## Lesson Plan by Manisha (Physics)

Class – B.Sc. 1st Semester			
Subject- Classical Mechanics and Theory of Relativity			
Lesson P	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-	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	Class – B.Sc. 5th Semester		
Subject-	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	