ?



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**89.** How do indicate the conditions of the reaction in a chemical equation ?



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**90.** Write the chemical equation of photosynthesis as an example of how the conditions are written in a chemical equation.



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91. What is chemical combination? Explain with an example.

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92.  $2Mg + O_2 \rightarrow 2MgO$ , what type of chemical reaction is it ? Explain.

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93. Magnesium burns with oxygen .

a) Write the chemical equation ?

b) Write the type of reaction.

c) Give another example for same type of reaction.

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94. What is chemical decomposition ? Explain with an example.

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95.  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ , what type of chemical reaction it is ?

Explain.

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96. Heating of calcium carbonate

a) Write the chemical equation to it.

b) Which type of reaction is it ?

c) Give another example for same type of reaction.

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97. What is an exothermic reaction ? Give an example.

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**98.** What is a thermal decomposition reaction ? Give an example.

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**99.** Define oxidation and reduction. ? Give one example to each.

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**100.** What double displacement reaction? Give four examples .

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**101.** What is oxidation - reduction reaction or redox reaction ? Give one example.

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102. a) What is combustion reaction ?

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103. a) Write the process of the effect of bleaching on coloured objects.

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104. How chlorine changes the colours of objects? Write the chemical equation.

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105. In a chemical formula, no subscript was written. What does indicate this ?

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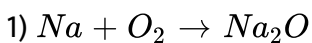
106. Is Photosynthesis reaction is a chemical decomposition reaction ?

Explain .



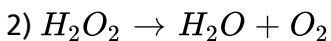
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107. Balance the following equations.



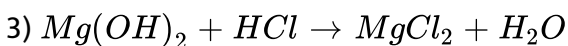
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108. Balance the following equations.



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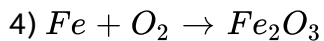
109. Balance the following equations.





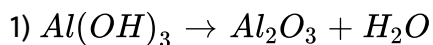
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110. Balance the following equations.



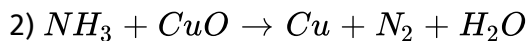
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111. Balance the following equations.



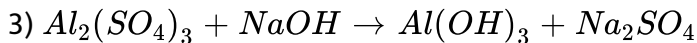
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112. Balance the following equations.



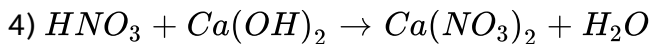
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113. Balance the following equations.



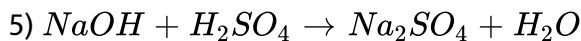
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114. Balance the following equations.



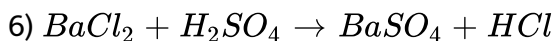
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115. Balance the following equations.



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116. Balance the following equations.





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**117.** Latha saw an Electrical line man on the electrical pole, he is rubbing electric wire with a sand paper.

She asked him "why are you rubbing the wire, with sandpaper?" What answer could be expected you from the line man?



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**118.** Bhavani stored food material (chegodi) in a steel container for three weeks.

What changes to be found in the food? Why? Can she prevent it ?



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**119.** Teacher wrote on the blackboard as  $AB \rightarrow C + D$ . Replace it with suitable substances.

What type of reaction is it ?



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**120.** Rajesh cut the apple, after sometime he observed brown colour on the apple pieces.

Predict the reason.



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**121.** What is rancidity ? How can you prevent it ?



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**122. a)** What is rancidity?

b) What are the effects of rancidity?

c) Does rancidity is an oxidation reaction or not? Give example.



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123. James saw  $N + O_2 \rightarrow 2NO - Q$  on the blackboard and got some doubts in his mind.

What would be those doubts? Guess and write four of them.

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124. Dharani burned a long metal ribbon in the lab. It produced dazzling white flame and changed into white powder. Leelarani asked Dharani some questions. What could be those questions?

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125. What will happen if we put Silver Bromide in sunlight?

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126. How do you conduct an exothermic reaction in your lab ?

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127. What are the apparatus required to conduct the electrolysis of water ? Write the chemical equation.

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128. How do you appreciate the process of alloying?

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129. How do you appreciate the process of oxidation?

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130. What do you do to prevent rusting of copper and silver articles ?

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**131.** Write some effects of oxidation reactions in daily life.



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**132.** What are the process that uses to control the corrosion?



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**133.** What is Galvanizing?



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**134. b)** What is alloying?



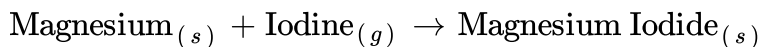
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**135.** Where do you observe oxidation process in your daily life ?



