CHEMISTRY — HONOURS — PRACTICAL

2021

Subject-CEMA, SEM-III

Paper- CC-3-6P

Time: 2 Hrs **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. 10

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

(i) 1.1066 *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 2½+2½

No. of Titrations	Volume of Std. Zn-acetate taken (mL)	Burette Reading of EDTA soln (mL)			
		Initial	Final	Difference	Average reading
1.	25	0	25.5	25.5	25.4
2.	25	0	25.3	25.3	
3.	25	0	25.4	25.4	

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

PTO.

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

No. of Titrations	Volume of Stock solution taken (mL)	Burette Reading of EDTA soln (mL)			
		Initial	Final	Difference	Average reading
1.	25	0	42.7	42.7	42.8
2.	25	0	42.9	42.9	
3.	25	0	42.8	42.8	

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

No. of Titrations	Volume of Stock solution taken (mL)	Burette Reading of EDTA soln (mL)			
		Initial	Final	Difference	Average reading
1.	25	0	23.6	23.6	23.6
2.	25	0	23.7	23.7	
3.	25	0	23.5	23.5	

2. **Laboratory Note Book:** Attach scanned copy of the Index page only of your laboratory note book as the last page of your practical answer script. Your University Roll no. and Regn. no. must have to be written on the upper side of the Index page. 5