2021

CHEMISTRY – HONOURS – PRACTICAL

Paper – CC-1P

Full Marks – 30

INORGANIC CHEMISTRY

(Marks : 20)

1. For the estimation of the quantity of Fe(II) with standardised $KMnO_4$ in gm/L.

a) Write down the principle of estimation mentioning all the equations of both $KMnO_4$ with oxalic acid and Fe(II) with $KMnO_4$ and state the working formula for both reactions. 10

b) Using the following data calculate the strength of ~ ($\frac{N}{20}$) $KMnO_4$ solution.

i) 0·7875 gm of $H_2C_2O_4 \cdot 2H_2O$ has been accurately weighed, transferred to a 250 ml volumetric flask and volume is made up with distilled water.

Calculate the strength of oxalic acid solution. 2

ii) Standardisation of $KMnO_4$ by standard oxalic acid

No of titrations	Volume of standard $H_2C_2O_4$ taken (ml)	Burette reading of $KMnO_4$ (ml)			
		Initial (ml)	final	Difference	Mean (ml)
1	25	0	25·0	25·0	25·1
2	25	0	25·1	25·1	
3	25	0	25·2	25·2	

c) Calculate the strength of $KMnO_4$ 2

c) Using the above data, calculate the amount of Fe(II) in gm/L using the following specimen results

No of titrations	volume of Fe(II) sol^n	Burette readings of $KMnO_4$ required (ml)			Mean volume (ml)
		Initial	final	Difference	
1	25	0	18·0	18·0	18·1
2	25	0	18·1	18·1	
3	25	0	18·2	18·2	

6

PTO

ORGANIC CHEMISTRY

(Marks : 10)

2. You are given a (1:1) mixture of two pure solids, a) p-Chlorobenzoic acid and (b) Naphthalene

How would you separate them into two pure components using their solubility in different solvents only? Describe the procedure of separation and given reasons for the choice of solvent.

a) choice of solvent 2

b) Procedure of separation 4

c) Explanation 4