TEACHING PLAN 2022 (Odd Semester)

(September 2022 to December 2022)

Name :-Dr. Rajesh Kumar
Department: Physics

Sub : Solid State Physics
Class: B.Sc 5th Semester

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August	Introduction to Solid state Physics, Types of solids, Crystalline and Glassy forms, liquid crystals	Crystal translational vectors and crystal axis, Crystal lattice and basis, perodicity in crystals	Unit cell and primitive cell, Weigner Seitz primitive cell, Numericals	Symmetry operations for two dimensional crystal, Text book questions	Numericals and Test
September	A crystal lattice cannot have five fold symmetrypoint groups and space groups	Bravais lattice in two dimension, Bravais Lattice in three dimension,	Numericals and text book questions, Class test.	Crystal planes and Miller Indices, interplanar spacing, cubic crystal	Some simple crystal structures, diamond structure, NaCl structure

Month					
October	Zinc blende structure Cesium chloride structure, Numericals and text book questions	Crystal diffraction , Braggs diffraction law, Laues method, Rotating crystal method, Powder method.	Determination of crystal structure using Braggs law, K space.reciprocal lattice and its physical significanceReciprocal lattice vectors	Reciprocal lattice to a simple cubic lattice, bcc and fcc, construction of reciprocal lattice	Numericals and text book questions
november	Introduction to specific heat theory of solids	Dulong and Petits law, derivation of Dulong and Petits law from Classical Physics	Specific heat at low temperature, Einsteins theory of Specific heat. Assignment	Bebye theory of specific heat at low temperature and at high temperature, Numericals, Class test	Revision of the syllabus

TEACHING PLAN 2022 (Odd Semester)

(August 2022 to October 2022)

Name :-Dr. Rajesh Kumar

Department: Physics

Sub : Physics

Class: B.Sc (Chemistry Hons) 3rd Semester

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week

August	Introduction to interference, interference by division of wavefront	Fresenls biprism and its applications i.e determination of wavelength of Sodium light,	. thickness of thin mica sheet, Llyod mirror, Phase change on reflection,	Interference by division of amplitude, color of thin films, wedge shaped film,	Numericals and Test
September	Newtons rings, Interferometers, Michelsons interferometer and its applications, Numericals	Newtons rings, Interferometers, Michelsons interferometer and its Applications, Numericals	Text book questions and Class test, Introduction to diffraction, fresenls diffarction, fresenls half period zones, Zone plate Diffraction at straight edge, rectangular slit, circular aperature	Numericals and text book questions. Concept of Polarization, Polarization due to reflection, refraction	Law of Malus Double refraction, Calcite crystal, Nicol prism, Huygens theory of double , elliptical and circularlly polarised light,optical rotation
October	Fresnels theory of double refraction, Specific rotation, polarimeters, Half shade and full shade device	Introduction to Nuclear physics, Properties of Nucleus, Determination of mass,	Determination of charge by Mosley law, Determination of size of Nucleus, Interaction of charged particles with matter.	Interaction of heavy charged particles with matter, Bloch Bethe formula, energy loss of chargred particle.	Range and Straggling, Geiger Nuttal law.Interaction of light charged particles with matter

november	Interaction of gamma particle with matter (Photoelectric effect, Compton effect, pair production)	Decay processses, Alpha decay Beta decay, Gamma decay, nulear reactions and Nuclear conservatio n laws	Nuclear fission and Fusion process, Nuclera reactor, Nuclear accelerators their desigh and functions,	Charged particle detectors, types , mechanisms and their working	Revision of the syllabus.

