



# CHEMISTRY

## NCERT - NCERT CHEMISTRY

### (KANNADA ENGLISH)

# ATOMS, MOLECULES AND CHEMICAL REACTIONS

**Think And Discuss**

1. Do you get the same result if the conical flask is not closed?



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2. Recall the burning of the Magnesium ribbon in air. Do you think mass is conserved during this reaction?



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3. Which postulate of Dalton's atomic theory is the result of the law of conservation of mass .



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**Let Us Improve Our Learning Reflection On Concepts**

1. Explain the process and precautions in verifying law of conservation of mass. (AS-3)



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2. 0.24g sample of a compound of oxygen and boron was found by analysis to contain 0.144g of oxygen and 0.096g of boron. Calculate the percentage composition of the compound by weight. (AS-1)



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3. In a class, a teacher asked students to write the molecular formula of oxygen Shamita

wrote the formula as  $O_2$  and Priyanka as  $O$ .

which one is correct? State the reason. (AS-1)



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4. Lakshmi gives a statement " $CO$  and  $Co$  both represent element". Is it correct? State reason.

(AS-1)



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5. Find out the chemical names and formulae for the following common household substances. (AS-1)

A. common salt

B. baking soda

C. washing soda

D. vinegar

**Answer:**



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6. Calculate the mass of the following (AS-1)

A. 0.5 mole of  $N_2$  gas

B. 0.5 mole of N atoms.

C.  $3.011 \times 10^{23}$  Number of N atoms.

D.  $6.022 \times 10^{23}$  Number of  $N_2$  molecules.

**Answer:**



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7. Calculate the number of particles in each of the following (AS-1)

A. 46g Na

B. 8g of  $O_2$

C. 0.1 mole of hydrogen

D.

**Answer:**



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8. Convert into mole (AS-1)

A. 12g of  $O_2$  gas.

B. 20 g of water

C. 22g of carbon dioxide.

D.

**Answer:**



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9. Write the valencies of Fe in  $FeCl_3$  (AS-1)



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**10.** Calculate the molar mass of Sulphuric acid ( $H_2SO_4$ ) and glucose ( $C_6H_{12}O_6$ )(AS-1)



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**11.** Which has more number of atoms 100 gms of Sodium or 100 grams of iron given atomic mass of Na = 23, Fe = 56



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



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**13.** How chemical displacement reactions differ from chemical decomposition reaction?

Explain with an example for each. (AS-1)



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**14.** Name the reactions taking place in the presence of sunlight? (AS-1)



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**15.** Why is respiration considered an exothermic reaction ? Explain.



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



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**17.** Give two examples for oxidation-reduction reaction. (AS-6)



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



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**19.** Draw the diagram to show the experimental setup for the law of conservation of mass. (AS-5)



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# Let Us Improve Our Learning Application Of Concepts

1. Why do we apply paint on iron articles ?



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2. What is the use of keeping food in air tight containers? (AS-6)



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## Let Us Improve Our Learning Higher Order Thinking Questions

1. 15.9g. of copper sulphate and 10.6g of sodium carbonate react together to give 14.2g of sodium sulphate and 12.3g of copper carbonate. Which law of chemical combination is obeyed? How? (AS-1)



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2. Carbon dioxide is added to 112g of calcium oxide. The product formed is 200g of calcium carbonate. Calculate the mass of carbon dioxide used. Which law of chemical combination will govern your answer. (AS-1)



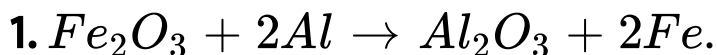
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3. Imagine what would happen if we do not have standard symbols for elements?(AS-2)



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## Multiple Choice Questions



The above reaction is an example of a

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

**Answer:**



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2. What happens when dil. hydrochloric acid is added to iron filings? Choose the correct answer

A. Hydrogen gas and iron chloride are produced.

B. Chlorine gas and iron hydroxide are produced

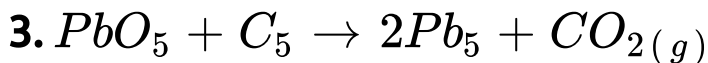
C. No reaction takes place.

D. Iron salt and water are produced.

**Answer:**



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

A. Lead oxide is reduced

B. Carbon dioxide is oxidized

C. Carbon is oxidized

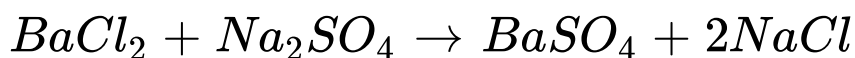
D. (a) and (c) are correct

**Answer:**



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4. The chemical equation



represents following type of chemical reaction.

A. displacement

B. double displacement

C. combination

D. decomposition

**Answer: A::B::C::D**



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

A. decomposition

B. displacement

C. combination

D. double-displacement

**Answer:**



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6. Do an experiment to understand the changes in weight of reactants and products in a chemical reaction, write a report.



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7. Collect the information about the symbols, atomic weights of first thirty elements in the periodic table and write a report.



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