

CHEMISTRY — HONOURS — PRACTICAL

2021

Subject-CEMA, SEM-V

Paper- DSE-B-1P

(Inorganic Materials of Industrial Importance)

Time: 2 Hrs

Full Marks: 30

The figures in the margin indicate full marks.

1. For the estimation of the quantity of CaCO_3 and MgCO_3 present separately in a given dolomite sample in g:

(a) Write down the principle of dissolution and 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) 1.1032 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	26.5	26.5	26.6
2.	25	0	26.6	26.6	
3.	25	0	26.7	26.7	

(c) 0.7691 g of the Dolomite sample has been weighed accurately and after dissolution step, the volume is made up to 250 mL in a volumetric flask.

Using the above data, calculate separately the amount of CaCO_3 and MgCO_3 present in the given Dolomite sample in g by using the following specimen results. 5+5

(i) Table for estimation of Ca^{II} and 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	35.7	35.7	35.8
2.	25	0	35.9	35.9	
3.	25	0	35.8	35.8	

(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	17.6	17.6	17.7
2.	25	0	17.8	17.8	
3.	25	0	17.7	17.7	

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.