TEACHING PLAN 2022 (Odd Semester)
(August 2022 to October 2022)

Name :- Dr. Davinder Singh
Department: Physics
Sub : Optics
Class: B.Sc 3rd Semester

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August	Introduction to Optics	Fourier series, even and odd functions, fourier series in different intervals	Applications of Fourier series, analysis of saw tooth wave,	square wave, half wave rectifier, full wave rectifier	Fourier transforms
September	Properties of Fourier transforms, Numericals of Fourier transfoms	Fourier Integrals and, Numericals	Text book questions and Numericals, Class test	Introduction to Matrix method, effect of translation and refraction	System matrix, Derivation of thin and thick lens formula, unit planes
October	Nodal planes, system of thin lenses, text book questions	Introduction to aberrations, types of aberrations i.e. Longitudinal and lateral, monochromatic and chromatic aberrations	Derivation for achromatism, spherical aberrations	Coma, astigmatism Curvature of the field aberrations	Distortion aberration, Text book questions and numericals

Introduction to Interference, coherent sources	Conditions for good interfernce, Youngs double slit experiment.	Fresnels Biprismand its applications, stokes law	Determination of thickness of thin sheet, Llyods mirror.	Revision of the Syllabus

TEACHING PLAN 2022 (Odd Semester)
(August 2022 to October 2022)

Name :- Davinder Singh
Department: Physics
Sub : Quantum Mechanics
Class: B.Sc 5th Semester

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August	Introduction to Quantum Mechanics,	Classical Mechanics Versus Quantum Mechanics	failure of classical mechanics, quantum theory of radiation	Photon, Photoelectric effect, Compton effect, inadequacies of old quantum mechanics,	De-broglie hypothesis and Debroglie equation
September	Davission and germer experiment, G.P. thomson experiment, Phase velocity	Group velocity, Heisenberg uncertainity principle	Time-energy and angular momentum, position uncertainity principle. Assignment.	Text book questions, Numericals, Class test	Gamma ray microscope experiment, Electron diffraction from a slit
October	Numericals and text book questions	Derivation of Time dependent wave equation and time independent wave equation	Eigen values and eigen functions, wave function and its significancenormalization of wave functions	Concept of observable and operator,	Simple Hormonic oscillator
	Simple hormonic oscillator energy and zero point energy	Particle in one dimensional box problem	Potential barrier (awve functions, energy eigen values, relection coefficient and transmission coefficent)	Numericals and Applications of Potential barrier. Assignment	Revision of the syllabus. Class test.

TEACHING PLAN 2022-23 (ODD SEMESTER)

(August 2022 to NOV 2023)

NAME : PARUL JAIN

DEPARTMENT : PHYSICS

SUBJECT : MECHANICS [B.Sc. Chem (H) 1st Semester]

MONTH	1st WEEk	2nd WEEK	3rd WEEK	4th WEEK	5th WEEK
AUGUST				DoF, Gen Coord., Hamilton's Principle	Conservation laws , Centre of mass and Eq. of motion
SEPTEMBER	Mechanics of single particle and system of particles **Test 1**	Lagrange's EoM, LHO, Simple Pendulum	Elasticity and Elastic constants , Poisson's ratio	Bending of Beam, Centrally loaded beam **Assignment**	
OCTOBER	Newtonian relativity principle **Test 2**	Lorentz transformations Variation of mass with velocity	Derivation of E from V as grad, laplace and Poisson eq.	Electric flux, Gauss law and its applications **Assignment**	
NOVEMBER	Mechanical force of charged Surface **Test 3**	Magnetic Induction, Magnetic flux, Properties of B	Solenoidal nature of vector field Ferromagnetism and Hysteresis curve	Maxwell Equations and their Derivations **Final Test**	

