U.G. 3rd Semester Examination - 2020

CHEMISTRY

[HONOURS]

Course Code : CHEM-H-CC-P-06

[PRACTICAL]

Full Marks : 20 Time : 2 Hours

The figures in the right-hand margin indicate marks.

1. Answer any **two** questions : 10×2=20

a) What do you mean by iodometry and iodimetry? The standard reduction potential of Cu^{2+}/Cu is lower than that of I_2/I^- system, yet copper is titrated iodometrically-explain. Why is NH_4SCN added towards the end-point of iodometric titration of Copper? Why sodium thiosulphate cannot be used as primary standard solution? (2+2)+2+2+2=10

b) What is Zimmermann-Reinhardt solution? What function does each component play? Why is $KMnO_4$ not used as primary standard solution? Estimation of Mn^{2+} can be performed using $KMnO_4$ solution-explain. In permanganometry, no indicator is used-why? 1+3+2+3+1=10

c) Write down all the chemical equations involved in estimation of Ca by $KMnO_4$. Explain the role of $SnCl_2$ and $HgCl_2$ in titrimetric estimation of Fe(III). Both Fe^{3+} and Cu^{2+} oxidise I^- to I_2, yet Cu^{2+} can be estimated iodometrically in presence of Fe^{3+}-how? How will you estimate Cr(IV) using $K_2Cr_2O_7$? 2+3+2+3=10

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