

**DELHI PUBLIC SCHOOL, DURGAPUR**

**QUESTION BANK & REVISION SHEET FOR FINAL EXAMINATION (2017-18)**

**CLASS-VII**

**SUBJECT: CHEMISTRY**  
**ACID , BASES AND SALTS**

Q1. Identify the following acids/bases as strong/weak:

a)  $\text{Cu}(\text{OH})_2$  , KOH ,  $\text{H}_3\text{PO}_4$  ,  $\text{HNO}_3$  ,  $\text{NH}_4\text{OH}$ ,  $\text{Al}(\text{OH})_3$

Q2. " All alkalis are bases but all bases are not alkalis". Justify the statement with examples.

Q3. State the basicity of the following acids:

i)  $\text{CH}_3\text{COOH}$     ii) HCl    iii)  $\text{H}_2\text{SO}_4$     iv)  $\text{H}_3\text{PO}_4$

Q4. Give reasons

a) Always add acid to water while diluting an acid and not the reverse.

b) Sulphuric acid is a strong acid while acetic acid is a weak acid.

Q5. State the change in color ( if any) when:

a) A few drops of NaOH solution are added to a blue solution of  $\text{CuSO}_4$ .

b) A moist red litmus paper is dipped in a solution of KOH.

c) Few drops of phenolphthalein are added to KOH solution .

Q6. Give two examples of

a) Natural indicator b) Synthetic indicator.

Q7. Define neutralization reaction with a balanced chemical equation.

Q8.i)Why does a yellow curry stain on a white shirt turn red when it is washed with soap ?

ii)You are provided with three test tubes A, B and C containing an acidic, basic and distilled water. How would you identify the contents of each test tube as to which one contains an acid , base and distilled water by using blue litmus paper only.

Q9. What are the three types of salts? Give one example of each of salts .

Q10.Explain why if we touch the test tube immediately after carrying out the neutralisation reaction of an acid and a base in it ,it is found to be somewhat hot .

Q11.To a test tube containing solid Ammonium Chloride , a few drops of NaOH solution are added and is heated over the flame of a burner.

a) State your observation in the above case.

b) What do you conclude about the nature of the gas evolved.

c) What happens when a glass rod dipped in Con HCl is brought near the mouth of the test tube?

d) Write a balanced chemical equation for the above reaction taking place.

Q12. When an ant stings a person ,the solution of substance A is rubbed on the stung area of the skin to get relief from pain .The substance A is also used in kitchen for cooking purposes .Another substance B is sour in taste and contains an organic acid C .It is used in making pickles .When a solution of A is mixed with B then a change D takes place to produce bubbles of gas E

a. What are substances A ,B,C b. What type of change is D c. Name the gas E

Q13.Given below is the list of few salts: Write the names of corresponding acids and bases from which they are formed.      a)  $\text{Na}_2\text{SO}_4$       b)  $\text{CaCl}_2$       c)  $\text{NH}_4\text{NO}_3$

Q14.Given below are the names of some oxides. Which of them would form acids on dissolving in water ?       $\text{NO}_2$ ,  $\text{CaO}$ ,  $\text{SO}_3$ ,  $\text{Al}_2\text{O}_3$ , CO,  $\text{CO}_2$ ,  $\text{N}_2\text{O}_5$  ,  $\text{P}_2\text{O}_5$ ,  $\text{SO}_2$

Q15.You are provided with two test tubes , A and B ,one containing an acid and the other an alkali. You are also provided with a piece of Zn, a pinch of Sodium Carbonate and a pinch of  $\text{NH}_4\text{Cl}$ .

Using the above , identify the solutions in the beakers as to which one contains an acid and which one contains base. State all the tests performed and identify the gases evolved if any.

What conclusion do you draw from the above tests?

Q16. Given below is the list of few salts: Write the names of corresponding acids and bases from which they are formed.

a)  $\text{Na}_2\text{SO}_4$       b)  $\text{CaCl}_2$       c)  $(\text{NH}_4)_2\text{NO}_3$       d)  $\text{ZnCO}_3$       e)  $\text{CH}_3\text{COONa}$

## AIR OXYGEN AND OXIDES

Q1. How oxygen gas is prepared in the lab? Explain with the help of neat and clean diagram and also mention method of its collection .

Q2. What is a catalyst ? Give example of negative and positive catalyst .

Q3. Oxides are generally of three types . Name all of them and give two examples of each .

Q4. Assign reasons:

a) ZnO is known as amphoteric oxide.

b) Air containing dust particles is a heterogenous mixture.

Q5. Two gases A and B , B has the maximum percentage in air react with each other to form another gas C which is basic in nature . Gas C reacts with HCl to give a product D that undergoes sublimation on heating to give gas C and HCl. Gas A is combustible and burns with a 'pop' sound. Identify A,B,C,D.

Write balanced chemical equation for the reaction of i)A with B ii) C with HCl.

iii) Decomposition of product D.

Q6. Write the word equation for

- a. A candle burns in air      b. Respiration      c. Rusting    d. Phosphorous burns in air

## HYDROGEN

Q1. State the following:

- a. Why hydrogen gas is not used in balloons b. An application of oxy hydrogen flame c. A gaseous compound formed when nitrogen reacts with hydrogen d. Density of hydrogen with respect to air e. Reaction equation in preparing hydrogen gas.