Name :- Dr. Parul Jain   **Department: Physics**

Sub:- Solid State Physics   **Section: B.Sc. 5th sem CS**

MONTH	1st WEEk	2nd WEEK	3rd WEEK	4th WEEK	
AUGUST				Introduction to solid state physics, lattice, basis	Liquid crystals,unit cell, primitive cell
SEPTEMBER	Crystalline and amorphous solids **Test 1**	Symmetry operations,Introduction to Bravais lattices	Bravais lattices in 2& 3 dimensions	Crystal planes and Miller indices, crystal structure **Assignment**	
OCTOBER	Interplanner spacing, crystal structure of zinc sulphide **Test 2**	NaCl and diamond structure,K-space	Bragg's law and X-ray diffraction & techniques	Reciprocal lattice and its physical significance **Assignment**	
NOVEMBER	Physical significance and reciprocal lattice vectors to sc,bcc **Test 3**	Fcc reciprocal latticec vector, specific heat of solids	Debye model of specific heat of solids	Einstein's theory of specific heat **Final Test**	

Teaching Plan 2020 (Odd Semester)

(August 2022 to December 2022)

Name :- Uma Shekhawat   **Department: Physics**

Subject:- Mechanics   **Class B.Sc 1st Semester**

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August		Introduction to mechanics. Conservation laws for a single particle.	Conservation laws for a system of particles.	Concept of the center of mass, types of constraints with explanation	Degrees of freedom, numerics, textbook questions, class test.
September	Generalized coordinates. Different quantities of G.C.	Different quantities of G.C.	Hamilton's variational principle. Lagrange's equation of motion.	Alternate method of Lagrange's equation of motion.	Applications of Lagrange's equation of motion
October	Applications of Lagrange's equation of motion. numerics.	Basic Concept of Rigid Body.	Rotational Kinetic energy of a rigid body. Moment of inertia,	Theorem of parallel axis and perpendicular axis,	Continued Theorem of the perpendicular axis. M. I. of Solid sphere,
November	M. I. of Hollow sphere and Solid cylinder.	M. I. of Hollow cylinder and Solid bar.	Acceleration of a body rolling down an inclined plane.	Numericals problem. Revision with class test	Revision with the class test.

Teacher incharge: Uma Shekhawat

Teaching Plan 2022 (Odd Semester)

(September 2022 to December 2022)

Name :- Uma Shekhawat   **Department: Physics**

Subject: Computer Programming and Thermodynamics   **Class: B.Sc 3rd Semester**

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August		Fundamentals of Computer, Number systems.	Binary Number system and its operations.	Computer algorithm and examples.	Flow chart for different problems.
September	Introduction to FORTRAN Programming.	FORTRAN constants, FORTRAN Variables. Class Test	FORTRAN statements i.e Input, Output, Read, write, End, Stop etc.	All logical statements, dimension arrays.	Executable and Non-executable statements.
October	Introduction with Laws of thermodynamics.	Carnot engine, theorem, the absolute scale of temperature	Absolute zero, entropy, T-S diagram, Nernst heat law	Joules free expansion, joules Thomson Experiment	Joules Thomson effect, Liqification of gases.
November	Clausius Clayperon heat equations, Phase diagram.	Triple point, Thermodynamical relations, and applications	Thermodynamic functions and realation between them, numerical	Numerical problems Revision with a class test	Revision for the class test.

Teacher Signature: Uma Shekhawat

Teaching Plan 2020 (Odd Semester)

(August 2022 to December 2022)

Name :- Neenu Saini   **Department: Physics**
Subject:- Mechanics   **Class B.Sc 1ˢᵗ Semester**

Month	1st Week	2nd Week	3rd Week	4th Week	5ᵗʰ Week
August		Introduction to mechanics. Conservation laws for a single particle.	Conservation laws for a system of particles.	Concept of the center of mass, types of constraints with explanation	Degrees of freedom, numerics, textbook questions, class test.
September	Generalized coordinates. Different quantities of G.C.	Different quantities of G.C.	Hamilton's variational principle. Lagrange's equation of motion.	Alternate method of Lagrange's equation of motion.	Applications of Lagrange's equation of motion
October	Applications of Lagrange's equation of motion. numerics.	Basic Concept of Rigid Body.	Rotational Kinetic energy of a rigid body. Moment of inertia,	Theorem of parallel axis and perpendicular axis,	Continued Theorem of the perpendicular axis. M. I. of Solid sphere,
November	M. I. of Hollow sphere and Solid cylinder.	M. I. of Hollow cylinder and Solid bar.	Acceleration of a body rolling down an inclined plane.	Numericals problem. Revision with class test	Revision with the class test.

