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

INSTRUCTION DIVISION

Second Semester 2024–2025

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: 8.01.2025

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	8/03/25 11:30 am	Open Book
2	Comprehensive Exam	40	15/5/25 FN	Closed Book
3	Quiz/ Assignment	30	Common Hour	

Course Plan:

Lecture No.	Topic	Details	Reference
4 lectures	**Indtroduction to Quantum Mechanics**	Quantum Behaviour, First Principles of Quantum Mechanics, Uncertainty Principle	R1
4 lectures	**Wavefunction**	Meaning of wavefunction, Schrodinger equation, Normalization, Momentum	T1
12 lectures	**Mathematical Formalism of Quantum Mechanics**	Hilbert Space, Dirac notation, Hermitian Operators, Eigenfunctions	T1, R2
8 lectures	**Time Independent Schrodinger Equation**	Stationary states, Solving the Schrodinger equation, Examples	T1
4 lectures	**Quantum Mechanics in 3 dimensions**	Brief Ideas about Angular Momentum	T1, R2

General Information:

- No makeup for Quizzes/Assignments

Chamber Consultation Hours: To be announced in class

Notices: Moodle.

NC Criteria:

- Not appearing for Comprehensive Exam will result in NC
- Minimum 10% marks in the course is necessary to get a grade. Anyone getting less than 10% may be given NC
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Make-up Policy: Make up will be given for genuine cases of illness. Granting of makeup, except for the Comprehensive Exam, will be at the discretion of the IC

Instructor-in-charge