Lesson Plan by Manisha (Physics)

Class – B.Sc. 1st Semester Subject- Classical Mechanics and Theory of Relativity Lesson Plan – 2 September-2022 to 14 December-2022		
Sr. No.	Week	Syllabus
1	Sept-Week 1	Mechanics of particles
2	Sept-Week 2	Conservation laws & center of mass
3	Sept-Week 3	Test (Unit 1) & Generalized Coordinates
4	Sept-Week 4	Hamilton's variational principle
5	Oct-Week 1	Langrange equation & Applications
6	Oct-Week 2	Test(Unit 2) Conservation laws
7	Oct-Week 3	Inertial & Non-Inertial frame
8	Oct-Week 4	Galilian Transformation
9	Oct-Week 5	Newtonian Relativity Principle
10	Nov-Week 1	Lorentz Transformation
11	Nov-Week 2	Michelson Morley Exp
12	Nov-Week 3	Test(Unit 3)
13	Nov-Week 4	Length Contraction, Time dilation
14	Dec-Week 1	Mass energy equivalence
15	Dec-Week 2	Application of relativity
16	Dec-Week 3	Test (Unit 4)

Class– B.Sc. 1st Semester Subject- Electricity, Magnetism & Electromagnetic Theory Lesson Plan – 2 September-2022 to 14 December-2022		
Sr. No.	Week	Syllabus
1	Sept-Week 1	Gradient, Divergence & Curl
2	Sept-Week 2	Gauss Divergence & Stokes Theorem
3	Sept-Week 3	Electric field & flux
4	Sept-Week 4	Test (Unit1), Magnetic induction& flux
5	Oct-Week 1	Electronic theory of Dia & Paramagnets
6	Oct-Week 2	Langvein's Theory
7	Oct-Week 3	Hysteresis curve & Applications
8	Oct-Week 4	Test (Unit 2), vector & scalar potentials
9	Oct-Week 5	Maxwell's Equations
10	Nov-Week 1	Boundary conditions
11	Nov-Week 2	Poynting vector & theorem
12	Nov-Week 3	Test (Unit 3), Electromagnetic Induction
13	Nov-Week 4	Growth & Decay of current in various circuits
14	Dec-Week 1	Series & Parallel Resonance circuits
15	Dec-Week 2	Quality Factor
16	Dec-Week 3	Revision

Class – B.Sc. 3rd Semester Subject- Computer Programming & Thermodynamics Lesson Plan – 2 September-2022 to 14 December-2022		
Sr. No.	Week	Syllabus
1	Sept-Week 1	Laws of Thermodynamics
2	Sept-Week 2	Carnot Engine & Theorem
3	Sept-Week 3	Joule Thomson Effect
4	Sept-Week 4	Entropy & Related
5	Oct-Week 1	Liquefaction of Gases
6	Oct-Week 2	Test (Unit 1) Clausius Clapeyron Equation
7	Oct-Week 3	Maxwell equation & applications
8	Oct-Week 4	Thermodynamic Functions
9	Oct-Week 5	Test (Unit 2), Algorithm development
10	Nov-Week 1	Flow chart & Fortran preliminary
11	Nov-Week 2	Statements e.g. Input, Output etc.
12	Nov-Week 3	IF, DO & GOTO statement
13	Nov-Week 4	Subprogram
14	Dec-Week 1	Test (Unit 3) Applications of Fortran
15	Dec-Week 2	Applications of Fortran
16	Dec-Week 3	Applications of Fortran and Revision

Class – B.Sc. 3rd Semester Subject- wave Optics I Lesson Plan – 2 September-2022 to 14 December-2022		
Sr. No.	Week	Syllabus
1	Sept-Week 1	Interference by division of wave front
2	Sept-Week 2	Fresnel Biprism
3	Sept-Week 3	Lloyd Mirror
4	Sept-Week 4	Test (Unit 1), Stokes Law
5	Oct-Week 1	Interference by division of amplitude
6	Oct-Week 2	Wedge shaped films
7	Oct-Week 3	Newton's rings
8	Oct-Week 4	Interferometers
9	Oct-Week 5	Test (Unit 2), Fresnel Diffraction
10	Nov-Week 1	Half period zones
11	Nov-Week 2	Zone plate
12	Nov-Week 3	Diffraction at various slits & aperture
13	Nov-Week 4	Test, Fraunhoffer diffraction
14	Dec-Week 1	N Slit diffraction
15	Dec-Week 2	Plane transmission grating & Prism
16	Dec-Week 3	Rayleigh criteria, Revision

Class – B.Sc. 5th Semester Subject- Quantum Mechanics & Laser Physics Lesson Plan – 2 September-2022 to 14 December-2022		
Sr. No.	Week	Syllabus
1	Sept-Week 1	Photoelectric Effect & Compton Effect
2	Sept-Week 2	De Broglie Hypothesis
3	Sept-Week 3	Wave packet & related velocities
4	Sept-Week 4	Schrodinger Equations
5	Oct-Week 1	Eigen Functions and properties
6	Oct-Week 2	Test 1, Applications of Schrodinger Equation
7	Oct-Week 3	Applications of Schrodinger Equation
8	Oct-Week 4	Harmonic Oscillator
9	Oct-Week 5	Test 2, Features of laser light
10	Nov-Week 1	Einstein coefficient
11	Nov-Week 2	Kinetics of optical absorption
12	Nov-Week 3	Necessary condition for lasing action
13	Nov-Week 4	Line Broadening, Test 3
14	Dec-Week 1	Ruby laser
15	Dec-Week 2	He Ne Laser & SC laser
16	Dec-Week 3	Applications of Laser, Revision

Class – B.Sc. 5th Semester Subject- Nuclear Physics Lesson Plan – 2 September-2022 to 14 December-2022		
Sr. No.	Week	Syllabus
1	Sept-Week 1	Nuclear Properties
2	Sept-Week 2	Nuclear Hypothesis
3	Sept-Week 3	Binding energy and nuclear stability
4	Sept-Week 4	Mass spectrograph
5	Oct-Week 1	Test 1, Alpha disintegration theory
6	Oct-Week 2	Neutrino hypothesis
7	Oct-Week 3	Beta Decay & types
8	Oct-Week 4	Interaction of various particles
9	Oct-Week 5	interaction of various particles & applications
10	Nov-Week 1	Test 2, Nuclear accelerators
11	Nov-Week 2	Various Nuclear Radiation Detectors
12	Nov-Week 3	G. M. Counter (detailed)
13	Nov-Week 4	Test 3, Types of nuclear reactions
14	Dec-Week 1	Conservation laws & Q value
15	Dec-Week 2	Nuclear Fusion Reactor
16	Dec-Week 3	Nuclear Fusion Reactor, Revision