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 NOVEMBER -2023
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. Explain the advantages of using dropping mercury electrode.
2. Sketch and explain the proton NMR spectrum of ethanol & toluene.
3. Discuss the basic instrumentation of a high-resolution double-focusing mass spectrometer.
4. Describe about the general features of a programming language.
5. Differentiate the principle involved in TGA and DTA.
6. Explain about chemical shift and factors affecting chemical shift.
7. Illustrate the mass spectrum of chlorobenzene compound.
8. Write note on algorithm flow chart.

Section C

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

9. i) State Ilkovic equation and write its significance. (4)
   ii) Write the basic principles of Amperometry and its uses. (6)
10. i) Apply polarimetric principle for the estimation of glucose and sucrose. (6)
    ii) How the optical purity of the sample is calculated ? (4)
11. i) Discriminate the role of TMS as the reference in NMR spectroscopy. (5)
    ii) Explain about the shielding mechanism in NMR. (5)
12. Enumerate and discuss the factors which influence fragmentation of organic compounds in mass spectrometry.
13. Evaluate how computer applications are useful in determining molarity, normality and molality of solutions.

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