Lesson Plan Oct. 2021- Jan. 2022

Name: Renu Kumari

Class: B.Sc.-1st (Hons) Physics

Paper code: PHY 101

Subject Name: Mathematical Physics-I

11 Oct – 11 Nov	Review of vector algebra- addition, subtraction and product of two vectors, Polar and axial vectors and their examples from physics, Polar and axial vectors and their examples from physics, Triple and quadruple product (without frenet-Serret formulae)
12 Nov - 12 Dec	Scalar and vector fields, differentiation of a vector w.r.t. a scalar, Unit tangent vector and unit normal vector (without Frenet- Serret formulae), Directional derivatives, gradient, divergence, curl and Laplacian operations and their meaning
13 Dec – 13Jan	Idea of line, surface and volume integrals. Gauss, Stokes and Green's Theorems, Orthogonal curvilinear coordinates, Derivation of gradient, divergence, Curl and Laplacian in Cartesian, spherical and cylindrical coordinate systems
14 Jan – 25 Jan	Change of variables and Jacobian. Evaluation of line surface and volume integrals, Constrained maxima and minima, Method of Lagrange undetermined multipliers and its application, Variational principle Euler-Lagrange equation and its application

Lesson Plan Oct. 2021- Jan. 2022

Name: Renu Kumari

Class: B.Sc.-1st (Hons) Physics

Paper code: PHY 102

Subject Name: Mechanics-I

11 Oct – 11 Nov	Motion of charged particle in electric and magnetic fields. Dynamics of a system of particles, Centre of mass Conservation of momentum.,Idea of conservation of momentum from Newton's third law impulse
12 Nov - 12 Dec	Momentum of variables mass system: motion of rocket, Work-energy theorem. Potential energy, Energy diagram. Stable and unstable equilibrium., Conservative and non-conservative forces. Force as gradient of potential energy.
13 Dec – 13Jan	Particle collisions. Centre of mass frame and laboratory frame, Angular momentum of a particle and system of particles , Torque, Conservation of angular momentum, Rotation about a fixed axis Moment of inertia
14 Jan – 25 Jan	Calculation for rectangular and cylindrical bodies; idea of calculation for spherical bodies, Kinetic energy of rotation. Motion involving both translation and rotation, Oscillatory Motion, Motion of simple and compound pendulum. Loaded spring, Energy considerations. Time average of energy. Damped harmonic oscillator Resonance in a lightly damped system

Lesson Plan Odd Sem (Session-2021-22)

Name: Ms. Pooja

Class: B.Sc.Ist Sem (Hons.)

Paper code: PHY-103

Subject Name: Electricity

Class working days: 1-3

11 Oct – 11 Nov	Introduction to electricity, and electric circuit, kirchoffs 1st law and numerical, kirchoffs 2nd law, Kirchoff's law for AC and DC circuits Series and parallel resonant circuits, AC brigde , anderson's bridge with numericals
12 Nov - 12 Dec	Thevinins theorem,numerical and Norton theorem,Electric field , electric field lines, electric charge, quantisation of electric charge Coulomb's law, superposition principle, continuous charge distribution, Electric field lines, Gauss law , line integral, surface integral or volume integral, Electric potential and dipole of wire disc or shell
13 Dec – 13Jan	Force and torque on dipole, laplace equation, uniqueness theorem, conductors and isolated conductors Method of image for plane sheet and sphere, electrostatic energy, System of point charge , condenser nuclear electric field, Dielectric properties of matter and polarisation
14 Jan – 25 Jan	Dielectric polarisation of charges and Gauss law in dielectrics, Field vectors, D and E with boundary conditions, merical problems and doubt class

Lesson Plan Odd Sem (Session-2021-22)

