U.G. 2nd Semester Examination - 2020

CHEMISTRY

[HONOURS]

Course Code : CHEM(H)/CC-P-03

[PRACTICAL]

Full Marks : 20   Time : 2 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Group-A (Inorganic Chemistry)

1.   Answer any **one** from the following: $10×1=10$

   a)   What do you mean by primary standard solution? Give example. What is equivalent weight? Is equivalent weight constant for a particular substance? Justify your answer. During standardization of $KMnO_4$ solution by standard oxalic acid solution, the oxalic acid solution is required to be heated nearly to 70-80 ^{0}C, why? Write the reactions involved for the estimation of Fe(III) solution by $K_2Cr_2O_7$.

   $(1+1)+(1+1)+2+4=10$

[Turn Over]

   b)   What do you mean by iodometric and iodimetric estimations? Write all the reactions involved for the estimation of Cu(II) solution by $Na_2S_2O_3$ solution by iodometric method. Write the structural formula of $S_2O_3^{2-}$ and $Cr_2O_7^{2-}$. What is starch? $(1+1)+4+(1+1)+2=10$

Group-B (Physical Chemistry)

2.   Answer any **one** from the following: $10×1=10$

   a)   Explain how the rate constant of a reaction vary with temperature. What is pseudo first order reaction? Give an example. Is the rate constant of acid catalysed hydrolysis of methyl acetate constant at a particular temperature? What do you mean by '2 vol' H_2O_2? $3+3+2+2=10$

   b)   Write down the principle of the study of Kinetics of decomposition of H_2O_2. What are the factors on which the rate of reaction depends? Why do we use ice-water in the experiment of acid catalysed hydrolysis of ester? What is threshold energy?

   $4+2+2+2=10$

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