Q2. Hold a glowing splinter near the mouth of the test tube containing hydrogen gas .

- a. What do you observe?    b. conclusion

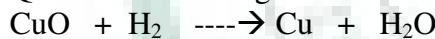
Q3. Hold a moist blue litmus near the mouth of the test tube containing hydrogen gas

- a. state your observation b. conclusion

Q4. State observation and conclusion when hydrogen gas is passed through heated copper oxide

.Q5. How will you prove that hydrogen gas is lighter than air.

Q6. In the following reaction



- A. Identify oxidising agent  
B. Reducing agent  
C. Substance oxidised  
D. Substance reduced

## WATER

Q1. Explain the term anomalous expansion of water .What effect does this property have on aquatic life?

Q2. Using anhydrous copper sulphate state a chemical test which can be performed to prove that a given liquid is water .

Q3. Give reason

- a. A bottle of soda opens with a fizz.b. Aquatic plants and animals survive in water.c. Ice floats in on water.d. Common salt is sprinkled to melt ice.e. Fishes die during summer.

Q4. Define following:

- a.Solubility    b. Saturated solution    c. Unsaturated solution    d. Elevation of boiling point  
e. depression of freezing point

Q5. State how water (condition) reacts with the following:

- a. Sodium    b. Aluminium    c. Platinum

Q6. Write equation for the reaction of the following metal with water/steam

- a. Sodium, b. Potassium c. calcium    d. magnesium    e. Aluminium    f. Iron

Q7. What happens when water reacts with – a) metallic oxide    b) non-metallic oxide . Give examples

Q8.A neutral liquid A reacts with Mg to form B and C. Gas C combines with another gas whose percentage is maximum in air to give another gas D. D produces dense white fumes on reacting with HCl. Identify A,B ,C,D. Show balanced equations to support your answer.

### **PHYSICAL AND CHEMICAL CHANGES**

Q1. Copper carbonate is heated in a test tube. State the following

- a. Name the products formed      b. How can we identify the gas formed
- c. Is it a physical change or chemical change    d. Write balanced chemical equation

Q2. Dilute hydrochloric acid is added to a piece of magnesium kept in a test tube .State the following:

- a. Test tube hot or remain unchanged    b. Name the products
- c. Is it a physical change or chemical change    d. Write balanced chemical equation

Q3. A thin strip of Magnesium is burnt in air. State the following:

- a. Name the products formed      b. What is formed when product is mixed with water
- c. Is it a physical change or chemical change    d. Write balanced chemical equations
- e. What is its effect on litmus paper.

Q4. Take a iron nail and place it in a beaker containing copper sulphate solution for sometime .State the following:

- a. colour change      b. reason of the change
- c. Type of chemical reaction    d. chemical equation of the reaction .

Q5. Vinegar is added to baking soda. State the following:

- a. Name the products formed      b. How can we identify the gas formed
- c. Is it a physical change or chemical change    d. Write balanced chemical equation

Q6. State the type of change giving appropriate reasons

- a. Dazzling light is evolved when magnesium ribbon is heated .
- b. When dilute acid is added to iron pieces taken in a test tube it becomes hot .
- c. Iron expands on heating
- d. Magnetisation of iron nail

Q7. Name the conditions required for rusting.

### **INTRODUCTION TO CHEMISTRY**

Q1.State the molecular nature of matter of solids ,liquids and gases in terms of

- a. Attraction of particles      b. Arrangement of particles    c. Energy of particles .

Q2. How would you demonstrate experimentally

- a) Gases have no definite volume and no definite shape
- b) molecules of a substance attract one another
- c) molecules of a liquid are in constant motion .

Q3. Differentiate between solid liquid and gases on the basis of

- a) rigidity    b) compressibility    c) diffusibility

Q4. Camphor on heating changes to vapour state .Name the process that it undergoes .Give two other examples from your daily life .

### **FUNDAMENTAL CHEMISTRY**

Q1. Write the formulas of the following compounds

- a. Magnesium chloride    b. Zinc sulphide    c. Iron(II) sulphate    d. Ammonium carbonate

Q2. Give the symbol and valency of the following radicals ;

- a. nitrate    b. bisulphite    c. bisulphate    d. sulphate    e. phosphate    f. ferrocyanate

Q3. Write balanced chemical equation for the following :

- a. Aluminium + Sulphuric acid  $\longrightarrow$
- b. sodium oxide + water  $\longrightarrow$
- c. Calcium + oxygen  $\longrightarrow$
- d. Sodium hydroxide + Hydrochloric acid  $\longrightarrow$
- e. Calcium oxide + Hydrochloric acid  $\longrightarrow$

**SYLLABUS**

UNIT 1 : INTRODUCTION TO CHEMISTRY

UNIT 2 : PHYSICAL AND CHEMICAL CHANGES

UNIT 3 & 4 : FUNDAMENTAL CHEMISTRY

UNIT 6: WATER

UNIT 9 & 10 : AIR OXYGEN AND OXIDES

UNIT 11, 12 & 13 : ACID , BASES AND SALTS

UNIT 14 & 15 : HYDROGEN