Preface

Chapter I consists of a general idea of chemical kinetics, reaction rate, redox reactions osmium (VIII) and ruthenium (III) as catalysts, behavior of sodium metaperiodate as oxidant. A recent literature and relevant kinetics and mechanistic features have also been discussed.

Chapter II explains methods involved in the preparation of solutions of reactants, method of determination of reaction rate and details of equations used in calculation of kinetic data.

Chapter III includes the results of oxidation of some reducing sugars by \( \text{IO}_4^- \) in presence of ruthenium (III). The reducing sugars taken for the study are fructose, glucose, galactose, maltose and lactose.

Chapter IV includes the study of oxidation of amino alcohols viz. 2- amino ethanol, 3-amino propanol, diethanolamine and triethanolamine by sodium metaperiodate in presence of ruthenium (III) in acidic medium.

Chapter V Includes the conclusion of kinetic result of the above mentioned compound of chapter III to IV.

The effect of several variation factors such as concentration of the reactants, pH, ionic strength and temperature etc. has been studied in each case. The mechanism of the oxidation has been proposed at the end of each chapter and relevant rate- laws have been derived and discussed.