CHEMISTRY

BOOKS - ICSE

PRACTICAL WORK

Excercise 9 A

1. Give a chemical test to identify the following gases.

Ammonia

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2. Give a chemical test to identify the following gases.

Sulphur dioxide

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3. Give a chemical test to identify the following gases.

Hydrogen chloride

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4. Give a chemical test to identify the following gases.

Chlorine

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5. Give a chemical test to identify the following gases.

Carbon dioxide

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6. Give a chemical test to identify the following gases.

Oxygen

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7. Give a chemical test to identify the following gases.

Hydrogen

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8. Select a basic gas from the following

(i) Ammonia

(ii) Sulphur dioxide

(iii) Hydrogen chloride

(iv) Chlorine

(v) Carbon dioxide

(vi) Oxygen

(vii) Hydrogen .

How is the basic nature verified ?

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9. Select acidic gases from the following

(i) Ammonia

(ii) Sulphur dioxide

(iii) Hydrogen chloride

(iv) Chlorine

(v) Carbon dioxide

(vi) Oxygen

(vii) Hydrogen .

How is the acidic nature verified ?

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10. State the gas responsible for temporary bleaching action.

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11. Which gas turns blue cobalt chloride paper light pink?

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12. What is observed on performing the following:

	Hydrogen	Oxygen	Carbon dioxide	Chlorine
Litmus test				
Apply burning splint to the gas				
Colour of gas	colourless	colourless	colourless	greenish yellow
Odour of gas				

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13. Give a chemical test to distinguish between the following gases

H_2 and CO_2

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14. Give a chemical test to distinguish between the following gases

H_2 and O_2

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15. Give a chemical test to distinguish between the following gases

CO_2 and SO_2

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16. Give a chemical test to distinguish between the following gases

HCI and H_2S

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17. Give a chemical test to distinguish between the following gases

HCI and CI_2

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18. Give a chemical test to distinguish between the following gases

NH_3 and HCI

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19. Give a chemical test to distinguish between the following gases

SO_2 and CI_2

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20. Give a chemical test to distinguish between the following gases

NH_3 and SO_2

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21. Name the gas that

turns moist starch iodide paper blue black.

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22. Name the gas that

turns moist red litmus blue.

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23. Name the gas that

does not affect acidified K Cr_2O_7 paper but

turns lime water milky.

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24. Name the gas that affects acidified $K_2Cr_2O_7$ paper and also turns lime water milky.

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25. What do you observe when CO_2 is passed through lime water first a little and then in excess.

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26. What do you observe when

HCl is passed through silver nitrate solution.

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27. What do you observe when

H_2S is passed through lead nitrate solution.

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28. What do you observe when

CI_2 is passed through potassium iodide (KI) solution.

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29. What do you observe when

Cobalt chloride paper is introduced in water vapour, Write balanced equations for each of the above.

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30. Name :

Two carbonates that do not produce carbon dioxide on heating

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31. Name :

Two nitrates that do not produce nitrogen dioxide on heating

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32. Name :

A brown gas.

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33. Name :

A greenish yellow gas.

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34. Name :

A gas with rotten egg smell.

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Excercise 9 B

1. Distinguish by heating the following in dry test tube.

zinc carbonate, copper carbonate and lead carbonate

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2. Distinguish by heating the following in dry test tube.

zinc nitrate and copper nitrate

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3. Distinguish by heating the following in dry test tube.

copper sulphate and copper carbonate

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4. Distinguish by heating the following in dry test tube.

ammonium chloride and iodine

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5. match the following:

Column A	Column B
(a) $Pb(NO_3)_2$	(i) rotten egg smell
(b) CO_2	(ii) burns with pop sound
(c) $(NH_4)_2Cr_2O_7$	(iii) suffocating smell of sulphur
(d) HCl	(iv) lime water turns milky
(e) NO_2	(v) crackling sound
(f) O_2	(vi) residue swells up
(g) H_2	(vii) brown gas
(i) H_2S	(viii) supports combustion
(j) SO_2	(ix) fumes with NH_3 solution

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6. Distinguish by dilute sulphuric acid.

Sodium sulphite and sodium carbonate ?

