

First Semester Internal Examination, September 2026
Minor Course in Chemistry

BASIC INORGANIC CHEMISTRY AND BIOINORGANIC CHEMISTRY
CHE1MN 102

Time: 1 Hr

Max Marks: 35

Name:	Marks Scored	Section A		Total Marks
Class:		Section B		
		Section C		

Section A

(Each question carries 3 marks, Max marks for section – 7)

1. Calculate the molality of a solution prepared by dissolving 18 g glucose ($C_6H_{12}O_6$) in 500 g of water.
2. Give Rydberg formula and explain the terms.
3. Define normality. Calculate the normality of a solution containing 20 g NaOH in 2 L.

Section B

(Each question carries 6 marks, Max marks for section – 18)

4. A 100 ml of 0.5 M HCl is diluted to 500 ml. What is the final concentration of solution?
5. What are the limitations of Bohr's theory?
6. Define the term oxidation number. Calculate the oxidation number of Cr in $K_2Cr_2O_7$. Explain the oxidation number concept of oxidation and reduction with examples.
7. Define the terms mass fraction, mole fraction, and parts per million of a component in a solution. How are these affected by temperature change?

Section C

(Answer any one question, Each question carries 10 marks)

8. What are acid base indicators? Explain the principles regarding the choice of suitable indicators in different acid-base titrations.
9. A) Give Schrodinger wave equation. Explain its terms and significance. B) Describe the three rules governing filling of electrons in atomic orbitals.