2020

CHEMISTRY — HONOURS — PRACTICAL

Paper : CC-6P

(Inorganic Chemistry)

Full Marks : 30

The figures in the margin indicate full marks.

1. For the estimation of the quantity of Ca^{II} and Mg^{II} present separately in a mixture in g/L :

   (a) Write down the principle of estimation mentioning all the equations involved and derive the working formula. 15

   (b) Using the following data calculate the strength of ~(M/50) EDTA solution. 2½+2½

      (i) 1.1621 g of Zn-acetate dihydrate has been accurately weighed, transferred to a 250 mL volumetric flask and volume is made up with distilled water in presence of NH_4Cl.

      (ii) Standardization of ~(M/50) EDTA by standard Zn-acetate.

No. of titrations	Volume of standard Zn-acetate taken (mL)	Burette reading of EDTA solution (mL)			
		Initial	Final	Difference	Most frequent reading
1	25	0	25.3	25.3	25.3
2	25	0	25.4	25.4	
3	25	0	25.3	25.3	

   (c) Using the above standardization data, calculate seperetely the amount of Ca^{II} and Mg^{II} in g/L by using the following specimen results. 5+5

      (i) Table for estimation of $(Ca^{II} + Mg^{II})$:

No. of titrations	Volume stock solution taken (mL)	Burette reading of EDTA solution (mL)			
		Initial	Final	Difference	Most frequent reading
1	25	0	44.5	44.5	44.5
2	25	0	44.5	44.5	
3	25	0	44.6	44.6	

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(ii) Table for estimation of Ca^{II} :

No. of titrations	Volume stock solution taken (mL)	Burette reading of EDTA solution (mL)			
		Initial	Final	Difference	Most frequent reading
1	25	0	21.7	21.7	21.7
2	25	0	21.6	21.6	
3	25	0	21.7	21.7	