



**B.Sc. I Semester Degree Examination, March/April - 2023**

**CHEMISTRY**

**DSC-I : Fundamentals of Chemistry**

**(NEP)**

Time : 2 Hours

Maximum Marks : 60

**Note :** Answer **all** sections

**SECTION - A**

Answer the following sub-questions. Each sub-questions carries **one** mark. **10x1=10**

1. (a) What is Normality ? 1
- (b) Define molar mass. 1
- (c) State Pauli's exclusive principle. 1
- (d) What is effective nuclear charge ? 1
- (e) What is Steric effect ? 1
- (f) Write the Diel-Alder reaction. 1
- (g) What is collision number ? 1
- (h) Define Parachor. 1
- (i) What is complexometric titration ? 1
- (j) What is Co-precipitation ? 1

**SECTION - B**

Answer **any four** of the following questions. Each question carries **five** mark. **4x5=20**

2. Write the safety measures in Chemical Laboratory. 5
3. What are quantum numbers ? Explain with significance. 5
4. What is  $Sp^2$  hybridization ? Explain with example. 5



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5. Write Van der waals equation, and discuss its applications in explaining the behaviour of real gases. 5
6. Write the theory of Redox indicators. 5
7. Explain the formation of alkenes by elimination reaction. 5

**SECTION - C**

Answer **any three** of the following questions, each question carries **ten** marks.

**3x10=30**

8. (a) Explain the calibration of Glass wares. 6
- (b) Write a note on basic principles of titrametric analysis. 4
9. (a) Describe the shapes of s, p and d orbitals with neat diagram. 6
- (b) State and illustrate Hund's rule of maximum multiplicity. 4
10. (a) Write a note on Aromaticity and Huckel rule. 6
- (b) Write the mechanism of free radical addition of HBr to propene. 4
11. (a) Define Viscosity and discuss its determination by using ostwald's viscometer. 6
- (b) Write a note on law of corresponding state. 4
12. (a) Explain EDTA titration and theory of metal ion indicators. 6
- (b) Discuss the factors influencing precipitation in gravimetry. 4

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