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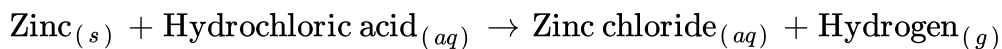
**136.** Write the balanced chemical equations for the following and identify the type of reaction in each case.



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**137.** Write the balanced chemical reaction for the following and identify the type of reaction in each case.

B)



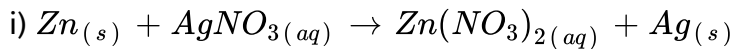
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**138.** Write an activity to each of the following chemical reaction.

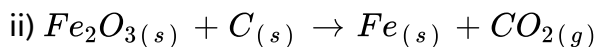
B) Chemical displacement reaction.



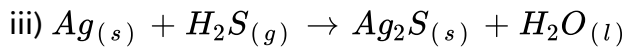
**139.** Balance the following chemical equations.

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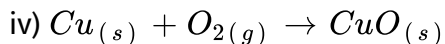
**140.** Balance the following chemical equations.

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**141.** Balance the following chemical equations.

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**142.** Balance the following chemical equations.



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**143.** Write the equation for the reaction of zinc with hydrochloric acid and balance the equation. Find, out the number of molecules of hydrogen gas produced in this reaction, when 1 mole of HCl completely reacts at S.T.P.

[Gram molar volume is 22.4 liters at S.T.P., Avogadro's number is  $6.023 \times 10^{23}$ ]

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**144.** Count the number of atoms of each elements on left and right of the arrow in the equation  $CaO + H_2O \rightarrow Ca(OH)_2$ .

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145. What do you understand ? Give a comment.



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### Objective Type Questions

1. A chemical equation which contains the same number of atoms of different elements on reactant side and product side is

- A. Skeleton equation
- B. Balanced equation
- C. Unbalanced equation
- D. None

**Answer: B**



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2. The reagent used to remove the colour of the matter is called

A. Chlorination reagent

B. Oxidising agent

C. Bleaching agent

D. Reducing agent

**Answer: C**



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3. Explain rancidity.

A. Improve the quality of food

B. Improve the preservation of food

C. Spoilage of food by oxidation

D. None



**Answer: C**

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4. Metals displaces hydrogen gas from dilute acids. This is an example for

- A. combination reaction
- B. decomposition reaction
- C. displacement reaction
- D. double decomposition reaction

**Answer: C**

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5. The reaction of formation hydrogen chloride from hydrogen and chlorine represents following type of chemical reaction

- A. combination reaction
- B. decomposition reaction
- C. displacement reaction
- D. double decomposition reaction

**Answer: A**

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**6.** The main type/s of change/s that occurs in the substances is/are

- A. Physical change
- B. Chemical change
- C. Both A and B
- D. No change occurs

**Answer: C**

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7. Quick lime

A. NaCl

B. KOH

C. CaO

D.  $Na_2SO_4$

**Answer: C**



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8. An insoluble substance may be formed in a chemical reaction is called

A. Precipitate

B. Gas

C. Reactants

D. None

**Answer: A**



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9. The substance which undergo chemical change in the reaction

A. products

B. Reactants

C. Precipitates

D. A or B

**Answer: B**



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10. New substances formed in a reaction are called

- A. Products
- B. Reactants
- C. Precipitates
- D. A or B

**Answer: A**

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**11.** In a word equation of a chemical reaction, products are written at

- A. Left side of arrow mark
- B. Right side of arrow mark
- C. On the arrow mark
- D. Below the arrow mark

**Answer: B**

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12. Which symbols are used in a chemical reaction?

A. +

B. —

C. →

D. above all

**Answer: D**



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13. In a chemical formula, no subscript was written. What does indicate this ?

A. number of atoms is 1

B. number of atoms is 0

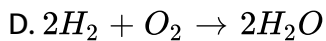
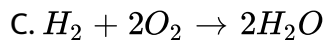
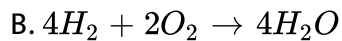
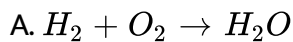
C. number of compound is 1

D. number of compound is 0

**Answer: A**

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**14. Which one is the balanced equation?**



**Answer: D**

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**15. Skeleton equation means**

- A. A balanced chemical equation
- B. An unbalanced chemical equation
- C. Chemical equation without reactants
- D. Chemical equation without products

**Answer: B**

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**16.** How do you express the physical state of substances in the chemical equation ?

