**FORM THREE**

**CHEMISTRY**

**PAPER 3/ PRACTICAL**

**MARKING SCHEME**

**QUESTION 1**

Tables I and II

* Complete table
* Decimals
* Accuracy

Each table is 3marks

b) Average volume for table 1 is about 12.5cm3.

c) i) Moles of solution N is 25cm3

 =$\frac{0.02x25}{1000}=0.0005$

ii) Mole ratio 1:5

 Moles of H =$\frac{1}{5}$x0.0005=0.0001

iii) Concentration of H in moles per litre

 $\frac{0.0001 x 1000}{5Av.vol}$

 $\frac{10.0001x1000}{12.5}$

 = 0.008M

e) Average volume for table II is about 18.2cm3

f) i) Number of moles of solution H used

 ans in $\frac{c(iii)xAv.vol}{1000}$ = $\frac{10.008x18.2}{1000}=0.0001456$

ii) Moles of x in 25cm3 solution

 Mole ration H:X = 2:5

 =$\frac{5}{2}xans in \left(f\right)(i)$

 = $\frac{5}{2}x0.0001456$

 = 0.000364

iii) Concentration of x in moles per litre

 = Ans in $\frac{(f) (ii) x 1000}{25}$

 =$ \frac{0.000364x1000}{25}$

 = 0.01456

**Question 2a**

|  |  |  |
| --- | --- | --- |
|  | **Observations** | **Inferences** |
|  | White solid dissolves to form a colourless solution. | Cu2+, Fe2+, Fe3+ absent |
|  | White ppt, soluble in excess | Zn2+, Pb2+ or Al3+ present |
|  | White ppt, insoluble in excess | Pb2+ or Al3+ presentZn2+ absent |
|  | No white ppt | Al3+ presentPb2+ absent |

(1mk each)

**Question 2b**

|  |  |
| --- | --- |
| **Solid**  | **Colour of flame** |
| Sodium chloride | Golden yellow |
| Potassium chloride | Blue/purple/lilac |
| Calcium chloride | Red  |
| Y | Blue/purple/lilac |

(½mk each)

1. Cation present in Y is K+. (1mk)

**Question 3**

|  |  |
| --- | --- |
| **Observations**  | **Inferences**  |
| 1. Solid dissolves to form a colourless solution
 | Solid F is polar |
| 1. PH= 5.0
 | Solution is weakly acidic |
| 1. Effervescence/bubbles of a colourlessgas
 | C:\Users\USER\Pictures\Capture.PNG |
| 1. Orange/yellow bromine water is decolourised
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| 1. Purple acidified potassium manganite (VII) is decolourised
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