Name: Ms. SANKET

Class: B.Sc. Physics (H) Semester-I

Paper code: Phy-106

Subject Name: Linear and Digital Integrated Circuits & Instrumentation-I

Number of days: Thursday, Friday, Saturday

11 Oct – 11 Nov	Introduction to the paper, Active and passive components, discrete component circuits, water, chip advantages of integrate circuits, MSI, LSI and VLSI (basic idea and definitions only). Operational Amplifiers (Op-Amp), Basic characteristics without detailed internal circuit of IC. Requirement of ideal voltage amplifier Characteristics of ideal operational amplifier, feedback in amplifier (black box approach)
12 Nov - 12 Dec	Class Test, Open loop and close loop gain, inverting and non-inverting amplifier Zero crossing detector, Application of op-amps: Mathematical operations addition, multiplication, Numerical practice. Integration and differentiation, Numerical practice, Electronic circuits – oscillator (Wien's bridge) .rectangular wave generators ,Assignment taken. triangular wave generators Digital Circuits: Difference between analog and digital circuits, binary numbers, binary to decimal conversion, Numerical AND, OR and NOT gates (realization using diodes and transistor
13 Dec – 13Jan	Boolean algebra, Boolean equations of logic circuits de Morgan theorem, NOR and NAND gates. Combinational logic: Boolean laws and theorems. sum of products method of realizing a circuit for a given truth table lass test, truth table to kamaugh map and simplification (elementary idea). Data processing circuits: Multiplexes,De-multiplexers, decoders, encoders, exclusive OR gate, parity checker Read-only memories (ROM), PROM, EPROM.
14 Jan – 25 Jan	. Assignment taken. Arithmetic circuits: Binary addition and subtraction (only 2's complement method), numerical practice. Half adders and full adders and sub tractors (only up to eight bitts). Numerical practice

Lesson Plan Oct 2021 – Jan 2022

Name: Dr. Manju Vashistha

Class: B.Sc I(NM) Ist Sem, Sec A, Sec C

Paper code: Phy-101

Subject Name: Mechanics

Number of days: 4-6, 1-3

11 Oct – 11 Nov	Introduction of complete syllabus Unit I introduction, mechanics of a single particle, conservation law of linear and angular momentum Conservation law of energy for single particle, system of particle, centre of mass and equation of mtion Conservation law of linear and angular momentum of system of particles Test and assignment of unit I, introduction to unit II, Generalised coordinates, velocity, acceleration, momentum, force and potential energy in terms of generalised coordinates
12 Nov - 12 Dec	Hamilton's variational principle, Lagrange's equation of motion from Hamilton's principle Linear harmonic oscillator, simple pendulum Atwood's machine, Numerical related problems Test and assignment of unit II, introduction to unit III rotational motion, moment of inertia.
13 Dec – 13Jan	Torque, angular momentum, kinetic energy of rotaion Theorems of perpendicular and parallel axes with proof Numerical problem and test of completed unit Moment of inertia of solid sphere, hollow sphere Moment of inertia of spherical shell and solid cylinder Moment of inertia of hollow cylinder and solid bar of rectangular cross-section Acceleration of a body rolling down an inclined plane
14 Jan – 25 Jan	Numerical problems and doubt class Test and assignment of unit III

Lesson Plan Oct 2021 – Jan 2022

Name: swati

Class: B.Sc I(NM) Ist Sem, Sec B

Paper code: Phy-101

Subject Name: Mechanics

11 Oct – 11 Nov	Introduction of complete syllabus Unit I introduction, mechanics of a single particle, conservation law of linear and angular momentum Conservation law of energy for single particle, system of particle, centre of mass and equation of mtion Conservation law of linear and angular momentum of system of particles Test and assignment of unit I, introduction to unit II, Generalised coordinates, velocity, acceleration, momentum, force and potential energy in terms of generalised coordinates
12 Nov - 12 Dec	Hamilton's variational principle, Lagrange's equation of motion from Hamilton's principle Linear harmonic oscillator, simple pendulum Atwood's machine, Numerical related problems Test and assignment of unit II, introduction to unit III rotational motion, moment of inertia.
13 Dec – 13Jan	Torque, angular momentum, kinetic energy of rotaion Theorems of perpendicular and parallel axes with proof Numerical problem and test of completed unit Moment of inertia of solid sphere, hollow sphere Moment of inertia of spherical shell and solid cylinder Moment of inertia of hollow cylinder and solid bar of rectangular cross-section Acceleration of a body rolling down an inclined plane
14 Jan – 25 Jan	Numerical problems and doubt class Test and assignment of unit III

