CHEMISTRY

BOOKS - ICSE

SPECIMEN PAPER 1

Section I

1. From the list, given below, select the correct answers for

[Isobars, Isotopes, Efflorescence, Hygroscopy,

Charles's law, Boyle's law, Kelvin, Thermal dissociation, Thermal decomposition].

A phenomenon where a compound absorbs moisture from the atmosphere when it is exposed to it but not enough to form a solution.

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2. From the list, given below, select the correct answers for

[Isobars, Isotopes, Efflorescence, Hygroscopy,

Charles's law, Boyle's law, Kelvin, Thermal dissociation, Thermal decomposition].

Atoms of the same element having the same atomic number but different mass numbers.

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3. From the list, given below, select the correct answers for

[Isobars, Isotopes, Efflorescence, Hygroscopy, Charles's law, Boyle's law, Kelvin, Thermal dissociation, Thermal decomposition].

At constant temperature, the volume of a given mass of dry gas is inversely proportional to its pressure.

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4. From the list, given below, select the correct answers for

[Isobars, Isotopes, Efflorescence, Hygroscopy, Charles's law, Boyle's law, Kelvin, Thermal dissociation, Thermal decomposition].

Temperature measured equals to celsius temperature plus 273.

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5. From the list, given below, select the correct answers for

[Isobars, Isotopes, Efflorescence, Hygroscopy, Charles's law, Boyle's law, Kelvin, Thermal dissociation, Thermal decomposition].

Decomposition of a compound by the action

of heat, on cooling, original substance is formed.

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6. From hydrogen, sodium, zinc and argon select

Least reactive element.

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7. From hydrogen, sodium, zinc and argon select

Element which produces a gas on reacting with water.

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8. From hydrogen, sodium, zinc and argon select

Element which reacts with steam.

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9. From hydrogen, sodium, zinc and argon select

Element which burns in oxygen with a pop sound.

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10. From hydrogen, sodium, zinc and argon select

Element used in bulbs.

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11. Match the atomic number 4, 14, 8, 15 and 19 with each of the following:

A solid non-metal of valency 3.

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12. Match the atomic number 4, 14, 8, 15 and 19 with of the following:

A gas of valency 2.

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13. Match the atomic numbers 4, 14, 8, 15 and 19 with the corresponding elements :

A metal with one electron in N shell.

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14. Match the atomic number 4, 14, 8, 15 and 19 with of the following:

A non-metal of valency 4.

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15. Match the atomic numbers 4, 14, 8, 15 and 19 with the corresponding elements :

A metal with one electron in N shell.

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16. Write the following equations and balance them :

Aluminium + sodium hydroxide + water $\rightarrow$ Sodium aluminate + hydrogen.

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17. Write the following equations and balance them :

Potassium bicarbonate + sulphuric acid $\rightarrow$ Potassium sulphate + carbon dioxide + water.

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18. Write the following equations and balance them :

Potassium hydroxide + nitric acid $\rightarrow$ potassium nitrate + water

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19. Give reasons :

A white powder is formed on the surface of washing soda crystals when left exposed to atmosphere.

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20. Give reasons :

Hydrogen is not used in balloons inspite of

being the lightest gas.

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21. Give reasons :

It is difficult to find absolutely pure water in nature.

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22. Give reasons :

On boiling, water loses its taste.

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23. Give reasons :

Reagent silver nitrate is not prepared in tap water.

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24. What do you observe :

Carbon dioxide is passed through lime water first a little, then in excess.

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25. What do you observe :

Sulphur dioxide is passed through acidified $K_2Cr_2O_7$ solution.

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26. What do you observe :

Hydrochloric acid is added to lead nitrate solution.

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

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28. What do you observe :

Iodine crystals are heated strongly in a test tube.

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29. Correct the statements :

The formula of magnesium nitride is $MgNO_2$.

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30. Newland's law of octaves states that

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31. Correct the statements :

Chlorine is evolved when chlorine water is exposed to sunlight.

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32. Correct the statements :

Boyle's law relates volume with temperature.

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33. Fill in the blanks :

Carbon monoxide is absorbed in _____ while hydrogen is adsobred by _____ .

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34. Fill in the blanks :

Carbonates of _____ and _____ do not produce carbon dioxide on heating.

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35. Fill in the blanks :

_____ is added to very dilute nitric acid to produce H_2.

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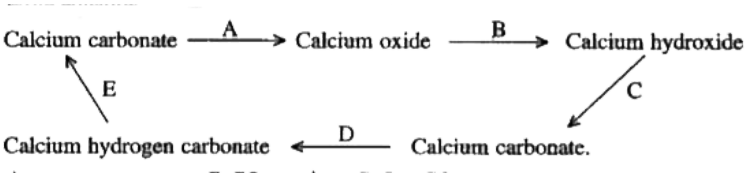
Section Ii

1. Write equation for each conversion A to E.



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2. Explain the following:

Potassium is stored under kerosene oil.