Teacher incharge: Neenu Saini

Teaching Plan 2022 (Odd Semester)

(September 2022 to December 2022)

Name :- Neenu Saini   **Department: Physics**

Subject: Computer Programming and Thermodynamics   **Class: B.Sc 3rd Semester**

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August		Fundamentals of Computer, Number systems.	Binary Number system and its operations.	Computer algorithm and examples.	Flow chart for different problems.
September	Introduction to FORTRAN Programming.	FORTRAN constants, FORTRAN Variables. Class Test	FORTRAN statements i.e Input, Output, Read, write, End, Stop etc.	All logical statements, dimension arrays.	Executable and Non-executable statements.
October	Introduction with Laws of thermodynamics.	Carnot engine, theorem, the absolute scale of temperature	Absolute zero, entropy, T-S diagram, Nernst heat law	Joules free expansion, joules Thomson Experiment	Joules Thomson effect, Liqification of gases.
November	Clausius Clayperon heat equations, Phase diagram.	Triple point, Thermodynamical relations, and applications	Thermodynamic functions and realation between them, numerical	Numerical problems Revision with a class test	Revision for the class test.

Teacher Signature: Neenu Saini

TEACHING PLAN 2022-2023 (ODD SEMESTER)

(August 2022 to October 2022)

Name : SHRUTI VERMA   **Department: Physics**

Sub:-B.Sc. CS 1ˢᵗ Sem Section A (Electricity and magnetism)

Month	1st Week	2nd Week	3rd Week	4th Week
August	Summer Vacations	Mathematical background Scalars and vectors Dot and cross products& numericals Triple vector product, Scalar and vector fields Differentiation of a vector	Gradient of a scalar and it's physical significance, Gauss divergence theorem Numerical and questions, Stoke's theorem Numerical practice	Electrostatic field(derivative of E from potential gradient**)**, Derivation of Laplace and poisson equation

September	Electric flux and Gauss law Application of Gauss law to spherical shell Uniformly charged infinite plane sheet, Uniformly charged straight wire	Mechanical force of charged surface, energy per unit volume, Magnetostatic-magnetic induction, magnetic flux Solenoidal nature of vector field of induction	Properties of B; divB=0, Electronic theory of diamagnetic substances(langevin's theory)	Electronic theory of paramagnetic substances, Domain theory of ferromagnetism Cycle of magnetisation
October	Hysteresis, Hysteresis law and importance of hysteresis curve Evaluation Test Evaluation	Introduction to electromagnetic theory Maxwell's equation and their derivation	Displacement current Vector potential Scalar potential, Boundary conditions at the interface b/w two different media, Gauss law and application	Uniformly charged infinite plane sheet and uniformly charged straight wire, Propagation of EMW Poynting

TEACHING PLAN 2022-2023 (ODD SEMESTER)

(August 2022 to October 2022)

Name : SHRUTI VERMA   **Department: Physics**

Sub:-B.Sc. CS 1st Sem Section A (Mechanics)

Month	1st Week	2nd Week	3rd Week	4th Week
August	Summer Vacations	Mechanics of Single Particle System, Conservation laws of single particle system, Mechanics of System of	Conservation laws for system of particles, Centre of mass and equation of motion	Constrained motion and degrees of freedom
September	Generalized coordinates, Hamilton's variational principle	Lagrange's Equation of motion from Hamilton Principle	Linear Harmonic Oscillator, Simple pendulum, Atwood's Machine	meaning of rigid body rotation of rigid body, Moment of inertia, Torque,
October	Kinetic energy and angular momentum of rotation	Perpendicular Axis Theorem and Parallel Axis theorem, Moment of inertia	MoI of solid, hollow sphere and shell, Moment of inertia of solid, hollow cylinder	solid bar of rectangular cross section, Acceleration of a body roling down on an inclined plane

