Analytical Chemistry-301
(Semester-III)
(SYLL -DEC-2019)

[Time: Two Hours] **[Maximum Marks: 55]**

Note: Attempt any four questions. All questions carry equal marks.

I.	Discuss in detail: Errors in chemical analysis, their classification and minimisation of errors.	13.75
II.	Explain the different types of amperometric titrations and their applications.	13.75
III.	Write a short note on the following:	
(a)	Random sampling.	7
(b)	Correlation and regression.	6.75
IV.	Derive polarographic Ilkovic equation and explain the significance of each term used in it.	13.75
V.	Discuss critically thermogravimetry as an analytical technique citing suitable examples. How is this technique complementary to differential thermal analysis?	13.75
VI.	Explain spectrophotometric titrations and their applications in quantitative analysis.	13.75
VII.(a)	Discuss the role of distribution law in solvent extraction and their applications in analytical chemistry.	7
(b)	Write a short note on different types of solvent extraction along with their applications.	6.75
VIII.	Discuss different types of ion exchange resins and their synthesis. How will you determine total cation concentration in tap water?	13.75
IX.	Write notes on the following:	
(a)	Ion pair formation.	7
(b)	Beer's Law.	6.75