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7. Distinguish by dilute sulphuric acid:

Copper and magnesium

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8. Distinguish by dilute sulphuric acid.

Sodium sulphide and sodium sulphite ?

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9. Write balanced equations for the following reactions.

Ammonium dichromate is heated.

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10. Write your observation and a balanced equation in the case of the following substances being heated.

Copper nitrate

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11. Describe all that you would observe when the following compounds are heated.

Copper carbonate.

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12. Describe all that you would observe when the following compounds are heated.

Zinc carbonate.

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13. Describe all that you would observe when the following compounds are heated.

Ammonium chloride.

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14. State the original colour of the following substance and colour of residue obtained after heating.

ammonium dichromate

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15. State the original colour of the following substance and colour of residue obtained after heating.

copper carbonate

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16. State the original colour of the following substance and colour of residue obtained after heating.

lead nitrate

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17. State the original colour of the following substance and colour of residue obtained after heating.

zinc carbonate

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Excercise 9 C

1. Write your observations when dilute sulphuric acid is added to the following:

A metal sulphide (sodium sulphide).

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2. Write your observations when dilute sulphuric acid is added to the following:

A metal carbonate (sodium carbonate).

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3. Write your observations when dilute sulphuric acid is added to the following:

A metal (zinc).

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4. Match the column A with column B

Colum A	Column B
(i) Elements at the bottom of periodic table	A. Hydrogen
(ii) Alkaline earth metal	B. Mercury
(iii) An element without neutron	C. Calcium
(iv) Liquid metal	D. Lanthanides
(v) Has 5 electrons in its valence shell	E. Nitrogen

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5. How is a flame test performed ?

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6. How will you distinguish :

sodium chloride, potassium chloride and calcium chloride ?

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7. How will you distinguish :

between soft water and hard water.

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8. How will you distinguish :

temporary hard water and permanent hard water?

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9. What do you understand by

Temporary Hard water

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10. What do you understand by

Soft water

Watch Video Solution

11. What do you understand by

Permanent hard water.

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12. How are temporary and permanent hardness removed ?

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13. What are soaps and detergents ?

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14. Compare the effect of soaps and detergents on hard water.

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15. Copy and complete the following table that refers to the action of heat on some carbonates :

Carbonate	Colour of residue on cooling
Zinc carbonate Lead carbonate Copper carbonate	

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16. Identify the following substances :

An alkaline gas A which gives dense white fumes with hydrogen chloride.

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17. Identify the following substances :

Gas C has an offensive smell like rotten eggs.

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18. Identify the following substances :

Gas D is a colourless gas which can be used as a bleaching agent.

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19. Brown gas having an irritating odour.

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Review Questions

1. Name a gas which reduces hot copper (II) oxide to copper.

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2. Write correctly a balanced equation for the following word equation:

Red lead $\rightarrow$ lead monoxide + oxygen

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3. Select from the list the gas that matches the description given in each case :

[Methane , Hydrogen, Nitrogen , Ammonia , Nitrogen dioxide , Chlorine]

A gas which burns in air or oxygen forming water

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4. Name a gas used along with acetylene for welding and cutting metals.

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5. Write correctly the balanced equation for the following:

When red lead, Pb_3O_4 is heated.

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6. Write correctly balanced equations in the following cases:

When lead (II) oxide (PbO_2) is heated.

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7. Write correctly balanced equations in the following cases:

When phosphorus is burnt in a jar of oxygen.

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8. Name the products formed when a candle burns in oxygen.

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9. Give a reason for the following: Like oxygen, nitrous oxide (N_2O) also supports combustion. A glowing splint introduced into a jar of N_2O is rekindled. Give a chemical test to distinguish oxygen from N_2O

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10. Name a non-metallic element which forms an acidic and a neutral oxide.

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11. Name a non-metallic oxide which is a reducing agent.

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12. Name (formula not acceptable) the gas produced in the following reaction:- Burning of sulphur.

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13. Explain why chlorine turns moist starch iodide paper blue-black.

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14. State three tests by which you could identify a gas as being chlorine.

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15. State what you observe when a piece of moist blue litmus paper is placed in a gas jar of chlorine.

