

LESSON PLAN SESSION 2020-2021(PHYSICS) MECHANICS (Sem. 1 ST)			
S. No	WEEK	TOPIC	REMARK
1	25.11.2020-28.11.2020	UNIT I Moment of inertia, torque, angular momentum, kinetic energy of rotation.	
2	01.12.2020-05.12.2020	Theorems of Parallel and perpendicular axes with proof.	
3	17.12.2020-12.12.2020	Moment of inertia of solid sphere, spherical shell, solid cylinder	
4	14.12.2020-19.12.2020	Acceleration of a body rolling down an inclined plane	
5	21.12.2020-26.12.2020	UNIT II Hamilton's variation principle, Lagrange's equation of motion	
6	28.12.2020-31.12.2020	Hamilton's Principle, Linear harmonic oscillator	
	01.01.2021-07.01.2021	Winter Vacation	
7	11.01.2021-16.01.2021	Simple Pendulum, Atwood's machine	
8	18.01.2021-23.01.2021	Test	
9	25.01.2021-30.01.2021	UNIT III Conservation laws of linear momentum	
10	01.02.2021-06.02.2021	Conservation laws of angular momentum	
11	08.02.2021-13.02.2021	Conservation laws of mechanical energy for single particle	
12	15.02.2021-20.02.2021	Conservation laws of linear momentum	
13	22.02.2021-27.02.2021	Conservation laws of angular momentum for systems of particle	
14	01.03.2021-06.03.2021	Conservation laws of mechanical energy for systems of particle	
15	08.03.2021-13.03.2021	REVISION & TEST	
16	15.03.2021 onwards	Examination	

LESSON PLAN SESSION 2020-2021(PHYSICS)
Computer Programming, Thermodynamics (Sem. 3rd)

S. No	WEEK	TOPIC	REMARK
1	25.11.2020-28.11.2020	Unit-I Binary representation, Algorithm development, flow charts and their interpretation.	
2	01.12.2020-05.12.2020	Unit-II Thermodynamics-I : Second law of thermodynamics, Carnot theorem	
3	17.12.2020-12.12.2020	Absolute scale of temperature, Absolute Zero	
4	14.12.2020-19.12.2020	Entropy, show that $dQ/T=O$, T-S diagram	
5	21.12.2020-26.12.2020	Joule's free expansion, Joule Thomson (Porous plug) experiment. Joule - Thomson effect	
6	28.12.2020-31.12.2020	Liquefaction of gases	
	01.01.2021-07.01.2021	Winter Vacation.	
7	11.01.2021-16.01.2021	Air pollution due to internal combustion Engine	
8	18.01.2021-23.01.2021	Unit-III Thermodynamics-II : Derivation of Clausius - Claperyron latent heat equation.	
9	25.01.2021-30.01.2021	Phase diagram and triple point of a substance	
10	01.02.2021-06.02.2021	Development of Maxwell thermo dynamical relations	
11	08.02.2021-13.02.2021	Application of Maxwell relations in the derivation of Relations between entropy, specific heats and thermodynamic variables.	
12	15.02.2021-20.02.2021	Application of Maxwell relations	
13	22.02.2021-27.02.2021	Thermodynamic functions : Internal energy (U), Helmholtz function (F)	
14	01.03.2021-06.03.2021	Thermodynamic functions : Enthalpy (H), Gibbs function (G)	
15	08.03.2021-13.03.2021	Relations between Thermodynamic functions	
16	15.03.2021 onwards	Examination	

LESSON PLAN SESSION 2020-2021 (PHYSICS)
SOLID STATE PHYSICS (Sem. 5th)

S.No	WEEK	TOPIC	REMARK
1	25.11.2020-28.11.2020	Unit-I Crystalline and glassy forms, liquid crystals, symmetry operations for a two dimensional crystal,	
2	01.12.2020-05.12.2020	Bravais lattices in two	
3	17.12.2020-12.12.2020	Bravais lattices in three dimensions	
4	14.12.2020-19.12.2020	Unit cell and primitive cell Wigner Seitz primitive Cell	
5	21.12.2020-26.12.2020	Unit-II Miller indices, Crystal planes, Interplanar spacing	
6	28.12.2020-31.12.2020	Crystal structures of Zinc sulphide, Sodium Chloride	
	01.01.2021-07.01.2021	Winter Vacation	
7	11.01.2021-16.01.2021	Crystal structures of diamond	
8	18.01.2021-23.01.2021	Numerical, Crystal density	
9	25.01.2021-30.01.2021	X -ray diffraction, Bragg's Law, x-ray diffraction methods	
10	01.02.2021-06.02.2021	x-ray diffraction methods	
11	08.02.2021-13.02.2021	Test	
12	15.02.2021-20.02.2021	Unit –III Reciprocal lattice and its physical significance,	
13	22.02.2021-27.02.2021	Reciprocal lattice vector to a simple Cubic lattice, b.c.c. and f.c.c.	
14	01.03.2021-06.03.2021	Einstein theory of specific heat	
15	08.03.2021-13.03.2021	Debye model of specific heat of solids	
16	15.03.2021 onwards	Examination	

