Lesson Plan for The Month Aug 2022 to Dec 2022	Subject: Solid State Physics and Quantum Mechanics
Name Of the Teacher : Dr. Pawan Kumar	**Class : BSc 5th Sem**

16-08-2022 To 20-08-2022	Crystalline and Glassy forms
22-08-2022 To 27-08-2022	liquid Crystals, Crystal Structure and Periodicity
29-08-2022 To 03-09-2022	Lattice and Basis, Crystal Translation vectors and axes
05-09-2022 To 10-09-2022	Unit cell and primitive cell, winger seitz primitive cell, symmetry operations for two dimensional crystal
12-09-2022 To 17-09-2022	Bravias lattice in two and three dimensions
19-09-2022 To 24-09-2022	crystal planes and Miller indices, Interplanner spacing, Crystal structures of Zinc sulphide
26-09-2022 To 01-10-2022	Sodium Chloride and diamond, X-ray diffraction, Bragg's Law and experimental x-ray diffraction
03-10-2022 To 08-10-2022	K-space, Reciprocal lattice and its physical significance, reciprocal lattice vectors
10-10-2022 To 15-10-2022	reciprocal lattice to a simple cubic lattice, b.c.c and f.c.c., Test, Assignment, Specific heat : Specific heat of solids, Einstein's theory of
17-10-2022 To 21-10-2022	Debye model of specific, heat of solids, Assignment 1
22-10-2022 To 30-10-2022	Break
31-10-2022 To 05-11-2022	Failure of (Classical) E.M. Theory. quantum theory of radiatio (old quantum theory), Photon, photoelectric effect and Einsteins photoelectric equation compton effect (theory and result)
07-11-2022 To 12-11-2022	Inadequancy of old quantum theory, de-Broglie hypothesis. Davisson and Germer experiment
14-11-2022 To 19-11-2022	G.P. Thomson experiment, Phase velocity group velocity, Heisenberg's uncertainty principle, Time-energy and angular momentum, position uncertainty Uncertainty principle from de-Broglie wave (wave-partice duality)
21-11-2022 To 26-11-2022	Gamma Ray Maciroscope, Electron diffraction from a slit, Derivation of time dependent Schrodinger wave equation, eigen values, eigen functions, wave functions and its significance, Unit Test

28-11-2022 To 03-12-2022	Normalization of wave function, concept of observable and operator, Solution of Schrodinger equation for harmomic oscillator ground states and excited states. Application of Schrodinger equation in the solution of the following one-dimensional problems : Free particle in one dimensional box (solution of schrodinger wave
05-12-2022 To 10-12-2022	Eigen values, quantization of energy and momentum, nodes and antinodes, zero point energy), One-dimensional potential barrie E>V0 (Reflection and Transmission coefficient
12-12-2022 To 17-12-2022	One-dimensional potential barrier, E>V0 (Reflection Coefficient, penetration of leakage coefficient, penetration depth), Rivision, Assignment 2