

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE - PILANI, K K BIRLA GOA CAMPUS

INSTRUCTION DIVISION

Second Semester 2018–2019

In addition to Part I (General Handout for all courses appended to the Time Table), this portion gives further specific details regarding the course

Course Handout (Part II)

Date: 08.01.2019

Course No. : PHY F242
Course Title : Quantum Mechanics 1
Instructor : **Kinjal Banerjee**

Course Description:

In this course we will study the basic postulates of Quantum Mechanics and learn how to study solve and interpret basic quantum mechanical systems

Text Books:

T1. Introduction to Quantum Mechanics, David Griffiths

Reference Books:

R1. The Feynman lectures on Physics, Vol 3

R2. Modern Quantum Mechanics, J.J. Sakurai

Evaluation Scheme:

S.No	Evaluation Component	Weightage (%)	Date and Time	Nature
1	Midsem	30	14/03/11 9 am	Closed Book
2	Comprehensive Exam	40	08/05/19 AN	Open Book
3	Quiz/ Assignment/Project	30	Common Hour	

Course Plan:

Lecture No.	Topic	Details	Reference
1-3	Introduction to Quantum Mechanics	Quantum Behavior, First Principles of Quantum Mechanics, Uncertainty Principle	R1
4-8	Wavefunction	Meaning of wavefunction, Schrodinger equation, Normalization, Momentum	T1
9-17	Time Independent Schrodinger Equation	Stationary states, Solving the Schrodinger equation, Examples	T1
18-26	Mathematical Formalism of Quantum Mechanics	Hilbert Space, Dirac notation, Hermitian Operators, Eigenfunctions	T1, R2
27-31	Quantum Mechanics in 3 dimensions	Schrodinger equation in Spherical coordinates, Hydrogen Atom	T1
32-35	Identical Particles	Two particle systems, Atoms, Solids, Quantum Statistical Mechanics	T1

General Information:

- No makeup for Quizzes/Assignments

Criterion for getting NC

- Absence in Midsem and Comprehensive exam
- Obtaining less than 10% marks overall

Chamber Consultation Hours: To be announced in class

Notices: Moodle.

Make-up Policy: Make-up will be given only in genuine cases, that is, illness leading to hospitalization or going out of station with prior permission. No make-ups for assignments/quizzes.

Instructor-in-charge