B.Sc. Part-lll (Honours) Physical practical 2020

Subject- Chemistry, Paper- XIV

Full Marks: 60 Time: 5 hrs. Date- 03.10.2020

A. Answer all the questions each carry 4 marks: *(4×10=40)*

1. What will be the expression for partition coefficient when solute is associated or dissociated?

2. "Water rises in a capillary - but mercury falls."- why?

3. If there is 1% error in the value of 'r', the radius of the capillary what will be the error in the viscosity co-efficient calculated by using poiseuille's equation.

4. 0.01 M solution of a weak acid has an equivalent conductance (λ) 60 $ohm^{-1}cm^{2}eq^{-1}$.

Calculate its pH.[$\lambda° = 400\ ohm^{-1}cm^{-1}eq^{-1}$]

5. What is pseudo frist order reaction? Give an example.

6. What is pH? 'Can it be negative' - Explain

7. What is Beer's law? What are the limitations of Beer's law.

8. What are the application of 'ε'- value ? On what factors 'ε' of a solution depends?

9. Predict the shape of conductometric titration curve for-

i) $BaCl_2$ vs. H_2SO_4

ii) $Ba(OH)_2$ vs. H_2SO_4.

10. How rate constant varies with temperature?

B. Viva voice *20*