PREFACE
Today, introduction of a new drug in the market is far more difficult than what it used to be in the recent past. In a rough estimate, one in about 50,000 new molecular entities produced, comes to the market. This is more so true for a preparation like contraceptive where even a slightest side effect such as headache is not acceptable but for a disease like AIDS and cancer the situation may be different.

A drug has to go through a battery of tests to prove its efficacy and innocence before its introduction in the market. It is in this context study of pharmacokinetics and drug metabolism has become indispensable in drug development. Such a study enables fixing of proper dose schedule, route of administration and in molecular designing to attain the goal.

The present study of pharmacokinetics and metabolism of centchroman [3,4-trans-2,2-dimethyl-3-phenyl-4-[p-(β-pyrrolidinoethoxy phenyl)]-7-methoxy chroman] a novel non-steroidal post-coital contraceptive developed in this Institute, was undertaken to optimize drug administration schedule for better efficacy, minimization of side effects and to understand the mechanism of action of this compound.
In the First Chapter of this thesis a brief review of the role of pharmacokinetics in drug development has been given to introduce the subject matter. The Second Chapter deals with distribution of $^{14}$C-centchroman in blood and different organs of rhesus monkey, while the Third Chapter describes the subcellular distribution of $^{14}$C-centchroman in liver. In Chapter Four effect of centchroman on some hepatic drug metabolizing enzymes is described. In order to study the metabolism of centchroman in rhesus monkey, chemical synthesis of some anticipated metabolites were undertaken which is described in Chapter Five.