

19P409

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Name:

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2021

(CBCSS - PG)

CC19P CHE4 C12 - INSTRUMENTAL METHODS OF ANALYSIS

(Chemistry - Core Course)

(2019 Admission - Regular)

Time: Three Hours

Maximum: 30 Weightage

Section A

Answer any *eight* questions. Each question carries 1 weightage.

1. What is meant by the term 'confidence limit'?
2. Comment on shortcomings of glass electrode.
3. What is meant by anodic stripping voltammetry?
4. Write a note on student t-test.
5. List the factors that affect turbidimetric analysis.
6. Discuss the principle of isotopic dilution.
7. Explain the function of chopper in AAS.
8. What are adsorption indicators?
9. Explain the role of monochromator in UV-spectrophotometer.
10. Write briefly on amperometric titrations.

(8 × 1 = 8 Weightage)

Section B

Answer any *six* questions. Each question carries 2 weightage.

11. Write a note on potentiometric titrations. Explain how endpoint detection is done using graphical method?
12. Write briefly the principle of fluorometric analysis.
13. Write a note on excitation sources used in AES.
14. Compare the method of averages and method of least squares for treatment of analytical data.
15. Write a note on biosensors.
16. Explain diffusion current in polarography.
17. Discuss the use of 8-hydroxy quinoline reagent as precipitating agent.
18. Explain co-precipitation and post-precipitation in quantitative analysis. How these factors can be avoided?

(6 × 2 = 12 Weightage)

Section C

Answer any *two* questions. Each question carries 5 weightage.

19. Discuss the principle, instrumentation and applications of HPLC. How is it superior to other chromatographic methods?
20. Write a note on optical methods used for determining size and structure of Nano materials.
21. Write a note on IR spectrophotometry. Comment on signal to noise ratio.
22. Write a note on classification of errors in treatment of analytical data.

(2 × 5 = 10 weightage)
