

Gurudas College

C.U. B.Sc. Practical Examination, 2021

Subject-CEMA, SEM-II

Paper- CC-2-4-P

Time: 1.5 hrs

Full Marks: 30

[Draw proper tables wherever required; Each table carries separate marks]

1. For the estimation of the quantity of vitamin-C present in a solution 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 (N/20) $\text{Na}_2\text{S}_2\text{O}_3$ solution.
 - (i) 0.6185 g of $\text{K}_2\text{Cr}_2\text{O}_7$ has been accurately weighed, transferred to a 250 mL volumetric flask and volume is made up with distilled water. 2½
 - (ii) Standardization of ~ (N/20) $\text{Na}_2\text{S}_2\text{O}_3$ solution: - Burette readings are 24.1, 24.3, 24.2 mL, respectively. 2½
 - (c) Using the above data, standardize the given Iodine solution with ~ (N/20) sodium thiosulfate solution. Burette readings are 24.7, 24.8, 24.6 mL, respectively. 2½
 - (d) Calculate the amount of vitamin-C from three burette readings of the estimation with ~ (N/20) sodium thiosulfate solution, after adding measured excess of 30 mL standardized ~ (N/20) iodine solution to the conical flask, by back titration. Burette readings are 9.1, 9.2, 9.0 mL, respectively. 7½