

CHEMISTRY

FORM 3

PAPER 1

END TERM 3 2026

MARKING SCHEME

1. (i) Open the air-holes fully/increase pressure

2. (ii) Mobile ions

(ii) Delocalized electrons

3. (a) (i) $Q = 10.352 - 10.240$

$$= 0.112g$$

$$\text{Oxygen} = 10.400 - 10.352$$

$$= 0.048g$$

(b)

Q	Oxygen
Mass O- 112	0.048
R.A.M 56	16
Moles $\frac{0.112}{56}$	$\frac{0.048}{16}$
0.002	0.003
0.002	0.002
1X2	1.5X2
2	3
Q ₂ O ₃	

4. (a) Rate of diffusion of a gas is inversely proportional to the square root of its density at constant temperature and pressure.

5. (a) Filtration

(b) Carbon (IV) Oxide



6. (a) To prevent decomposition of the acid to NO₂ and water

(b) Platinum-Rhodium catalyst

(c) To make fertilizers

To make Explosives

$$7. \text{R.A.M} = \frac{(78.6 \times 24) + (10 \times 25) + (11.4 \times 26)}{100}$$

$$= \frac{1886.4 + 250 + 296.4}{100}$$

$$= \frac{2432.8}{100}$$

$$= 24.3$$

8. Difference is solubility of solvents used.

Difference is stickiness/absorption in the filter paper

9. (i) In graphite layers are bonded in layers by a weak vanderwaal forces, thus slide over another easily

(ii) In diamond: atoms are joined together by covalent in a three dimension structure, thus very hard.

10. (a) Z; Strong acid

(b) X&Z; Since Aluminium hydroxide is an amphoteric oxide

11. (i) A; found in group six

(ii) Giant ionic structure

(iii) B is more reactive than H

12. (a) K or Na

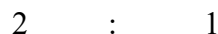
(b) Ag or Hg



$$\text{Molarity} = \frac{5.6}{56}$$

$$= 0.1 \text{ Mole/Litre}$$

Moles Ratio



$$\text{Thus } \frac{0.002}{2} = 0.001$$

$$2$$

$$\text{Moles of KOH} = \frac{0.1 \times 20}{1000}$$

$$= 0.002 \text{ Moles}$$

$$\text{Molarity of H}_2\text{SO}_4 = 0.001 \times 1000$$

$$\frac{24}{=0.04M}$$

14 (i) Bleaching occurred; moisture reacted with chlorine

(ii) No bleaching gas to be produced HOCL which bleaches

15. (i) Hot compressed air

(ii) In order to melt sulphur in the deposits

(iii) Insoluble in water

Melting point I lower than that of superheated water

16. It is light/less dense

It is not explosive/it is unreactive

$$17. \frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2} \quad V_2 = \frac{P_1 V_1 T_2}{P_2 T_1}$$

$$= \frac{670 \times 40 \times 283}{335 \times 298}$$

$$= 75.97$$

$$= 76.0 \text{ cm}^3$$

18. (a) fractional Distillation

(b)

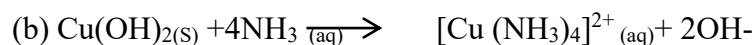


(c) G, I it has a lower b.p

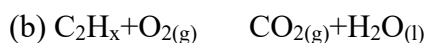
19. (i) 2,3-dimethyl pentane

(ii) 2-butyne/ But-2-yne

20. (a) Blue ppt then deep blue solution



21. (a) When gases react, they do so in volumes that bear simple ration to one another and to products formed.

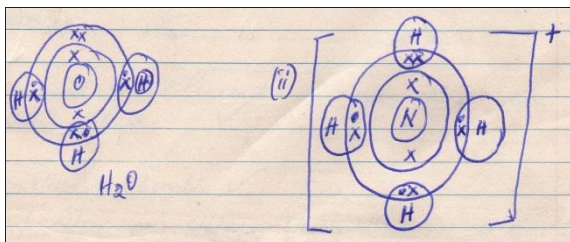


10: 30 20:20

1: 3 2:2

X=4

22.



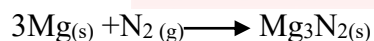
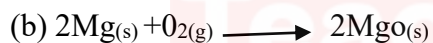
23. Bottle Correct Label

1 NaCl

2 Sugar

3 Na₂CO₃

24. (a) Nitrogen, Oxygen



25. (a) A substance that displays both acidic and basic properties

26. (a) there is formation of an insoluble salt of lead (ii) sulphate which coats the metal preventing further reaction.

(b) Heat lead in air to form Lead (ii) oxide, reacts with HNO₃ to form (Pb(NO₃)₂). React with a solution of Na₂SO₄ filter to collect PbSO₄ as residue.

27. Workability

Reagents

Drying agent

Method of collect

Neatness

28. Existence of an element in more than one crystalline shape

(b) Monoclinic; Rhombic

(c) Temp where one allotrope slowly changes to another.

