

QP CODE: 26019328



Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, MARCH 2026

Fourth Semester

M Sc ANALYTICAL CHEMISTRY

ELECTIVE - CH820403 - MODERN ANALYTICAL TECHNIQUES

2019 Admission Onwards

8FA0ADCA

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Write a short note on two solid state ion selective electrodes.
2. What are the important features of microelectrodes?
3. Explain the importance of anodic stripping voltametry.
4. Mention any two advantages of supercritical fluid extraction.
5. List out the components of a typical capillary electrophoresis system.
6. Write a short note on micellar electrokinetic capillary chromatography.
7. Write a short note on sonochemical reactions.
8. List out any four applications of nanomaterials.
9. Explain briefly about the structure of rotaxanes.
10. Write a short note on targeted drug delivery.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. What are the advantages of Amperometric Titrations ?
12. Write a note on silver coulometer.





13. Write a short note on the instrumentation of TG.
14. Write a short note on any two detectors used in HPLC.
15. Describe briefly on the applications of size exclusion chromatography.
16. Explain with examples the role of catalyst in green chemistry.
17. Explain the role of supercritical CO₂ in green synthesis with suitable examples.
18. Write a note on the forces involved in molecular recognition.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain briefly on the different types of metallic indicator electrode.
20. Describe briefly on the principle and applications of isotope dilution analysis.
21. Explain briefly on the principle, instrumentation, and application of GC.
22. What are two main synthetic approaches in nano chemistry? Discuss the various methods used in synthesizing nano materials.

(2×5=10 weightage)

