**AA-14**

**FORM ONE CHEMISTRY**

**MARKING SCHEME**

1. – Add water to the mixture

- Water mixes with ethanol and forms the lower layer

- The upper layer is pentane thus use a separating funnel to separate pentane

- Use fractional distillation to obtain ethanol from water.

2. (i) separating funnel

(ii) To separate immiscible liquids

3. (a)

 (b) It consists of unburnt tiny particles of white hot carbon which give out bright yellow light

4. (a) – Chromium (III) ion

- Copper (II) ion

(b)

5. Sodium Carbonate 10.0

Lemon juice 4.0

6. (i) Process **M** – bubbling the mixture through sodium hydroxide solution

(ii) Process **N** – Passing the mixture over a burning active metal

(iii) Process **P** – bubbling through conc. Sulphuric acid

7. (a) PbO(s) + H2(g) Pb(s) + H2O(l)

(b) Black solid turned to grey

(c) Carbon (II) oxide

8. **P** – Hydrogen gas R – Magnesium oxide

**T** – Copper metal S – Water

9. (a (i) Carbon

 (ii) Hydrogen

(b) (i) Tube x – colourless liquid

 (ii) Boiling tube – no white precipitate

10.

|  |  |
| --- | --- |
| **Luminous flame** | **Non – luminous flame**  |
| Is bright yellowBurns quietlyHas 4 regionsIs sootyNot very hot | Is pale blueBurns with a noiseHas 3 regionsIs non-sootyVery hot |

11. (a) Cooling

(b) Latent heat of fusion

12. (a) (i) Q (ii) P

(b)Litmus turns blue in R since its basic. The mixture turns red on adding Q.

13. (a) (i)

 Anhydrous CaCl2 as drying agent / conc. H2SO4 in a boiling tube

- method of collection (downward delivery)

- workability

 (ii) Sodium Peroxide (Na2O2)

 (iii) Sodium peroxide + water Sodium hydroxide + Oxygen

(b) (i) Phosphorous + Oxygen Phosphorous (V) oxide

(ii) Phosphorous being a non-metal reacts with oxygen to form an acidic oxide. The acidic

 oxide dissolves in water to form a strong acid.

(c) – Used in steel making

- Used in deep sea diving

- Used in hospitals to assist patients with breathing difficulties

- Used in welding and cutting of metals

(d) – colourless

- Slightly soluble in water

- slightly denser than air

14. (a) Substance is a strong oxidizing agent

(b)- allow heating

 Observation can be made easily more transparent than plastics

15. \_ Heat the two samples separately

- Pure water boils at 100oC

- Impure boil over a range of temperature above 100oC

16. The mass of oxygen is added to magnesium while Potassium manganate (VII) decomposes releasing

oxygen which escapes.

17. (a) Calcium hydroxide+ sulphuric aid calcium sulphate + water

(b) Neutralization

(c) Used to correct soil pH

18. (a) S

(b) R

(c) S,P, Q, R

19. (i) 100oC

(ii) Anhydrous Copper (II) sulphate + water Hydrated Copper (II) Sulphate

(iii) Has impurities

20.

(b) (i) Hydrogen

 (ii) Hydrogen

21. (a) Acts as an impurity to lower he melting point of the ice /frost.

(b) Salt accelerates rusting of metallic parts of vehicles since the ions in salt oxidizes the Iron (II)

 to Iron (III) ion hence rusting.

22. (a) They gain energy and vibrate faster

(b) T1 – melting point

T2 – melting point

(c) The energy supplied changes molecules from solid state to liquid state.

(d) Pure – has sharp Melting points and Boling points

23. - Sublimation

- Filtration

- Simple distillation

- Fractional distillation

- Paper chromatography

24. Is a substance, natural oR artificial, which when used changes the normal functioning of our bodies

25. Pipette