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16. For the elements sodium and phosphorus, state the following

the formula of the chloride of each element,

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17. For the elements sodium and phosphorus, state the following

The physical state of each chloride at room temperature (i.e. solid, liquid or gas),

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18. For the elements sodium and phosphorus, state the following

the nature of bonding of each chloride (i.e. ionic or covalent).

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19. State what you observe when a piece of moist blue litmus paper is placed in a gas jar of chlorine.

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20. Write correctly a balanced equation for the following “word equation":

Calcium carbonate + Hydrochloric acid to Calcium chloride + Water + Carbon dioxide.

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21. What happens if carbon dioxide is bubbled into a suspension of calcium carbonate in water?

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22. Give a chemical test to distinguish between the following pairs of compounds: carbon dioxide gas and hydrogen chloride gas.

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23. Complete the following "word" equation : lime water + carbon dioxide $\rightarrow$

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24. Give reasons for: 'It is dangerous to sleep in a closed room in which a coal fire is burning'.

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25. Give the name of an acid salt found in "Health Salts".

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26. Name two important processes which generate or release carbon dioxide into the atmosphere.

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27. Name two processes which remove carbon dioxide from the atmosphere.

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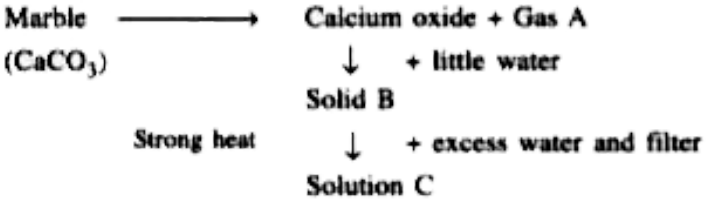
28. Study the reaction scheme below and then answer which follow:



Give the chemical name and formula of (i) marble, (ii) gas 'A`. (iii) solid 'B'.

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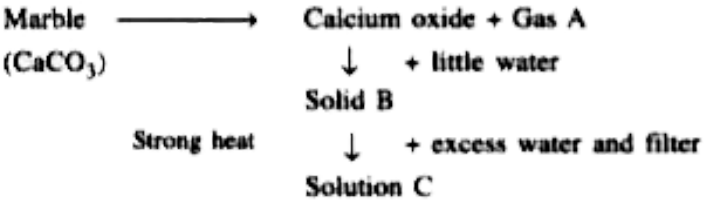
29. Study the reaction scheme below and then answer which follow:



Give the chemical name and formula of (i) marble, (ii) gas 'A`. (iii) solid 'B'.

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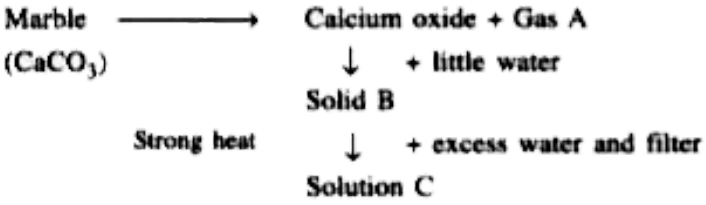
30. Study the reaction scheme below and then answer which follow:



Give the chemical name and formula of (i) marble, (ii) gas 'A`. (iii) solid 'B'.

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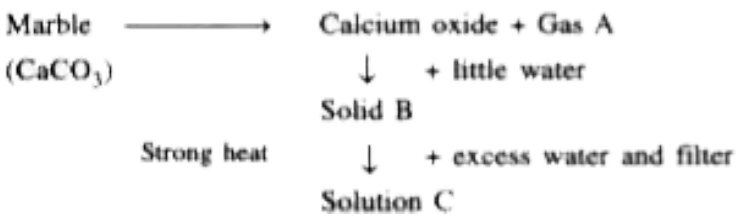
31. Study the reaction scheme below and then answer which follow:



On bubbling excess of gas A through the resulting suspension, the white precipitate dissolves and then reappears on boiling, Suggest an explanation for these observations.

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32. Explain the following:

A white crust forms on the surface of lime

water that has been exposed to the air.

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33. Give the biological importance of carbon dioxide dissolved in water.

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34. State your observations and give balanced equations of the reactions when carbon

dioxide is passed through clear lime water (a) for a short time (b) for a long time.

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