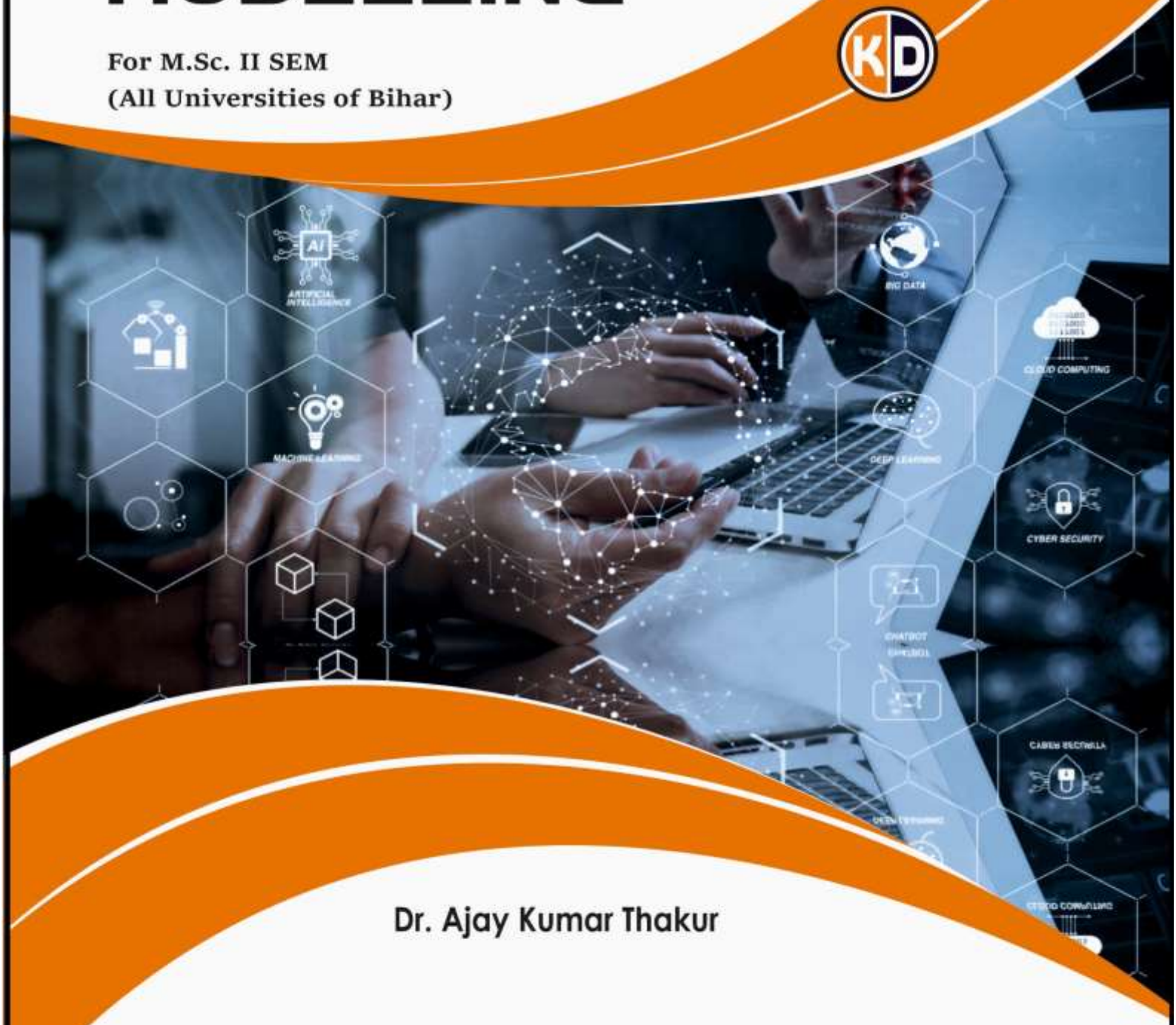
CONCEPT OF
SIMULATION AND MODELLING

For M.Sc. II SEM
(All Universities of Bihar)



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Kripa Drishti Publications, Pune.

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PREFACE

This book **Concept of Simulation and Modelling**, as well as the associated software and models, were created as a teaching tool. Professional practitioners can use the book to clarify and review key practical concepts in performance modelling with simulation, as well as some advanced programming in OOSimL and Java. The book does not present the detailed statistical treatment theory found in standard system simulation textbooks. It is not a comprehensive reference on system performance measures. The book only includes the basic probability theory required to understand how to apply the appropriate probability distribution in the construction of simulation models. The book also includes basic material that briefly presents the concepts and techniques of verification and validation of simulation models. The book also includes basic material that briefly introduces the concepts and techniques of simulation model verification and validation. Most other books on traditional discrete-event simulation cover simulation theory, statistical analysis, validation, and performance issues in greater depth. This book is intended for college students majoring in computer science, mathematics, science, engineering, or management science. The book's content can also be used as a textbook for an applied course in object-oriented programming. This book is better suited as a supplement to courses in advanced performance modelling and analysis. The following are the book's main features:

Another goal of the book is to provide programmers with a smooth transition from object-oriented modelling to object-oriented simulation. One or more complete case studies are presented and explained for each topic discussed, with the corresponding case study implemented in the OOSimL (and Java) programming languages.

Abbreviations

- Graphical Processing Units (GPUs)
- High-Performance Computing (HPC)
- Industrial Organisation (IO)
- Millennium Development Goals (MDGs)
- Molecular Dynamics (MD)
- Monte Carlo (MC)
- Object Oriented Programming (OOP)
- Standard Template Library (STL)
- The Central Limit Theorem (CLT)

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