

# An Introduction to Quantum Mechanics

## PREFACE

The reason that some physics undergraduates find quantum mechanics a relatively more complicated theoretical course is mainly due to the involvement of time-consuming mathematical calculations and its unique style of the interpretation of physics of the microscopic quantum systems in nature. Instructors may not have much freedom to spend long hours to explain some detailed calculations along with additional examples within the allotted class-time. Text books which are simply-written on basic quantum mechanics with illustrative problem examples including easily understandable step-by-step calculations may also not be readily available to some students. These circumstances can lead to such complexity as seen especially by the above mentioned students who sometimes fall to the category of beginners of the subject. This is the main target group of this book which is purposely aimed of making quantum mechanical calculations simple and understandable to them even with the absence of an instructor. Each chapter includes a brief theoretical insight of basic concepts, and is followed by few selected examples worked out with step-by-step calculations for easy understanding of conventional methods of problem solving in quantum mechanics. A set of problems is also provided at the end of each chapter for self-studies to improve their knowledge and experience in problem solving methods in examinations. A short appendix with some useful information that is also helpful in problem solving is also added at the end. I hope that a satisfactory basic knowledge of theoretical courses like quantum mechanics also helps physics graduates find it more interesting in theoretical physics in their graduate school. I believe that the reader finds this book useful for the basic quantum mechanics course at the undergraduate level of university education.

Munasinghe A.Punyasena