

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.Chemistry - END SEMESTER EXAMINATIONS - APRIL 2025
SEMESTER - I

22UCHCT1002 - Analytical Chemistry

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. What are the first aid steps to be taken in case of poisoning by chemicals?
2. Describe the principles involved in acid-base titrations.
3. Apply the solubility product principle to determine the solubility of a precipitate.
4. Explain why a solution of a weak acid and its salt behaves as a buffer. Derive a relation between pH of the solution and the relative amounts of acid and salt present in it.
5. Describe the different types of errors in quantitative analysis.
6. Apply the criteria for precipitation titration and explain the titration between sodium chloride and silver nitrate.
7. Explain
 - i. co-precipitation and post-precipitation
 - ii. Specific and selective precipitants.
8. Justify the separation of zinc and manganese in the IV group.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. a. What are flammable and explosive chemicals?
b. Explain the common hazards in laboratory and laboratory safety measures.
10. a. Explain about precision and accuracy and methods to express them.
b. How will you classify errors in chemical analysis.
11. a. Differentiate between primary and secondary standards.
b. Justify EBT as a complexometric indicator.
12. a. Explain the characteristics of precipitate and precipitating agent.
b. Discuss the role of DMG in gravimetric analysis.
13. Applying the concept of solubility product and common ion effect, explain the separation of anions into different groups.
