

Roll No. _____

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SIS - N 058 B-16
B.Sc. Ist Semester Degree Examination
Chemistry
Paper -I
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to candidates :

- i) Answer all the sections A,B and C.
- ii) Logarithmic book to be supplied

Section - A

I Answer all the following

(15×1=15)

- 1) State the modern periodic law.
- 2) Density of potassium is less than sodium. Give reason.
- 3) What is an equivalence point?
- 4) Electron affinity of Beryllium and Nitrogen are almost zero. Give reason.
- 5) What are redox titrations?
- 6) Give two differences between σ and π (pi) bond.
- 7) What is a free radical?
- 8) What are cycloalkanes?
- 9) State saytzeff's rule.
- 10) What are dienes?
- 11) Define permutation.
- 12) What is average velocity?

- 13) Write the mathematical expression for specific refractivity.
- 14) What is meant by parachor?
- 15) Define critical pressure.

Section - B

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

- 16) Explain the factors affecting the Ionisation energy
- 17) Write a note on complexometric titration.
- 18) What is hybridisation? Explain SP² hybridisation in ethene molecule.
- 19) Explain SN² reaction with mechanism by taking hydrolysis of methyl bromide.
- 20) How do you determine the viscosity of liquid by using ostwald's viscometer?
- 21) Simplify by using logarithmic table. $\frac{1.795 \times 77.4}{(129.3)^{2/3}}$

Section - C

III. Answer any Five of the following (5×8=40)

- 22) a) What is precipitation titration? How is silver nitrate estimate by volhard method. (6)
b) Ionic radius of anion is larger than its parent atom. Give reason. (2)
- 23) a) Explain the comparative properties of alkali metal w.r.to electropositive character, oxidation state and flame colouration. (6)
b) How alkaline-earth metals react with hydrides? (2)
- 24) a) What is Bayer strain theory? What are its limitations? (6)
b) Define Inductive effect. (2)
- 25) a) Write a note on Isomerism in alkane. (6)
b) Write Diels-Alder reaction. (2)

- 26) a) What is Isotherm? Explain the isotherm of CO_2 (6)
b) State Nernst distribution law. (2)
- 27) a) How do you determine the surface tension of a liquid by drop number method?(6)
b) What is meant by collision number? (2)

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