

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  $\text{Ca}^{\text{II}}$  and  $\text{Mg}^{\text{II}}$  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  $\sim(\text{M}/50)$  EDTA solution.  $2\frac{1}{2}+2\frac{1}{2}$
- (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  $\text{NH}_4\text{Cl}$ .
- (ii) Standardization of  $\sim(\text{M}/50)$  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 separately the amount of  $\text{Ca}^{\text{II}}$  and  $\text{Mg}^{\text{II}}$  in g/L by using the following specimen results. 5+5
- (i) Table for estimation of  $(\text{Ca}^{\text{II}} + \text{Mg}^{\text{II}})$  :

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	

Please Turn Over

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

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	

---