Lesson Plan Oct 2021 – Jan 2022

Name: Vikas sharma
Class: B.Sc. I (Sec B and C) Physics, Sem-1(NON- MED)
Paper code: PHY-102
Subject Name: Electricity and Magnetism
Class working days: Sec B (1-3) and Sec C (4-6)

11 Oct-11Nov	Scalars and Vectors, dot and cross product, Triple vector ProductScalar and Vector fields, Differentiation of a vector, Gradient of a scalar and its Cartesian coordinate, divergence of a vector field physical significance,
12 Nov -12 Dec	Integration of a vector (line, surface and volume integral and their physical significance) Curl of a vector field, gauss's theorem and stokes theorem Derivation of electric field, Derivation of Laplace and Poisson equation, Electric Flux Gauss's law and its application, Mechanical force of charged surface, Energy per unit volume
13 Dec- 25 Jan	Magnetic induction, magnetic flux, properties of magnetic induction Electronic theory of dia and paramagnetisem, Domain theory of ferromagnetism Cycle of magnetization, Energy dissipation, Hystersis loss and importance(**Test)** Maxwell's equation and their derivation, vector and scalar potentials Boundary conditions at interface between two different media Electromagnetic wave idea, Poynting vector and theorem (**Rivision)** ***(Test)***

Lesson PlanOdd Sem (Session-2021-22)

Name: Ms. Anju Rani
Class: B.Sc II(Hons) III Sem
Paper code: Phy-301
Subject Name: Mathematical Physics III
Number of days: 1-3

11 Oct – 11 Nov	Importance of complex numbers and their graphical representation. De Moivre's theorem. Roots of complex numbers. Euler's formula. Functions of complex variables. Examples. Cauchy-Riemann conditions. Analytic functions. Singularities. Differentiation and integration of a function of a complex variable. Cauchy's theorem
12 Nov - 12 Dec	Cauchy's integral formula. Morera's theorem. Cauchy's inequality. Liouville's theorem. Fundamental theorem of algebra. Multiple valued functions, simple ideas of branch points and Riemann surface.
13 Dec – 13Jan	Power series of a complex variable, Taylor and Laurent series, Residue and residue theorem. Multiple valued functions. Contour integration and its application to evaluation of integrals.
14 Jan – 25 Jan	Series Solution of Linear Second order Ordinary Differential Equations: Singular points of second order differential equations and their importance. Series methods (Frobenius) Legendre. Bessel, Hermite and Laguerre differential equations.

Lesson PlanOdd Sem (Session-2021-22)

Name: Ms. SANKET

Class: B.Sc. Physics (H) Semester-III

Paper code: Phy-302

Subject Name: Thermal Physics- I

Number of Days: Monday, Tuesday, Wednesday

11 Oct – 11 Nov	Introduction to the Paper. Basic definations. Derivation of pressure exterted by gas Derivation of Maxwell law of distribution of velocities Experimental verification of Maxwells distribution. Mean free path(introduction) , Problem discussion assignment , Mean free path and its Derivation for mean free path
12 Nov - 12 Dec	Transport phenomena :Viscosity, Conduction , Diffusion .Brief introduction to Brownian Motion. . Brownian motion. The theory of Einstein The theories of Langevin and experimental determination of Avogadro's number Examples of Brownian motion in physics (galvanometer mirror, sedimentation, Johnson's noise
13 Dec – 13Jan	Ideal gases: Equation of state, internal energy, specific heats, entropy, Isothermal and Adiabatic processes. Compressibility and expansion coefficient. Adiabatic lapse rate Class test, Real gases: Deviations from the ideal gas equation. The virial equation Andrew's experiments on CO_2 gas, continuity of liquid and gaseous state. Van der Wall's equation Class test, Critical constants and law of corresponding states.
14 Jan – 25 Jan	. Free expansion, Joule-Thomson Effect. Assignment taken .Numerical Practice, Problem discussion

Lesson PlanOdd Sem (Session-2021-22)

