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SVS - N 314 B - 15
B.Sc. Vth Semester Degree Examination
Chemistry
Paper : 5.1
(New)

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates:

Answer **ALL** the sections A,B and C

SECTION - A

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

1. What is Rf value?
2. Write the structure of phosphonitrilic chlorides.
3. Define glass transition temperature
4. Give the composition of borophosphate glass
5. What is adsorption chromatography?
6. What are thiols?
7. What is chemical shift?
8. Write the general formula of Grignard reagent.
9. What is zwitter ion.
10. What are essential aminoacids?
11. What is osmotic pressure?
12. What are isotonic solutions?
13. Give an example of artificial semipermeable membrane.
14. Define cryoscopic constant.
15. What is adsorption?

SECTION - B

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

16. Explain in brief the classification of inorganic polymers with examples.
17. Describe the preparation and uses of silicone rubber.
18. Give any two synthetic applications of methyl magnesium iodide.

19. Describe strecker synthesis of amino acids.
20. Write a note on UV-spectroscopy
21. Write the applications of adsorption
22. What is Van't Hoff's factor? How is it related to degree of dissociation?

SECTION - C

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

23. a) Give an account of experimental techniques of column chromatography **(6)**
    b) Mention the important difference between inorganic and organic polymers **(4)**
24. a) Write the general properties of inorganic polymers **(6)**
    b) Write a note on paper chromatography **(4)**
25. a) Give the classification of amino acids with examples **(6)**
    b) How is diethyl sulphide prepared? Give one reaction **(4)**
26. a) Explain the instrumentation of NMR spectrometer with neat labelled diagram **(6)**
    b) Write a note on IR spectroscopy **(4)**
27. a) Derive BET equation and give its application is the determination of surface area of adsorbant. **(6)**
    b) Acetone boils at 56.38^{0}C and a solution of 1.41 gm of an organic solid in 20 gm of acetone boils at 56.88^{0}C. If 'K' for acetone per 100gm is 16.7, calculate the mass of 1 mole of organic solid **(4)**
28. a) Explain the determination of molar mass of solute by land Berger's method **(6)**
    b) Describe Berkeley and Hartley's method for the determination of osmotic pressure of a solution. **(4)**