- A. (l), (g) and (s)
- B. (s), (g) and (l)
- C. (s), (l) and (g)
- D. (g), (l) and (s)

**Answer: C**



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17. Aqueous means

- A. Substance in alcohol
- B. Substance in water
- C. Substance in mercury
- D. Substance in KOH

**Answer: B**

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18. Aqueous indicates in chemical equation as

- A. (q)
- B. Q
- C. (aq)

D. (w)

**Answer: C**



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**19.** The reaction in which heat release

- A. exothermic reaction
- B. Endothermic reaction
- C. Both A and B
- D. We can't say

**Answer: A**



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**20.** Heat is required to this reactions

- A. exothermic reaction
- B. Endothermic reaction
- C. Both A and B
- D. We can't say

**Answer: B**

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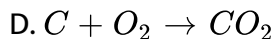
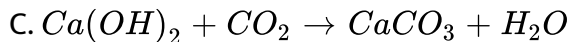
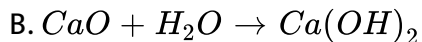
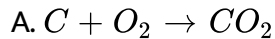
**21. STP conditions**

- A. 273K, 1 bar
- B.  $30^{\circ}C$ , 1 bar
- C. 273K, 76 bar
- D.  $30^{\circ}C$ , 76 bar

**Answer: A**

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22. Which of the following is not a exothermic reaction?



Answer: C



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23. In electrolysis of water experiment, the ratio of volumes of oxygen and hydrogen gases evolved is .....

A. 1:2

B. 1:3

C. 2:1

D. 3:1

**Answer: C**



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**24.** Silver bromide is.....in colour

A. grey

B. light yellow

C. light green

D. no colour

**Answer: B**



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**25.** Limestone

A.  $Ca(OH)_2$

B. NaOH

C. CaO

D.  $CaCO_3$

**Answer: D**



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**26.** Apple slice changes its colour because it contains

A. poly phenol oxidize

B. poly teraphthalene

C. polyethene

D. none

**Answer: A**



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27. For galvanizing ..... Metal is used.

A. *Cu*

B. *Zn*

C. *Al*

D. *Fe*

**Answer: B**



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28. Oils become oxidized, this is .....

A. corrosion

B. alloying

C. rancidation

D. galvanization

**Answer: C**



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29.  $C_6H_{12}O_6 \rightarrow C_2H_5OH + CO_2$  is ..... Chemical reaction.

A. combination

B. decomposition

C. displacement

D. double displacement

**Answer: B**



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30. Match the following and select correct option.

- a)  $2Mg + O_2 \rightarrow 2MgO$       i) Reduction  
b)  $CaCO_3 \rightarrow CaO + CO_2$       ii) Oxidation  
c)  $CuO + H_2 \rightarrow Cu + H_2O$       iii) Decomposition

A.  $a - ii, b - iii, c - i$

B.  $a - i, b - iii, c - ii$

C.  $a - iii, b - i, c - ii$

D.  $a - i, b - ii, c - iii$

Answer: A

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31. Match it and select the correct option.

- i) Combination      A)  $AB + CD \rightarrow AD + BC$   
ii) Decomposition      B)  $AB + C \rightarrow AC + B$   
iii) Displacement      C)  $AB \rightarrow A + B$   
iv) Double displacement      D)  $A + B \rightarrow AB$

A.  $i - D, ii - C, iii - B, iv - A$

B. *i* – A, *ii* – B, *iii* – C, *iv* – D

C. *i* – D, *ii* – B, *iii* – C, *iv* – A

D. *i* – D, *ii* – B, *iii* – A, *iv* – C

**Answer: A**



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**32.** In electrolysis of water experiment, the ratio of volumes of oxygen and hydrogen gases evolved is .....

A. 1 : 2

B. 2 : 1

C. 1 : 1

D. 3 : 1

**Answer: A**



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33.  $xKClO_3 \rightarrow yKCl + zO_2$ . The respective values of x, y, z are .....

A. 1, 2, 3

B. 3, 3, 2

C. 2, 2, 3

D. 2, 2, 2

**Answer: C**



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34. Number of moles of Oxygen needed to produce 4 moles of water on reacting with 4 moles of Hydrogen gas is .....

A. 1 mole

B. 2 moles

C. 3 moles

D. 4 moles

**Answer: B**

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$Ca(OH)_2 + CO_2 \rightarrow Y + H_2O$ . The X and Y are

A.  $CaCO_3, Ca(OH)_2$

B.  $Ca(HCO_3)_2, CaCO_3$

C.  $CaCO_3, Ca(HCO_3)_2$

D.  $CaCO_3, CaCO_3$

**Answer: D**

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36. Take about 1 gm of calcium oxide in beaker and add 10 ml of water then, which of the following could be formed

- A. heat
- B. solution which is base
- C. calcium hydroxide
- D. above all

**Answer: D**



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37. What will happen when iron nails dipped in copper sulphate solution?