LESSON PLAN SESSION 2020-2021
Paper I- PHY 201 : PROPERTIES OF MATTER, KINETIC THEORY AND
RELATIVITY
Sem. 2nd

S.No	WEEK	TOPIC
1	01.04.2021-03.04.2021	Unit - I Properties of Matter (Elasticity) : Elasticity, Hooke's law, Elastic constants and
2	05.04.2021-10.04.2021	Relations between Elastic constants, Poisson's ratio
3	12.04.2021-17.04.2021	Torsion of cylinder and twisting couple
4	19.04.2021-24.04.2021	Bending of beam (bending moment and its magnitude) cantilevers Centrally loaded beam
5	26.04.2021-30.04.2021	Unit - II Kinetic Theory of Gases: Assumptions of Kinetic Theory of gases, Law of equipartition of energy and its applications for specific heats of gases.
6	03.05.2021-08.05.2021	Maxwell distribution of speeds and velocities (derivation required)
7	10.05.2021-15.05.2021	Experimental verification of Maxwell's Law of speed distribution : most probable speed, average and r.m.s. speed, mean free path.
8	17.05.2021-22.05.2021	Transport of energy and momentum, diffusion of gases. Brownian motion (qualitative), Real gases, Van der Waal's equation
9	24.05.2021-29.05.2021	Unit - III Theory of Relativity : Reference systems, inertial frames, Gallilean invariance and Conservation laws,
10	01.06.2021-05.06.2021	Newtonian relativity principle,
11	07.06.2021-12.06.2021	Michelson - Morley experiment
12	14.06.2021-19.06.2021	Search for ether. Lorentz transformations length contraction
13	21.06.2021-26.06.2021	Lorentz transformations, time dilation, velocity
14	28.06.2021-03.07.2021	Addition theorem, variation of mass with velocity and mass energy equivalence
15	05.07.2021-09.07.2021	REVISION
16	10.07.2021	EXAMINATION

LESSON PLAN SESSION 2020-2021
Paper I- PHY 401 : Statistical Mechanics
Semester IV

S.No	WEEK	TOPIC
1	01.04.2021-03.04.2021	Unit-I Probability, some probability considerations, combinations possessing maximum probability
2	05.04.2021-10.04.2021	combinations possessing minimum probability, distribution of molecules in two boxes
3	12.04.2021-17.04.2021	Case with weightage (general). Phase space,
4	19.04.2021-24.04.2021	Microstates and macro states, statistical fluctuations constraints and accessible States Thermo dynamical probability.
5	26.04.2021-30.04.2021	Unit-II Postulates of Statistical Physics. Division of Phase space into cells, and
6	03.05.2021-08.05.2021	Condition of equilibrium between two systems in thermal contact. B-Parameter. Entropy
7	10.05.2021-15.05.2021	Probability, Boltzmann's distribution law Evaluation of A and b.
8	17.05.2021-22.05.2021	Bose-Einstein statistics, Application of B.E. Statistics to Planck's radiation law
9	24.05.2021-29.05.2021	B.E. gas.
10	01.06.2021-05.06.2021	Unit-III Fermi-Dirac statistics, M.B. Law as limiting case of B.E
11	07.06.2021-12.06.2021	Degeneracy and B.E.,
12	14.06.2021-19.06.2021	Condensation. F.D. Gas
13	21.06.2021-26.06.2021	Electron gas in metals. Zero point energy
14	28.06.2021-03.07.2021	Specific heat of metals and its solution
15	05.07.2021-09.07.2021	REVISION
16	10.07.2021	EXAMINATION

LESSON PLAN SESSION 2020-2021
Paper I- PHY 601 : ATOMIC MOLECULAR AND LASER PHYSICS
Semester -VI

S.No	WEEK	TOPIC
1	01.04.2021-03.04.2021	Unit -I Vector atom model, quantum numbers associated with vector atom model, penetrating and non-penetrating orbits (qualitative description)
2	05.04.2021-10.04.2021	spectral lines in different series of alkali spectra
3	12.04.2021-17.04.2021	spin orbit interaction and doublet term separation LS or Russel-Saunders Coupling jj coupling
4	19.04.2021-24.04.2021	Expressions for interaction energies for LS and jj coupling required
5	26.04.2021-30.04.2021	Unit-II Zeeman effect (normal and Anomalous) Zeeman pattern of D1 and D2 lines of Na-atom
6	03.05.2021-08.05.2021	Paschen, Back effect of a single valence electron system. Weak field Stark effect of Hydrogen atom.
7	10.05.2021-15.05.2021	Raman effect (Quantitative description)
8	17.05.2021-22.05.2021	Stoke's and anti Stoke's lines.
9	24.05.2021-29.05.2021	Unit-III Main features of a laser : Directionality, high intensity, high degree of coherence, spatial and temporal coherence
10	01.06.2021-05.06.2021	Einstein's coefficients and possibility of amplification, momentum transfer
11	07.06.2021-12.06.2021	life time of a level, kinetics of optical absorption
12	14.06.2021-19.06.2021	Threshold condition for laser emission, Laser pumping,
13	21.06.2021-26.06.2021	He-Ne laser and RUBY laser (Principle, Construction and Working).
14	28.06.2021-03.07.2021	Applications of laser in the field of medicine and industry.
15	05.07.2021-09.07.2021	REVISION
16	10.07.2021	EXAMINATION