



27122 (New)

B.Sc. I Semester Degree Examination, Oct./Nov. - 2018

CHEMISTRY

Paper - 1

(New)

Time : 3 Hours

Maximum Marks : 60

Instructions to Candidates:

- a) Part-A ALL are compulsory.
- b) Part-B solve any FIVE questions from seven questions.

PART-A

1. Answer the following questions. (10×1=10)
- a) Write Schrodinger wave equation and define the terms involved.
 - b) Why is 4s orbital lower in energy than 3d orbital.
 - c) What is complexometric titration?
 - d) What are free radicals? Give example.
 - e) What is Wurtz reaction?
 - f) State Saytzeff's rule.
 - g) How alkynides are formed?
 - h) Define root mean square velocity.
 - i) What are liquid crystals?
 - j) Define the term plane of symmetry.

PART-B

Answer the following any FIVE questions (Each question carries TEN marks) (5×10=50)

2.
 - a) What is electronegativity? How it varies in a periodic table. (4)
 - b) What are quantum numbers and give their significance. (6)

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3. a) Explain the terms:
- i) Titration (4)
 - ii) Normality
 - iii) Molarity
 - iv) Equivalence point.
- b) What is an indicator? Discuss the acid-base titration with example. (6)
4. a) What is inductive and resonance effect? (4)
- b) What is SN^2 reaction? Explain the mechanism of reaction with example. (6)
5. a) Give any two general methods of synthesis of cycloalkanes. (4)
- b) Explain free radical mechanism of chlorination of methane. (6)
6. a) Write a note on peroxide effect. (4)
- b) Give any three methods of preparation of alkynes. (6)
7. a) Explain relationship between critical constants and vander walls constants. (4)
- b) Derive the law of corresponding states. (6)
8. a) Write a note on Nematic and Cholesteric phases (4)
- b) Describe the determination of crystal structure of NaCl. (6)
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