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3. Explain the following:

Anhydrous iron (III) chloride turns to a solution when exposed to air.

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4. Explain the following:

A solution of $CuSO_4$ cannot be stored in a pot made of iron.

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5. What are the two factors responsible for the liquefaction of gases ?

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6. At 0° and 760 mm Hg pressure, a gas occupies a volume of $100cm^3$. The Kelvin temperature of the gas is increased by one fifth, while the pressure is decreased by one fifth times. Calculate the final volume of the gas.

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7. Draw the structure of ammonia molecule.

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8. Give the equation for the lab preparation of hydrogen.

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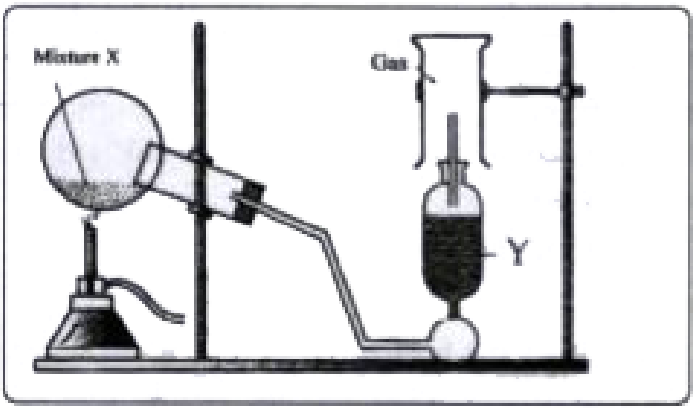
9. The diagram shows an experimental set up for the laboratory preparation of a pungent smelling gas. The gas is alkaline in nature.



How is the gas being collected ?

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10. Why sulphuric acid is not used as a drying agent in the preparation of hydrogen ?

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11. Give balanced equations to show the preparation of hydrogen by the following:

cold water.

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12. Give balanced equations to show the preparation of hydrogen by the following:

steam

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13. Give balanced equations to show the preparation of hydrogen by the following:

iron

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14. Give balanced equations to show the preparation of hydrogen by the following:

alkali

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15. Give balanced equations to show the preparation of hydrogen by the following:

nitric acid

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

A metal (zinc).

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

A metal carbonate (sodium carbonate).

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

A metal sulphide (sodium sulphide).

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

A metal sulphite (potassium sulphite)

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20. Write balanced equations

An acidic oxide reacts with water to give two acids.

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21. Write balanced equations

For the removal of carbondioxide from hydrogen in Bosch process.

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22. Complete the following equations and state whether they are oxidation or reduction reaction.

Cu - _____ $\rightarrow Cu^{2+}$

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23. Complete the following equations and state whether they are oxidation or reduction reaction.

$Na^{+} + \_ \_\rightarrow Na$

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24. Complete the following equations and state whether they are oxidation or reduction reaction.

$O^{2-} - 2e^{-} \rightarrow$ _____.

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25. Complete the following equations and state whether they are oxidation or reduction reaction.

$Fe^{2+} \rightarrow$ _ $-+ e^-$

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26. The valency of nitrogen in nitrogen dioxide (NO_2) is

A. 1

B. 2

C. 3

D. 4

Answer: D

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27. Name the following:

An alkaline earth metal in period 3 of the periodic table.

A. Ba

B. Ca

C. Mg

D. Be

Answer: C

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28. Select the correct answer from the following:

A salt which leaves yellow residue on heating :

A. $Cu(NO_3)_2$

B. $CuCO_3$

C. $Pb(NO_3)_2$

D. $(NH_4)_2Cr_2O_7$

Answer: C

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29. Volume : Temperature relationship is given by

A. Dalton

B. Boyle

C. Charles

D. Lavoisier

Answer: C

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30. Urea is a very important nitrogenous fertiliser. Its formula is CON_2H_4. Calculate the

percentage of nitrogen in urea. (C = 12, O = 16, N = 14 and H = 1)

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31. Under what conditions does coke react with water to form water gas?

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32. How is hydrogen obtained from alkali.

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33. State the law of conservation of mass.

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34. Certain amount of washing soda crystals are exposed to atmosphere, a loss in weight was noticed. How can you account for this ?

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35. The salt which is deliquescent :

Washing soda ; Glaubers salt ; Iron (III) chloride ; Sodium chloride ;

A. Washing soda

B. Glaubers salt

C. Iron (III) chloride

D. Sodium chloride

Answer: C

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36. The anhydrous salt which is used to test water as it changes colour when water is added to it. Sodium chloride , Magnesium sulphate, Zinc chloride, Copper sulphate.

A. Sodium chloride

B. Magnesium sulphate

C. Zinc chloride

D. Copper sulphate.

Answer: D

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37. Select the correct answer from the following:

A salt which leaves yellow residue on heating :

A. Lead carbonate

B. Copper carbonate

C. Calcium carbonate

D. Magnesium carbonate

Answer: B

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