TEACHING PLAN 2021-2022(Odd Semester)

(Sept 2022 to Dec 2022)

Name :- Sarita Tyagi   **Department: Physics**

Sub:- Optics 3rd Sem

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August		Introduction to waves, types characteristics of waves,Speed of a transverse wave in a uniform string. Speed of a longitudinal wave in a fluid	Superposition of waves

(Physical idea) | Numericals, text book questions | Test |
| September | Introduction to Fourier Series, Fourier Theorem. | Fourier series, Limitations of Fourier Theorem. | Importance of Fourier Theorem, Fourier series in the limit –pie to +pie, | Even and odd functions, Operation of Foureier series for different intervals, | Complex form of Foureier series, applications of Fourier Series, |

October	Applications of Fourier Series, Text book questions	Numericals , written test, discussion , Introduction to Fourier transform	Fourier transforms, sin and cosine transform,	Theorems of Fourier transforms, applications of fourier transforms.	Matrix methods in paraxial optics, effect of translation and refrarction Introduction to geometrical optics
November	Derivation of thin and thick lens formula, unit planes, Nodal planes, system of thin lenses, Numericals and text book questions, Introduction to aberrations, types of aberrations.	achromatism of two thin lenses in contact, Achromatic combination of two coaxial lenses at finite distance, Spherical aberration	Coma aberration, Astigmatism, curvature of the field, Distortion, Introduction to optics, Interference by division of wavefront	Fresnel's biprism and its applications, lloyds Mirror, phase change on reflection	Revision of syllabus

Teaching Plan 2020 (Odd Semester)

(August 2022 to December 2022)

Name :- Rimpi   **Department: Physics**

Subject:- Mechanics   **Class B.Sc 1st Semester**

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August		Introduction to mechanics. Conservation laws for a single particle.	Conservation laws for a system of particles.	Concept of the center of mass, types of constraints with explanation	Degrees of freedom, numerics, textbook questions, class test.
September	Generalized coordinates.Different quantities of G.C.	Different quantities of G.C.	Hamilton's variational principle. Lagrange's equation of motion.	Alternate method of Lagrange's equation of motion.	Applications of Lagrange's equation of motion
October	Applications of Lagrange's equation of motion. numerics.	Basic Concept of Rigid Body.	Rotational Kinetic energy of a rigid body. Moment of inertia,	Theorem of parallel axis and perpendicular axis,	Continued Theorem of the perpendicular axis. M. I. of Solid sphere,

November	M. I. of Hollow sphere and Solid cylinder.	M. I. of Hollow cylinder and Solid bar.	Acceleration of a body rolling down an inclined plane.	Numericals problem. Revision with class test	Revision with the class test.

Teacher incharge: Rimpi

TEACHING PLAN 2021-2022 (ODD SEMESTER)

(Sept 2022 to Dec 2022)

Name:-Sarita Tyagi   **Department: Physics**

Subject:- Electricity and magnetism 1st Sem

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week

August		Mathematical background, scalar & vectors, Dot and cross products & numerical.	Triple vector product. Scalar and vector fields, Differentiation of a vector. Gradient of a scalar and its physical significance.s	Gauss divergence theorem, Stoke's theorem, Numerical practice, Electrostatic field (derivative of E from potential gradient).	Electric flux and Gauss law
September	Application of Gauss law to spherical shell Uniformly charged infinite plane sheet Derivation of Laplace equation.	Poisson equation. Uniformly charged straight wire Mechanical force of charged surface, energy per unit volume Numerical &textbook questions	Magnetostatic- magnetic induction, magnetic flux Solenoidal nature of vector field of induction Properties of B; divB=0	Electronic theory of diamagnetic substances (langevin's theory), Electronic theory of paramagnetic substances	Domain theory of ferromagnetism,
October	Cycle of magnetization and hysteresis, Hysteresis law and importance of hysteresis curve.	Introduction to electromagnetic theory, Maxwell's equation and their derivation.	Displacement current, Vector potential, Scalar potential	Boundary conditions at the interface b/w two different media	Test

