

# SARASWATI MAHILA MAHAVIDHYALAYA, PALWAL

## LESSON-PLAN

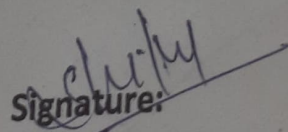
Class: B.Sc - V<sup>th</sup> Sem

Semester: ODD/EVEN

Subject: Physics PPr-II (Quantum Mech.)

Session: 2020-21

Lecture Number	Topic
lect-1	Introduction of Quantum Mechanics and classical Mech.
lect-2	Black Body Radiation, Planck's hypothesis, Photon
lect-3	Photo-electric effect.
lect-4	Compton-effect (theory)
lect-5	Compton-effect (Relation b/w $\lambda$ and $p$ ), Verification
lect-6	Inadequacies of old quantum mech. of de-Broglie.
lect-7	Experimental verification of wave-particle dualism.
lect-8	Quantum picture of material particle, group velocity
lect-9	Relation b/w group velocity and particle velocity.
lect-10	uncertainty principle. and experiment verification.
lect-11	Time-energy uncertainty, application of uncertainty.
lect-12	Numerical on de-broglie.
lect-13	Numerical on uncertainty principle.
lect-14	Numerical problem of Compton-effect.
lect-15	Schrodinger equation - Introduction.
lect-16	Time dependent Schrodinger eq <sup>n</sup> , operator, forces.
lect-17	Time independent Schrodinger wave eq <sup>n</sup> .

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# SARASWATI MAHILA MAHAVIDHYALAYA, PALWAL

## LESSON-PLAN

Class: B.Sc. - I<sup>th</sup> sem

Semester: ODD/EVEN

Subject: Physics Ppr-II (Quantum Mech.) Session: 2020-21

Lecture Number	Topic
Lect-18	Eigen values and function, significance.
Lect-19	Normalisation of wave function, operator.
Lect-20	Relation b/w observable and operator, Boundary condition.
Lect-21	Probability current density. diff b/w quantum & classical.
Lect-22	one dim <sup>n</sup> linear harmonic oscillator
Lect-23	Recursion formula, examination the series, Eigen values.
Lect-24	Zero point energy, Hermite polynomial, wave function
Lect-25	Explanation of wave function.
Lect-26	Numerical problem on schrodinger wave eqn
Lect-27	Numerical problem on linear Harmonic oscillator
Lect-28	Numerical problem on Normalized wave fun.
Lect-29	Application of schrodinger equation - 1D
Lect-30	Energy eigen values, zero point energy.
Lect-31	Potential step or single step Barrier ( $E > V_0$ )
Lect-32	Potential step or single step Barrier ( $E < V_0$ )
Lect-33	One dim <sup>n</sup> Potential Barrier.
Lect-34	1D Potential Barrier - Transmission and Reflection coefficient.

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