Name:Pooja

Class: B.Sc II physics(hons) 3rd Sem

Paper code: Phy-303

Subject Name: vibration and wave optics

Number of days: 4-6

11 Oct – 11 Nov	Introduction and free oscillations, degree of freedom Linearity and superposition principle, simple harmonic motion Characteristics of SHM, superposition of two collinear harmonic oscillator Simple pendulum, superposition of Anharmonic oscillation
12 Nov - 12 Dec	Beat and system with one and two degree of freedom Coupled oscillator with same frequency and oscillator with different frequency oscillator Waves , type of waves,wave equation, travelling wave equation Phase velocity, energy transport of travelling wave, standing wave, group velocity
13 Dec – 13Jan	Plane and spherical waves, s wave on string, superposiyion of waves, wave packets Normal coordinates, normal modes, energy of vibrating string, plucked string, stretched string *Introduction to modes, light sources , em nature of light, coherence* Interference, light sources, classification in terms of amplitude and wavefront
14 Jan – 25 Jan	Young double slit experiment, llyod mirror, fresenal biprism Thin films, wedge shaped films, haidinger fringes, fizeau fringes Michelson interferometer, theory of fringes, application theory of partial coherence *Coherence, numerical, time and length* Fabry perot interferometer, airy formula, visibility of fringes, sharpness of fringes

Lesson PlanOdd Sem (Session-2021-22)

Name: Mr. Pardeep Kumar
Class: B.Sc II(Hons) III Sem
Paper code: Phy-304
Subject Name: Quantum Mechanics
Number of days: 4-6

11Oct-11Nov	Photoelectric effect. Compton effect. Reduced mass correction. De Broglie hypothesis. Wave particle duality. Davisson-Germer experiment. Wave packets. Two Slit experiment with electrons. Wave amplitude and wave functions, Probability. Uncertainty principle. Basic postulates and formalism: Schrodinger equation, wave function, eigenvalues, probabilistic interpretation, conditions for physical acceptability of wave functions. Free particle..
12 Nov-13Dec	Scattering problem in one dimension : Reflection and transmission by a finite potential step. Stationary solutions, Attractive and repulsive potential barriers.Gamow theory of alpha decay. Quantum phenomenon of tunneling. Tunnel diode-qualitative description. Spectrum for a square well (mention upper bound-no calculation). Bound state problems: General features of a bound particle system.
14-Dec-25Jan	One-dimensional simple harmonic oscillator. Particle in a spherically symmetric potential rigid rotator. Orbital angular momentum and azimuthal quantum numbers and space quantization. Physical significance. Radial solutions and principal quantum number. Hydrogen atom. . Time independent Schrodinger equation, stationary states. Particle in onedimensional box, quantization of energy. Franck-Hertz experiment.

Lesson Plan oct.2021- Jan.2022

Name: Ekta
Class: Final year (Hons) Physics
Paper code: PHY 501
Subject Name: Mathematical Physics -1
Number of Days - 3

11 Oct – 11 Nov	Introduction to groups, rings and fields. Vector spaces and subspaces. Linear independence-basis and dimensions. Linear transformations. Algebra of linear transformations. Non-singular transformations. Isomorphism. Representation of linear transformations by matrices
12 Nov - 12 Dec	Addition and multiplication null and unit matrices. Singular and nonsingular matrices. Inverse of a matrix Eigenvalues and eigenvectors Digitalization solution of coupled linear ordinary differential equations
13 Dec – 13Jan	Hermitian and skew symmetric and antisymmetric, orthogonal and unitary matrices Similarly transformations and bilinear and quadratic forms. Trace of a matrix Cayley-Hamilton theorem
14 Jan – 25 Jan	Function of a matrix. Inner product and metric concept

Lesson Plan oct.2021- Jan.2022

Name : Ekta
Class : B.Sc. Final year (Hons) Physics
Paper Code : PHY 502
Subject Name : Electromagnetic Theory -1
Days : 1-3 days

11 Oct – 11 Nov	Vector and Scalar potentials, Gauge transformations Lorentz and Coulomb gauge Numerical and Test of Unit-1
12 Nov - 12 Dec	Boundary conditions at interface between different media Reflection and refraction of a plane wave Fresnel Formulae for dielectric interface
13 Dec – 13Jan	Total internal reflection Brewster's angle Conductivity of ionized gas
14 Jan – 25 Jan	Propagation of e.m. waves in ionosphere Test of Unit-2