	Test.			
November	Gauss law and application. Uniformly charged infinite plane sheet and uniformly charged straight wire.	Propagation of EMW, Poynting vector, Poynting theorem.	Revision of Syllabus	Revision of syllabus	

TEACHING PLAN 2021-2022 (ODD SEMESTER)

(Sept 2022 to Dec 2022)

Name:-Jyoti Narwat   **Department: Physics**

Subject:- Electricity and magnetism 1st Sem

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week

August		Mathematical background, scalar & vectors, Dot and cross products & numerical.	Triple vector product. Scalar and vector fields, Differentiation of a vector. Gradient of a scalar and its physical significance.s	Gauss divergence theorem, Stoke's theorem, Numerical practice, Electrostatic field (derivative of E from potential gradient).	Electric flux and Gauss law
September	Application of Gauss law to spherical shell Uniformly charged infinite plane sheet Derivation of Laplace equation.	Poisson equation. Uniformly charged straight wire Mechanical force of charged surface, energy per unit volume Numerical &textbook questions	Magnetostatic-magnetic induction, magnetic flux Solenoidal nature of vector field of induction Properties of B; divB=0	Electronic theory of diamagnetic substances (langevin's theory), Electronic theory of paramagnetic substances	Domain theory of ferromagnetism,

October	Cycle of magnetization and hysteresis, Hysteresis law and importance of hysteresis curve. Test.	Introduction to electromagnetic theory, Maxwell's equation and their derivation.	Displacement current, Vector potential, Scalar potential	Boundary conditions at the interface b/w two different media	Test
November	Gauss law and application. Uniformly charged infinite plane sheet and uniformly charged straight wire.	Propagation of EMW, Poynting vector, Poynting theorem.	Revision of Syllabus	Revision of syllabus	

TEACHING PLAN 2021-2022(Odd Semester)

(Sept 2022 to Dec 2022)

Name :- Jyoti Narwat   **Department: Physics**

Sub:- Optics 3rd Sem

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August		Introduction to waves, types characteristics of waves,Speed of a transverse wave in a uniform string. Speed of a longitudinal wave in a fluid	Superposition of waves (Physical idea)	Numericals, text book questions	Test

September	Introduction to Fourier Series, Fourier Theorem.	Fourier series, Limitations of Fourier Theorem.	Importance of Fourier Theorem, Fourier series in the limit –pie to +pie,	Even and odd functions, Operation of Foureier series for different intervals,	Complex form of Foureier series, applications of Fourier Series,
October	Applications of Fourier Series, Text book questions	Numericals , written test, discussion , Introduction to Fourier transform	Fourier transforms, sin and cosine transform,	Theorems of Fourier transforms, applications of fourier transforms.	Matrix methods in paraxial optics, effect of translation and refraction Introduction to geometrical optics

November	Derivation of thin and thick lens formula, unit planes, Nodal planes, system of thin lenses, Numericals and text book questions, Introduction to aberrations, types of aberrations.	achromatism of two thin lenses in contact, Achromatic combination of two coaxial lenses at finite distance, Spherical aberration	Coma aberration, Astigmatism, curvature of the field, Distortion, Introduction to optics, Interference by division of wavefront	Fresnel's biprism and its applications, lloyds Mirror, phase change on reflection	Revision of syllabus

TEACHING PLAN 2021-2022(Odd Semester)

(Sept 2022 to Dec 2022)

