

Govt. College For Girls, Manesar

Lesson Plan

Name of Teacher: Dr. MANOJ KUMAR		Class: B.Sc II nd year
Session: 2022-23 Even Semester		Subject: PHYSICS
Month	Week	Topic
February	3	Unit - I
	4	Introduction of Statistical Physics, Various terms, Probability, some Probability Considerations.
March	1	Combination post setting maxi. and minimum Probability.
	2	Distribution of molecules in two boxes. Phase Space
	3	Microstates & Macrostates, Statistical Fluctuations
	4	Constraints & accessible state Thermodynamic Probability.
April	Unit II nd	Postulates of statistical physics, Division of phase space into cells. Condition of equilibrium b/w two system in thermal contact, β -parameter. Entropy & Probability.
	2	
	3	Boltzmann's distribution law, Evaluation of A & b.
	4	(Bose Einstein) B.E. Statistics, Application of B.E. Statistics to Planck's Radiation Law
May	1	Fermi-Dirac statistics, F.D. Law as limiting case
	2	of B.E. Degeneracy and B.E. Condensation. Hel.
	3	Electron gas in metals, Zero point energy.
	4	Specific heat of metals and its solution
June	1	Revision

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Lesson Plan

Name of Teacher: DR. MANOJ KUMAR		Class: B.Sc. I st
Session: 2022-23 Even Semester		Subject: PHYSICS (Paper - I st)
Month	Week	Topic
February	3	Elasticity, Hook's law, Elastic constants and their relations, P .
	4	Poisson's ratio, torsion of cylinder & twisting couple.
March	1	Bending of beam (bending moment & its magnitude)
	2	
	3	Cantilevers and its various cases, centrally loaded beam.
	4	Assumptions of K.E. theory of gases, Law of Equipartition of energy & specific heat of gases.
April	1	Maxwell distribution of speeds & velocities.
	2	Experimental verification of Maxwell's Law of Speed distribution: most probable speed, average and rms speed, mean free path. Transport of Energy & Momentum & Diffusion of gases.
	3	Brownian motion, Real gases, Vander Wall's eq ⁿ .
	4	
May	1	Reference systems, inertial frames, Galilean invariance and Conservation laws, Newtonian
	2	Relativity principle, Michelson - Morley Experiment :- Search for ether.
	3	Lorentz transformations, length contraction, Time dilation, velo. addition theorem.
	4	Variation of mass & velo. — Revision —
June	1	— Revision —

1/6/21

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Name of Teacher: Dr. MANOJ KUMAR		Class: B.Sc. I st year
Session: 2022-23 Even Semester		Subject: PHYSICS (Paper II nd)
Month	Week	Topic
February	3	Growth & Decay of current in L-CR circuit & its various cases.
	4	
March	1	A.C. circuits using Complex variables with L, C & R P Capacitance, Inductance & Resistance Series & Parallel resonant circuit. Quality factor (Sharpness of resonance).
	2	
	3	
	4	
April	1	Semiconductor Diodes & Explanation of all Diodes. Diode Rectifiers Explanation Types of Filter circuits explanation. Transistors. Transistor characteristics & G.R.O.
	2	
	3	
	4	
May	1	Transistor Amplifier - Transistor biating, D.C. load line. Common Base & Common Emitter Amplifiers. (R-C) Coupled amplifier. Oscillator - Principle of oscillation, Condition for self sustained Oscillation. Tuned Collector, Hartley & Colpitt's Oscillator
	2	
	3	
	4	
June	1	- Revision -

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