Lesson Plan oct.2021- Jan.2022

Name: Neha
Class: Final year (Hons) Physics
Paper code: PHY 503
Subject Name: Statistical physics
Number of Days - 3

11Oct-11Nov	Introduction to statistical physics, MB statistics,thermodynamical probability, entropy, partition function
12Nov-12 Dec	Thermodynamical function of ideal gas and their relation with partition function, gibbs paradox
13Dec-13Jan	Law of equipartition of energy , introduction to radiation ,properties ,black body radiation ,krichoff law, wiens displacement law , stefens law , Planks law of black body radiation
14Jan-25 Jan	deduction of wiens displacement law ,wiens law, steffens law with planks law. Introduction of LASER, basic principle and working. Thermal eq. of radiation , principle of detailed balance ,Einstein A and B coefficients, two level and three level systems, test ,assignments,

Lesson Plan oct.2021- Jan.2022

Name: Sonu
Class: Final year (Hons) Physics
Paper code: PHY 504
Subject Name: *Physics of Materials-I*
Number of Days - 3

8 Dec-31 Dec	S-ray diffraction methods – measurement of lattice parameter for cubic lattices Lattice vibrations. Linear monoatomic and diatomic chains. Acoustical and optical phonons. Qualitative description of the phonon spectrum in solid Brillouin zones
1 Jan - 25 Jan	Debye theories of specific heat of solids T3 law. Magnetic Properties of Matter, Response of substances of magnetic field Dia, para and ferri and ferromagnetic materials. Classical Langevin theory of dia and paramagnetic domains. Quantum mechanical treatment of paramagnetism. Curle's law

Lesson Plan oct.2021- Jan.2022

Name: Ms. Sanehaa
Class: B.Sc.5th Sem (Hons.)
Paper code: PHY-505
Subject Name: Electronics Devices
Class working days: (4-6)

11Oct-11Nov	Basic semiconductor physics ,p and n type semiconductors Energy level diagram, conductivity and mobility, p-n junction fabrication (simple idea). Barrier formation in p-n junction diode, current flow mechanism in forward and reverse biased diode. Single p-n junction devices (physical explanation, current voltage characteristics)
12Nov-12Dec	One or two applications and Two terminal devices-rectifier diode, Zener diode, photo diode, LED, solar cell and varactor diode. Two junction devices p-n-p and n-p-n transistors, physical mechanism of current flow, active, cutoff and saturation regions.
13Dec-13Jan	Transistor in active region and equivalent circuit. Three terminal devices junction field effect transistor (FET) unijunction transistor (UJT) and their equivalent circuits
14Jan-25Jan	Mesh analysis for d.c. and a.c. Nodal analysis duallty in networks. To Equivalent of a four terminal network. Thevenin and Norton theorem with Circuit diagram . Maximum power transfer superposition and reciprocity theorems. Z, Y, H parameters

Lesson Plan oct.2021- Jan.2022

Name: Neha
Class: Final year (Hons) Physics
Paper code: PHY 506
Subject Name: *Nano technology*
Number of Days - 3

11Oct-11Nov	Introduction of nano physics.properties of nano materials,example of nano materials.
12Nov-12Dec	Free electron theory and its features ,drawbacks and success of free electron theory, idea of band structure,metal ,insulator and semiconductor
13Dec-13Jan	Density of state in bands , density of states in 1D ,2D, 3D, AND 0D . variation of density of state with band gap and size of crystal
14Jan-25Jan	K P model, Brillion zones ,Effective mass, electron confinement in two D AND 1D. Idea of quantum well structure, quantum dots ,quantum wires ,test,assignments and numerical problems