Name :- Rimpi   **Department: Physics**

Sub:- Optics 3rd Sem

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August		Introduction to waves, types characteristics of waves,Speed of a transverse wave in a uniform string. Speed of a longitudinal wave in a fluid	Superposition of waves (Physical idea)	Numericals, text book questions	Test
September	Introduction to Fourier Series, Fourier Theorem.	Fourier series, Limitations of Fourier Theorem.	Importance of Fourier Theorem, Fourier series in the limit –pie to +pie,	Even and odd functions, Operation of Foureier series for different intervals,	Complex form of Fourier series, applications of Fourier Series,

October	Applications of Fourier Series, Text book questions	Numericals , written test, discussion , Introduction to Fourier transform	Fourier transforms, sin and cosine transform,	Theorems of Fourier transforms, applications of fourier transforms.	Matrix methods in paraxial optics, effect of translation and reflection Introduction to geometrical optics
November	Derivation of thin and thick lens formula, unit planes, Nodal planes, system of thin lenses, Numericals and text book questions, Introduction to aberrations, types of aberrations.	achromatism of two thin lenses in contact, Achromatic combination of two coaxial lenses at finite distance, Spherical aberration	Coma aberration, Astigmatism, curvature of the field, Distortion, Introduction to optics, Interference by division of wavefront	Fresnel's biprism and its applications, lloyds Mirror, phase change on reflection	Revision of syllabus

Lesson Plan Odd Semester 2022

August 2022-December 2022

Name : Jagriti Dewan B.Sc(I) Semester　　　　　　　**Electricity and Magnetism Department: Physics**

Month	1st Week	2nd Week	3rd Week	4th Week
August				Mathematical background Scalars and vectors Dot and cross products& numerical Triple vector product
September	Scalar and vector fields, Differentiation of a vector, Gradient of a scalar and it's physical significance Gauss divergence theorem.	Stoke's theorem Electrostatic field (derivative of E from potential gradient)	Derivation of Laplace and Poisson equation, Electric flux and Gauss law	Application of Gauss law to spherical shell Uniformly charged infinite plane sheet Assignment and Class Test
October	Uniformly charged straight wire Mechanical force of charged surface, energy per unit volume	Magnetostatic- magnetic induction, magnetic flux, Properties of B; divB=0 Curl B =uo J	Electronic theory of diamagnetic substances(Langevin's theory) Electronic theory of paramagnetic substances	Domain theory of ferromagnetism Cycle of magnetisation and hysteresis
November	Hysteresis law and importance of hysteresis curve	Introduction to electromagnetic theory Assignment and Class Test	Maxwell's equation and their derivation	Vector and Scalar Potentials Poynting vector and Poynting theorem .

TEACHING PLAN 2020 (Odd Semester) (August 2022 to December 2022)

Name :- Jannat Khatri

Subject:- Mechanics

Department: Physics

Class B.Sc 1st Semester

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
August	Introduction to mechanics. Conservation laws of linear momentum, angular momentum, and energy for a single particle.	Conservation laws of linear momentum, and angular momentum for a system of particles.	Conservation law of energy for a system of particles. Concept of the center of mass and equation of motion,	Constrained motion and types of constraints with explanation	Degrees of freedom, Numericals, textbook questions, class test.
September	Generalized coordinates, Generalized displacement, Generalized velocity,	acceleration, momentum, forces, and potential	Hamilton's variational principle. Lagrange's equation of motion from hamiltons principle	The alternate method of Lagrange's equation of motion. Numerical problems.	Linear harmonic oscillator, Atwood machine, numerical problems
October	Lagrange's equation of motion for a simple pendulum, Various numerical problems	Basic Concept of Rigid Body and Small Derivations	Rotational Kinetic energy of a rigid body, Radius of Gyration, Moment of inertia,	The theorem of parallel axis and perpendicular axis,	Continued Theorem of the perpendicular axis, Moment of inertia of Solid sphere,

November	Moment of inertia of Hollow sphere and Solid cylinder.	Moment of Inertia of Hollow cylinder and Solid bar.	Acceleration of a body rolling down an inclined plane.	Numericals problem. Revision with class test	Revision with the class test.

