CHEMISTRY FORM TWO NECTA 2006

Solutions from: Maktaba by TETEA

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1.

i	ii	iii	iv	v	vi	vii	viii	ix	x
A	B	C	B	D	A	C	D	D	A

2.

i	ii	iii	iv	v	vi	vii	viii	ix	x
N	G	B	M	D	O	E	K	J	H

3. (a)(i)oxygen gas

(ii)fuel

(iii)heat

(b)(i)Ammonium chloride will decompose, giving out ammoniu gas.

(ii)Fractional distillation

4. (a)(i)Element is the pure substance that can combine to form a compound, eg sodium, magnesium

(ii)Compound is the substance that is formed on the combination of two or more elements.

(b)physical change vs chemical change.

Physical change	Chemical change
-usually reversible	-usually irreversible
-new product is not formed	-new produc is formed
-does not affect the chemical composition of substance	- affect the chemical composition of substance
-energy is not absorbed or released	-energy is absorbed or released

(c)(i)Sodium hydrogencarbonate.

(ii)Hydrogen peroxide

5. (a)(i)Acid is the chemical substance that gives out H^+ ions when dissolved in water.

(ii)Base is the substance that gives out OH^- ions when dissolved in water.

(iii)Salt is the substance formed when acid reacts chemically with base.

(b)(i)Ammonium nitrate

(ii)sodium sulphate

(iii)calcium sulphate

(iv)dry powder

(c)(i)salt + gas

(ii)alkaline solution

(iii)salt + hydrogencarbonate

6. (a)Empirical formula is the simplest formula that express its composition by mass.

(b)Y + 20% + 26.5% = 100%

(i) y = 53.5%

(ii)Empirica;l formula

Find their ratio,

Mg 20/24 = 0.83, S 26.5/32 = 0.83 O 53.5/16 = 3.34

Then, divide by smallest value

Mg 0.83/0.83 = 1, S 0.83/0.83 = 1, O 3.34/0.83 = 4

Hence, empirical formula is $MgSO_4$

7.(a)(i)Permanent hardness of water can be soften by addition of calcium and sodium salts

(ii)Temporary hardness of water can be removed by boiling the water

(b)Disadvantages of hard water

(i)uses of much soap

(ii)costfull on softening

8.(i)$Fe + S \longrightarrow FeS_2$

(ii)$CaCO_3 \xrightarrow{\text{decomposition}} CaO + CO_2$

(iii)$NH_4 + H_2SO_4 \longrightarrow NH_2(SO_4) + H_2$

(iv) $K + H_2O \longrightarrow K(OH)$

9.(a)Importances of laboratory rules

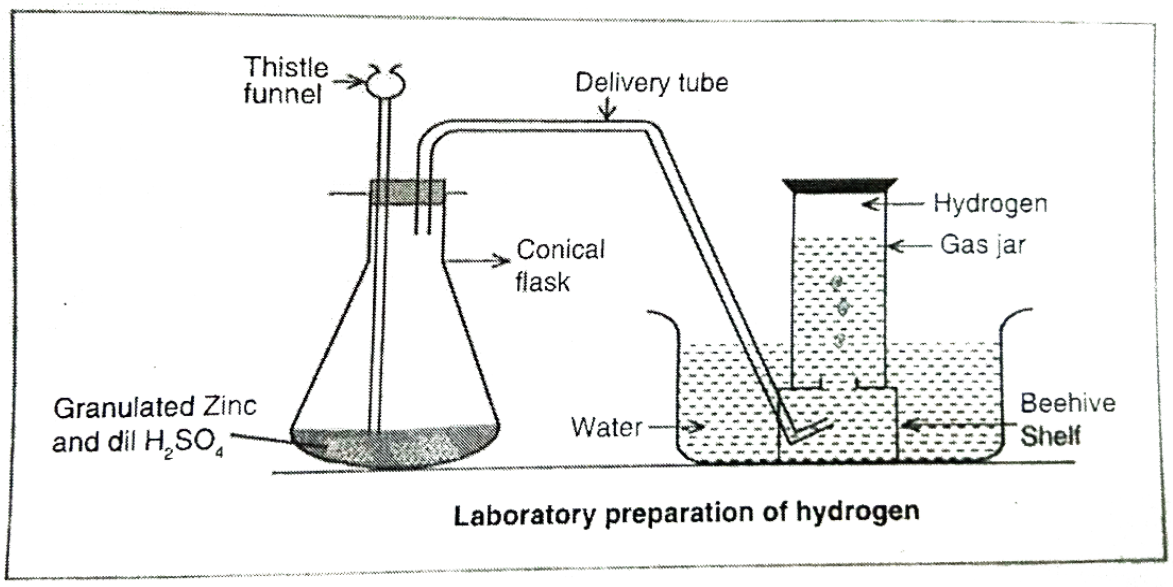
(i)To ensure safety in the laboratory during experiment.

(ii)To prevent the unorganized conduction of experiments in the laboratory

(b)(i)Explosions due to lack of cooling water during experiments that involve heating

(ii)dirty of apparatus as they will not be cleaned after experiments.

10.**preparation of hydrogen gas using dil. Hydrochloric acid and zinc**



Laboratory preparation of hydrogen

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(b)properties of hydrogen

- It is colourless
- It does not have smell

- Gives pop sound when burnt
- It is less denser than air.