

Roll No. _____

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SVS-N-315 A-21
B.Sc. V Semester (CBCS) Degree Examination
CHEMISTRY
Analytical Methods in Chemistry
Paper : DSE - CHEM - 1
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates: Answer all the Three sections.

SECTION-A

I Answer the following questions..

(15×1=15)

1. Define the term error.
2. What is median?
3. What is mean?
4. Mention the reagent used for precipitation of sulphate.
5. What is meant by co precipitation?
6. What is (n+1) rule?
7. Define bathochromic shift.
8. Define the term thioethers.
9. What are thiols?
10. What is Grignard reagent?
11. Define elevation in boiling point.
12. Give an example of artificial semipermeable membrane.
13. What is osmosis?
14. State second law of Thermodynamics.
15. What is entropy?

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(1)

[Contd....]

SECTION - B

II. Answer any Five of the following.

(5×5=25)

16. Give the different methods involved in reporting analytical data.
17. Write a note on precipitation and washing of precipitate.
18. How is Ethane Thiol Prepared? Give its two chemical reactions.
19. Mention the applications of IR - Spectroscopy.
20. Explain the following
 - i. Spin - spin coupling
 - ii. Chemical - shift
21. Describe the determination of molecular mass of solute by Lands - Berger's method.
22. Derive Gibb's - Helmholtz equation. <https://www.karnatakastudy.com>

SECTION - C

III. Answer any Five of the following.

(5×8=40)

23. a) Explain the types of systematic errors. (4)
b) Write a note crucibles. (4)
24. a) How do you determine sulphate as Barium sulphate gravimetrically. (4)
b) Give the differences between accuracy and precision. (4)
25. a) Explain the principle and application of UV- Vis spectroscopy. (4)
b) Write a note on aromatic character of pyrrole with molecular orbital structure. (4)
26. a) Write any two synthetic applications of methylmagnesium Iodide. (4)
b) Give any two methods of synthesis of Furan. (4)
27. a) Write any two nucleophilic substitution reactions of pyridine. (4)
b) Write any two chemical reactions of Diethyl sulphide. (4)
28. a) Explain the determination of osmotic pressure by Berkeley and Hertley's method. (4)
b) Write a note on carnot's theorem. (4)
29. a) Derive the relation between depression in freezing point and molecular mass of solute. (4)
b) Explain the applications of Claper yon - clausius equation. (4)