- A. deposition of copper on iron
- B. dissolution of iron
- C. reduction of iron
- D. oxidation of  $Cu$

**Answer: A**

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**38.** Products in the combustion of propane

- A. carbon dioxide
- B. hydrogen and carbon dioxide
- C. water and carbon.
- D. water and carbon dioxide.

**Answer: D**

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**39.** When dilute hydrochloric acid is added to iron fillings

- A. hydrogen gas and iron chloride are formed

B. chlorine gas and iron hydroxide are formed

C. no reaction takes place

D. iron salt and water are produced

**Answer: A**

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**40.** What will happen if we put Silver Bromide in sunlight?

A. gray

B. light yellow

C. white

D. light green

**Answer: A**

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41. What will happen if we put Silver Bromide in sunlight?

- A. Light yellow colour changes into dark yellow
- B. Light yellow changes into gray colour
- C. Gray colour changes into light yellow
- D. Dark yellow changes into light yellow

**Answer: B**



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42. What will happen when iron nails dipped in copper sulphate solution?

- A. Colour of nails changes into black
- B. Colour of nails changes into white
- C. Colour of nails changes into brown
- D. Colour of nails changes into blue



**Answer: C**



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**43.** Which one does we need to burning a Mg ribbon?

- A. test tube
- B. pair of tongs
- C. delivery tube
- D. tripod stand

**Answer: B**



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**44.**  $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + 2NaCl$  represents .....

- i) Decomposition reaction
- ii) Displacement reaction.

iii) Precipitation reaction

i) Double displacement reaction

A. Only (i)

B. (ii) & (iii)

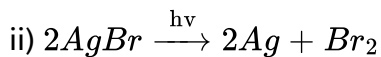
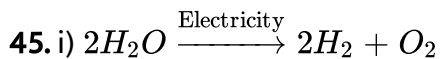
C. (iii) & (iv)

D. Only (iv)

**Answer: C**



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The above reactions are examples for .....

A. chemical combination

B. chemical decomposition

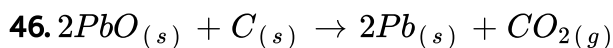
C. Chemical displacement

D. double displacement

**Answer: B**



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Which of the following statements are correct for the above chemical reaction ?

- i) Lead is reduced
- ii) Carbon dioxide is oxidized
- iii) Carbon is oxidized
- iv) Lead oxide is reduced

A. *i* and ii

B. ii and iii

C. *i* and iv

D. iii and iv

**Answer: D**

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47.  $N_{2(g)} + O_{2(g)} \rightarrow 2NO_{2(g)} - Q$  is .....

- A. exothermic reaction
- B. endothermic reaction
- C. both A & B
- D. we can't say

**Answer: B**

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48.  $C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)} + Q$  is .....

- A. exothermic reaction

B. endothermic reaction

C. both A & B

D. we can't say

**Answer: A**

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**49. Choose the alloy**

A. Brass

B. Bronze

C. Steel

D. Above all

**Answer: D**

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50. A balanced equation contains

- A. Equal number of moles of reactants and products
- B. Equal number of molecules of reactants and products
- C. Equal number of atoms of different elements on reactant side and product side
- D. All the above

**Answer: C**



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51.  $Fe_2O_{3(s)} + 2Al_{(s)} \rightarrow 2Fe_{(s)} + Al_2O_{3(s)}$  is a/an .....

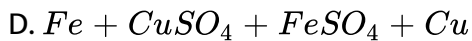
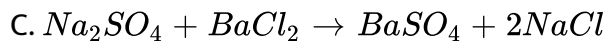
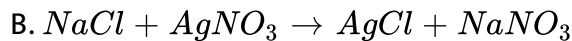
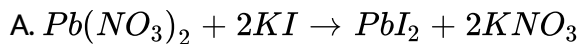
- A. exothermic reaction
- B. endothermic reaction
- C. both we can't say

D.

Answer: B

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52. Which of the following is not a double decomposition reaction?



Answer: D

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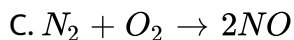
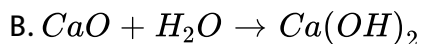
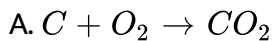
53. Which of the following statement is wrong?

- A. Conversion of milk into curd is a chemical change
- B. Addition of water to quick lime liberates heat energy
- C. Addition of aqueous  $Na_2SO_4$  to aqueous  $BaCl_2$  form clear solution
- D. Calcium oxide produces colourless solution when dissolved in water.

