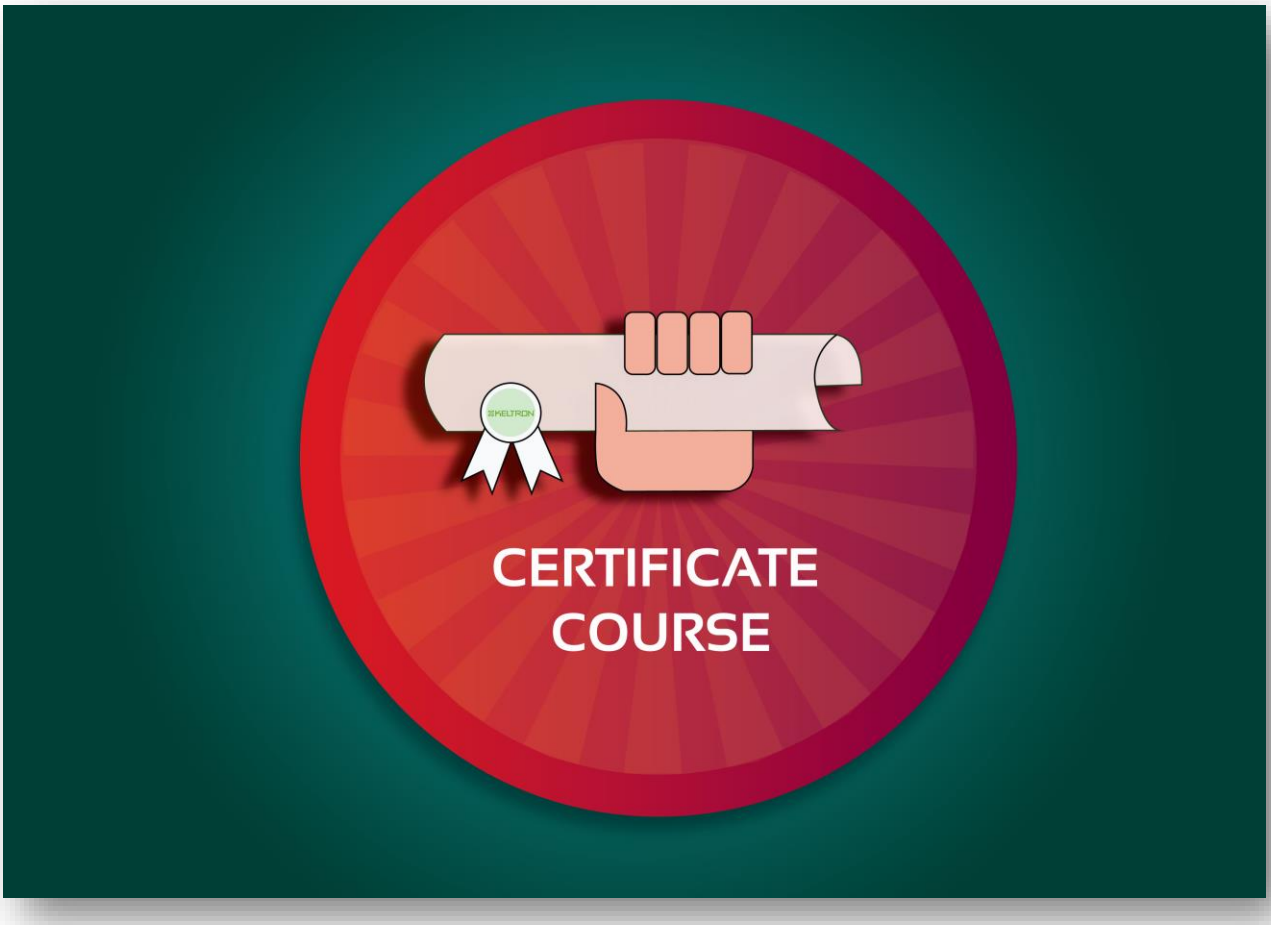
B. K. BIRLA COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS), KALYAN

CERTIFICATE COURSE



Quantum Mechanics

Week 1 : Introduction to Quantum Mechanics-I, Introduction to Quantum Mechanics-II, Review of Particle in Box, Potential Well, Barrier, Harmonic Oscillator-I, Review of Particle in Box, Potential Well, Barrier, Harmonic Oscillator-II
Week 2 : Bound States-I, Bound States-II, Conditions and Solutions for One Dimensional Bound States - I, Conditions and Solutions for One Dimensional Bound States - II
Week 3 : Linear Vector Space (LVS) - I, Linear Vector Space (LVS) - II, Linear Vector Space (LVS) - III, Basis for Operators and States in LVS - I
Week 4 : Function Spaces - I, Function Spaces - II, Postulates of Quamtum Mechanics - I ,Postulates of Quantum Mechanics – II
Week 5 : Classical Vs Quantum Mechanics - I, Classical Vs Quantum Mechanics - II, Compatible Vs Incompatible Observables - I, Compatible Vs Incompatible Observables - II
Week 6 : Schrodinger and Heisenberg Pictures - I, Schrodinger and Heisenberg Pictures - II, Solutions to Other Coupled Potential Energies-I, Solutions to Other Coupled Potential Energies-II
Week 7 : Hydrogen Atom Wave Functions, Angular Momentum Operators, Identical Particles-I, Hydrogen Atom Wave Functions, Angular Momentum Operators, Identical Particles-II, Identical Particles,Quantum Computer-I, Identical Particles, Quantum Computer-II
Week 8 : Harmonic Oscillator -I, Harmonic Oscillator -II, Ladder Operators -I, Ladder Operators -II
Week 9 : Stern-Gerlach Experiment-I, Stern-Gerlach Experiment-II, Oscillator Algebra Applications-I
Week 10 : Angular Momentum-1 -I,Angular Momentum-1 -II, Rotations Groups -I, Rotations Groups -II
Week 11 : Addition of Angular Momentum-I, Addition of Angular Momentum-II, Clebsch-Gordan Coefficient -I, Clebsch-Gordan Coefficient -II
Week 12 : Clebsch-Gordan Coefficient -III, Tensor Operators & Wigner-Eckart Theorem-I, Tensor Operators & Wigner-Eckart Theorem-II, Tensor Operators & Wigner-Eckart Theorem-III.

This certificate is computer generated and can be verified by scanning the QR code given below.

Roll No: NPTEL22PH06S33890193

To

ANJANA KRISHNAN
B/7, NAV GANESH DARSHAN
RAMBAUNG LANE NO.4
KALYAN
MAHARASHTRA - 421301
PH. NO :8879263025

Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:3

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

ANJANA KRISHNAN

for successfully completing the course

Quantum Mechanics I

with a consolidated score of **54** %

Online Assignments	16.22/25	Proctored Exam	37.5/75

Total number of candidates certified in this course: **29**

Jan-Apr 2022
(12 week course)

Prof. Sridhar Iyer
Head CDEEP & NPTEL Coordinator
IIT Bombay

Indian Institute of Technology Bombay

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