Lesson Plan Oct2021- Jan2022

Name: Ms. Swati Kumari

Class: B.Sc II (NM) 3th Sem, Sec C

Paper code: Phy-302

Subject Name: Optics

Number of days: 1-3

11 Oct – 11 Nov	Introduction of syllabus, Physical optics, Fresnel's biprism, fringes with white light using Biprism, determination of thickness of thin sheet of transparent material, Lloyd mirror, difference between Biprism and Lloyd mirror fringes, phase changes on reflection (stokes law) introduction of I unitspeed of transverse waves on a uniform string, Speed of longitudinal waves in fluid, superposition of waves (Physical idea Fourier theorem and Fourier series, evaluation of Fourier coefficients, Limitations of Fourier theorem(Dirichlet conditions), importance of Fourier theorem
12 Nov - 12 Dec	Even and odd functions, complex form of Fourier series, Analysis of Rectangular wave or square wave, triangular wave Halfwave and fullwave rectifier Fourier transforms and its properties with applications, *Test and assignment of unit I* Introduction of unit III, interference of light , types of interference Young's double slit experiment, coherent sources,conditions for good interferences, analytical treatment of interference
13 Dec – 13Jan	Matrix methods in paraxial optics effects of translation and refraction Derivation of thin lens and thick lens formulae Unit plane nodal planes, System of thin lenses,

14 Jan – 25 Jan	Introduction to aberrations, chromatics, spherical, coma, astigmatism and distortion aberrations ,Revision and Test

Lesson Plan Oct2021- Jan2022

Name: Ms. Neeraj
Class: B.Sc II (NM) 3rd Sem, sec A, Sec B
Paper code: Phy-302
Subject Name: Optics
Number of days: (1-3), (4-6)

11 Oct – 11 Nov	Introduction of syllabus, Physical optics, Fresnel's biprism, fringes with white light using Biprism, determination of thickness of thin sheet of transparent material, Lloyd mirror, difference between Biprism and Lloyd mirror fringes, phase changes on reflection (stokes law) introduction of I unitspeed of transverse waves on a uniform string, Speed of longitudinal waves in fluid, superposition of waves (Physical idea Fourier theorem and Fourier series, evaluation of Fourier coefficients, Limitations of Fourier theorem(Dirichlet conditions), importance of Fourier theorem
12 Nov - 12 Dec	Even and odd functions, complex form of Fourier series, Analysis of Rectangular wave or square wave, triangular wave Halfwave and fullwave rectifier Fourier transforms and its properties with applications, *Test and assignment of unit I* Introduction of unit III, interference of light , types of interference Young's double slit experiment, coherent sources,conditions for good interferences, analytical treatment of interference
13 Dec – 13Jan	Matrix methods in paraxial optics effects of translation and refraction Derivation of thin lens and thick lens formulae Unit plane nodal planes, System of thin lenses

14 Jan – 25 Jan	Introduction to aberrations, chromatics, spherical, coma, astigmatism and distortion aberrations , Revision and Test

Lesson Plan Oct2021- Jan2022

Name: Vikas Sharma

Class: 2nd (NM) 3rd Sem Sec A

Paper code: PHY 301

Subject Name: Computer Programming and Thermodynamics

11 Oct – 11 Nov	Second law of thermodynamics, Carnot theorem, Absolute scale of temperature Absolute Zero, Entropy, show that dQ/T=O, T-S diagram and Nernst heat law Joule's free expansion, Joule Thomson (Porous plug) experiment. Joule - Thomson effect. Liquefication of gases. Air pollution due to internal combustion Engine.
12 Nov - 12 Dec	Thermodynamics-II : Derivation of Clausius - Claperyron latent heat equation Phase diagram and triple point of a substance Development of Maxwell thermo dynamical relations. Applications of Maxwell relations.

13 Dec – 13Jan	Thermodynamic Function: Internal energy, Helmholtz Function, Enthalpy, Gibbs Function and relation between them Computer Organisation, Primary and Algorithmic development Flow Charts and FORTRAN preliminaries Built-in functions and Executable/Non-Executable statements
14 Jan – 25 Jan	Input/output and IF, DO and GO TO statements Dimension array and function Sub Program Test , Revision and solving Numerical Problems

Lesson Plan Oct2021- Jan2022

Name: Sonu

Class: 2nd (NM) 3rd Sem Sec B, C

Paper code: PHY 301

Subject Name: Computer Programming and Thermodynamics

08 Dec – 31 Dec	Computer Organisation, Primary and Algorithmic development Flow Charts and FORTRAN preliminaries Built-in functions and Executable/Non-Executable statements
1 Jan – 25 Jan	Input/output and IF, DO and GO TO statements Dimension array and function Sub Program Test , Revision and solving Numerical Problems