**Answer: C**

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**54.** Which of the following is not a exothermic reaction?





**Answer: C**



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**55. Which one is not formed by a combustion reaction?**

A.  $MgO$

B.  $CO_2$

C.  $CaCO_3$

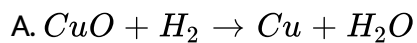
D.  $CuO$

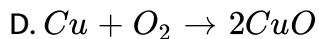
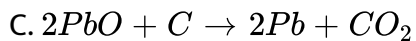
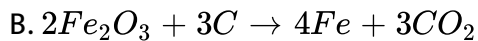
**Answer: C**



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**56. Which one is not a redox reaction?**

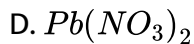
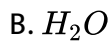
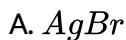




**Answer: D**

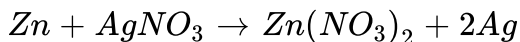
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57. Which one cannot be decomposed ?



**Answer: C**

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Which metals are more reactive from the above reaction ?

A.  $Fe > Cu$  and  $Zn > Ag$

B.  $Cu > Fe$  and  $Ag > Zn$

C.  $Fe > Cu$  and  $Ag > Zn$

D.  $Cu > Fe$  and  $Zn > Ag$

**Answer: A**



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59. A balanced chemical equation is appreciable because, it gives

A. mass - mass relationship

B. mass - volume relationship

C. volume - volume relationship

D. above all

**Answer: D**



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**60.**  $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$ . The reaction is appreciable, because it gives us

A. sunlight

B. chlorophyll

C. glucose

D. heat

**Answer: C**



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61. Vitamin 'C' and Vitamin 'E' are appreciable because, they can prevent

A. Rancidity

B. Alloying

C. Reduction

D. Above all

**Answer: A**



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62. Wh should appreciate alloys, because they

A. do not corrode

B. have hardness

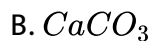
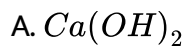
C. have strength

D. above all

**Answer: D**

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**63.** Your house was just white washed. Now it looks in white shiny finish, because..... Is formed on the wall.



**Answer: B**

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**64.** This can be used as a Diwali crackers

A.  $Ca$

B.  $K$

C.  $Mg$

D.  $Pb$

**Answer: C**



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65. You should not put your hands in the vessel while preparing quicklime from slaked lime by adding water to it because .....

A. It is an endothermic reaction

B. It is an exothermic reaction

C. It is an oxidation reaction

D. It is a fermentation reaction

**Answer: B**

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66. Which reaction is very useful to plants?

- A. Photochemical
- B. Electrolysis
- C. Oxidation
- D. Fermentation

**Answer: A**

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67. Which method is very easy to prevent corrosion of iron frames in our houses?

- A. Alloying
- B. Galvanizing



C. Painting

D. Greasing

**Answer: C**

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**68.** How can you prevent rancidity of food items at your home ?

A. By adding vitamins

B. By adding  $N_2$

C. By keeping air tight containers

D. By keeping in ventilated boxes

**Answer: C**

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69. Your mother put the brinjal pieces after chopping in a water, because

- A. to cool them
- B. to prevent moisture
- C. to prevent rancidity
- D. to prevent oxidation

**Answer: D**



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70. Which one is not oxidized after cutting them?

- A. Apples
- B. Potatoes
- C. Pears
- D. None of these

**Answer: D**



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**71.** Shiva observed a black coating on a silver spoon. What is it ?

- A.  $Ag_2S$
- B.  $Fe_2O_3$
- C.  $CuO$
- D.  $Al_2O_3$

**Answer: A**



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**72.** During rainy season ..... Will be formed on electrical wires.

- A. Metal sulphides

B. Metal carbides

C. Metal chlorides

D. Metal oxides

**Answer: D**

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**73.** Children put on compfire with wood on a festival day. Which type of reaction is it?

A. Combustion

B. Oxidation

C. Chemical combination

D. above all

**Answer: D**

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74. Match them and select the correct option.

- A) Alloying      i) iron  
B) Galvanizing    ii) steel  
C) Bleaching      iii) chlorine  
D) Oxidizing      iv) zinc

A.  $A - I, B - ii, C - iv, D - ii$

B.  $A - ii, B - iv, C - iii, D - i$

C.  $A - ii, B - iv, C - I, D - iii$

D.  $A - ii, B - I, C - iv, D - iii$

**Answer: B**



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75. Burning of magnesium crackers is a reaction of .....

A. Reduction

B. Cracking

C. Oxidation

D. Galvanizing

**Answer: C**



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