

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 - 2024
SEMESTER - V

20UCHCT5012 - Analytical Chemistry

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

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

1. List the advantages and disadvantages of dropping mercury electrode (DME).
2. Define (a) Chemical Shift and (b) Coupling constant.
3. Illustrate the different kinds of current measured in polarography with the current-voltage curve.
4. Sketch the block diagram of thermogravimetric analysis and mention the significance of its components.
5. How will you estimate glucose by polarimetry?
6. Explain ^1H NMR splitting pattern of ethanol and chlorobenzene.
7. Write a short note on the following:
 - (i) Metastable peak (3)
 - (ii) Nitrogen rule (2)
8. Describe any four types of computers.

Section C

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

9. (a) Outline the principle of polarography. (6)
(b) Write Ilkovic equation and mention the terms in it. (4)
10. (a) Compare TGA and DTA. (4)
(b) Discuss the factors affecting TGA. (6)
11. Describe the theory and instrumentation of nuclear magnetic spectroscopy.
12. Write the principle of mass spectrometry and predict the mass spectrum of acetophenone and toluene.
13. (a) Explain the components of a computer with block diagram. (6)
(b) Discuss the application of computers in determining molarity. (4)