Lesson Plan 2021-2022

Name: Mr. Pardeep Kumar
Class: B.Sc III(NM) Vth Sem, Sec A
Paper code: Phy-502
Subject Name: Quantum Mechanics
Number of days: 1-3

11oct-12Nov	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). Inadequancy of old quantum theory, de-Broglie hypothesis. Davisson and Germer experiment. 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). Gamma Ray Maciroscope, Electron diffraction from a slit.
13 Nov-13 dec	Derivation of time dependent Schrodinger wave equation, eigen values, eigen functions, wave functions and its significance. 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.
14 Dec-25 Jan	Free particle in one dimensional box (solution of schrodinger wave equation, eigen function, eigen values, quantization of energy and momentum, nodes and antinodes, zero point energy). i) One-dimensional potential barrie E>V0 (Reflection and Transmission coefficient. ii) One-dimensional potential barrier, E>V0 (Reflection Coefficient, penetration of leakage coefficient, penetration depth).

Lesson Plan 2021-2022

Name: Ms. Sanehaa

Class: B.Sc. 5th Sem (Sec B&C)Non med.

Paper code: Phy- 502

Subject Name: quantum physics

Number of days: 1-3(C Sec) 4-6(B Sec)

11oct-12Nov	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).Inadequancy of old quantum theory, de-Broglie hypothesis. Davisson and Germer experiment. 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). Gamma Ray Maciroscope, Electron diffraction from a slit
13 Nov-13 dec	Derivation of time dependent Schrodinger wave equation, eigen values, eigen functions, wave functions and its significance. 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.
14 Dec-25 Jan	Free particle in one dimensional box (solution of schrodinger wave equation, eigen function, eigen values, quantization of energy and momentum, nodes and antinodes, zero point energy). i) One-dimensional potential barrie E>V0 (Reflection and Transmission coefficient. ii) One-dimensional potential barrier, E>V0 (Reflection Coefficient, penetration of leakage coefficient, penetration depth).

Lesson Plan 2021-2022

Name: Dr. Suman
Class: B.Sc III(NM) Vth Sem, Sec. A, B
Paper code: Phy-501
Subject Name: Solid State Physics
Number of days: 1-6

11 Oct – 11 Nov	Crystalline and gallssy forms, liquid crystals. Crystal structure, periodicity, lattice and basis,crystal translational vectors and axes. Unit cell and primitive cell, Winger Seitz primitive Cell,symmetry operations for a two dimensional crystal, Bravais lattices in two and three dimensions.
12 Nov - 12 Dec	Crystal planes and Miller indices, Interplanner spacing, Crystal structures of Zinc sulphide. Sodium Chloride and diamond, X-ray diffraction, Bragg's Law and experimental x-ray diffraction methods, K-space
13 Dec – 13Jan	Reciprocal lattice and its physical significance, reciprocal lattice vectors, reciprocal lattice to asimple cubic lattice, b.c.c and f.c.c.
14 Jan – 25 Jan	Specific heat : Specific heat of solids, Einstein's theory of specific heat, Debye model of specific heat of solids. Revision And Assignment Tests..

Lesson Plan 2021-2022

Name: Ms. Anju Rani

Class: B. .Sc. 3rd (Non - Med) 5th Semester SEC- C

Paper code: Phy-501

Subject Name: Solid state

Number of days: Thursday, Friday, Saturday (Sec- C)

11 Oct – 11 Nov	Crystalline and gallssy forms, liquid crystals. Crystal structure, periodicity, lattice and basis,crystal translational vectors and axes. Unit cell and primitive cell, Winger Seitz primitive Cell,symmetry operations for a two dimensional crystal, Bravais lattices in two and three dimensions.
12 Nov - 12 Dec	Crystal planes and Miller indices, Interplanner spacing, Crystal structures of Zinc sulphide. Sodium Chloride and diamond, X-ray diffraction, Bragg's Law and experimental x-ray diffraction methods, K-space
13 Dec – 13Jan	Reciprocal lattice and its physical significance, reciprocal lattice vectors, reciprocal lattice to asimple cubic lattice, b.c.c and f.c.c.
14 Jan – 25 Jan	Specific heat : Specific heat of solids, Einstein's theory of specific heat, Debye model of specific heat of solids. Revision And Assignment Tests..