TEACHING PLAN 2022-2023 (ODD SEMESTER)
(August 2022 to Nov. 2023)

Name :- Jannat Khatri   Department: Physics
Sub:- Solid State Physics   Section: B.Sc. 5th sem CS

Month	1st Week	2nd Week	3rd Week	4th Week
August				Introduction to solid state physics, lattice, basis
September	Crystalline and amorphous solids, Liquid crystals,unit cell, primitive cell	Symmetry operations,Introduction to Bravais lattices **Assignment 1**	Bravais lattices in 2& 3 dimensions	Crystal planes and Miller indices, crystal structure **Test 1**
October	Interplanner spacing, crystal structure of zinc sulphide	NaCl and diamond structure,K-space	Bragg's law and X-ray diffraction & techniques	Reciprocal lattice and its physical significance

November	Physical significance and reciprocal lattice vectors to sc,bcc **Test 2**	Fcc reciprocal latticec vector, specific heat of solids **Assignment 2**	Debye model of specific heat of solids	Einstein's theory of specific heat

LESSON PLAN 2022-23 (ODD SEMESTER)

Name:- Dr. Neetu Sorot

Department:- Physics

Subject: Quantum Physics

Class: B.Sc. 5th sem NM

Month	1st Week	2nd Week	3rd Week	4th Week
August				
				EM theory
				Quantum theory
				Photoelectric effect
September				
	Phase and group velocity	Compton effect	Uncertainty principle	Schrodinger wave equation
	De Broglie hypothesis	Electron diffraction from a slit	Gamma ray microscope	Time dependent wave equation

Month				
	Davisson and Germer exp.	Time-energy and angular momentum	Class Test	Time dependent wave equation
October				
	Time independent wave equation	Eigen values and eigen functions	Solution of schrodinger wave equation	Application of schrodinger wave equation
	Time independent wave equation	Normalization of wave function	Harmonic oscillator ground state	Free particle in 1-D box
	Wave functions	Observable and operator	Harmonic oscillator excited state	Eigen values and function
November				
	Quantization of energy, momentum	Free particle in 1-D box	Potential barrier(E>V)	Potential barrier(E<V)
	Nodes and antinodes, zero point energy	Free particle in 1-D box	Reflection coefficient	Reflection coefficient
	Class test	Eigen values and functions	Transmission coefficient	Transmission coefficient

LESSON PLAN 2022-23 (ODD SEMESTER)

Name:- Dr. Neetu Sorot
Subject: Quantum Physics

Department:- Physics
Class: B.Sc. 5th sem CS

Month	1st Week	2nd Week	3rd Week	4th Week
August				EM theory
				Quantum theory

				Photoelectric effect
September	Phase and group velocity	Compton effect	Uncertainty principle	Schrodinger wave equation
	De Broglie hypothesis	Electron diffraction from a slit	Gamma ray microscope	Time dependent wave equation
	Davisson and Germer exp.	Time-energy and angular momentum	Class Test	Time dependent wave equation
October	Time independent wave equation	Eigen values and eigen functions	Solution of schrodinger wave equation	Application of schrodinger wave equation
	Time independent wave equation	Normalization of wave function	Harmonic oscillator ground state	Free particle in 1-D box
	Wave functions	Observable and operator	Harmonic oscillator excited state	Eigen values and function
November	Quantization of energy, momentum	Free particle in 1-D box	Potential barrier(E>V)	Potential barrier(E<V)
	Nodes and antinodes, zero point energy	Free particle in 1-D box	Reflection coefficient	Reflection coefficient
	Class test	Eigen values and functions	Transmission coefficient	Transmission coefficient