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SVS-N 314 B-16

B.Sc. Vth Semester Degree Examination

Chemistry

Paper : 5.1

(New)

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates:

1. Answer All the sections A, B & C

SECTION - A

I. Answer **All** the following questions **(15×1=15)**

1) What is glass - transition temperature?

2) Write the structure of monomer unit of phospho zene

3) What are silico resins?

4) Define chromatography

5) What is molar volume?

6) What is Grignard reagent?

7) What happens when thiols are treated with sodium metal?

8) Write the structure of Glycine

9) Define $(n+\ell)$ rule

10) What are thioethers?

11) What is Vant - Hoffs factor?

12) What is meant by semi - permeable membrane?

13) Define ideal solution

14) What is boiling point?

15) What is adsorption?

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SECTION - B

II. Answer any **Five** of the following questions **(5×5=25)**

16) Write a note on Ultra-phosphate glasses

17) Give the preparation and uses of silicone rubber

18) Describe the Gabriel phthalimide synthesis of amino acids.

19) How is methyl - lithium prepared? Give its two chemical reactions

20) Mention the applications of I.R. Spectroscopy.

21) Explain the determination of molar mass of solute by Lands Berger's method

22) Write a note on Freundlich adsorption isotherm

SECTION - C

III. Answer any **Four** of the following. **(10×4=40)**

23) a) Explain the principle and techniques of column chromatography **(6)**

b) Give an brief account of organo - silicones **(4)**

24) a) Explain the application and separation of ions using paper Chromatography **(6)**

b) Give the differences between Inorganic polymer and organic polymer **(4)**

25) a) Explain the following

1) Non equivalent proton

2) Down - field shifting

3) Spin - Spin coupling **(6)**

b) Write a note on isoelectric point **(4)**

26) a) Give a principle and application of N.M.R spectroscopy un organic analysis **(6)**

b) How is diethyl sulphide prepared? Give two chemical reactions. **(4)**

27) a) Derive the relation between Freezing point and molecular mass of solute using clapeyron - clausius equation **(6)**

b) Give the applications of adsorption **(4)**

28) a) Explain the method of determination of relative lowering of vapour - pressure by Ostwald's and Walker method **(6)**

b) Explain the following terms

i) Boyle - Vantoff law for solution

ii) Charles - Vant-Hoff law for solutions. **(4)**

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