

Lesson Plan

Name of the Associate Professor- Ms. Prachi Kalra

Subject- Physics

Lesson Plan- 17 Weeks (January-April 2018)

Week	Date	Class B.SC.-IV semester (Sec-F) Statistical physics
1.	1-Jan-18	Introduction to Statistical Physics
	2-Jan-18	Microscopic and Macroscopic systems, events-mutually exclusive
	3-Jan-18	Dependent and independent. Probability, statistical probability
	4-Jan-18	
	5-Jan-18	Holiday
	6-Jan-18	
	7-Jan-18	Sunday
2.	8-Jan-18	A- priori Probability and relation between them, probability theorems
	9-Jan-18	Some probability considerations, combinations possessing maximum probability, combination possessing minimum probability
	10-Jan-18	Tossing of 2,3 and any number of Coins, Permutations and combinations
	11-Jan-18	
	12-Jan-18	
	13-Jan-18	
	14-Jan-18	Sunday
3.	15-Jan-18	Oral Test
	16-Jan-18	Distributions of N (for N= 2,3,4) distinguishable particles in two boxes of equal size
	17-Jan-18	Distributions of N (for N= 2,3,4) indistinguishable particles in two boxes of equal size
	18-Jan-18	
	19-Jan-18	
	20-Jan-18	
	21-Jan-18	Sunday
4.	22-Jan-18	Vasant Panchami
	23-Jan-18	Micro and Macro states, Thermodynamical probability, Constraints and Accessible states
	24-Jan-18	Sir Chotu Ram Jayanti
	25-Jan-18	
	26-Jan-18	Republic Day
	27-Jan-18	
	28-Jan-18	Sunday
5.	29-Jan-18	Statistical fluctuations, general distribution of distinguishable particles in compartments of different sizes
	30-Jan-18	Condition of equilibrium between two systems in thermal contact-- β parameter, Entropy and Probability (Boltzman's relation
	31-Jan-18	Guru Ravi Das Birthday
	1-Feb-18	
	2-Feb-18	
	3-Feb-18	
	4-Feb-18	Sunday
6.	5-Feb-18	Problem discussion on unit 1
	6-Feb-18	Revision of numericals of unit 1

	7-Feb-18	Unit 1- test
	8-Feb-18	
	9-Feb-18	
	10-Feb-18	Maharishi Dayanand Saraswati Jayanti
	11-Feb-18	Sunday
7.	12-Feb-18	Postulates of statistical physics, Phase space
	13-Feb-18	Maha Shivratri
	14-Feb-18	Division of Phase space into cells, three kinds of statistics,
	15-Feb-18	
	16-Feb-18	
	17-Feb-18	
	18-Feb-18	Sunday
8.	19-Feb-18	Basic approach in three statistics
	20-Feb-18	M. B. statistics applied to an ideal gas in equilibrium- energy distribution law (including evaluation of α and β)
	21-Feb-18	Speed distribution law & velocity distribution law
	22-Feb-18	
	23-Feb-18	
	24-Feb-18	
	25-Feb-18	Sunday
9.	26-Feb-18	Expression for average speed, r.m.s. speed, average velocity, r. m. s. velocity
	27-Feb-18	Most probable energy & mean energy for Maxwellian distribution
	28-Feb-18	Holiday
	1-Mar-18	Holiday
	2-Mar-18	Holiday(HOLI)
	3-Mar-18	Holiday
	4-Mar-18	Sunday
10.	5-Mar-18	Assignment on M. B. statistics applied to an ideal gas in equilibrium- energy distribution law (including evaluation of α and β)
	6-Mar-18	Need for Quantum Statistics: Bose-Einstein energy distribution law
	7-Mar-18	Application of B.E. statistics to Planck's radiation law B.E. gas
	8-Mar-18	
	9-Mar-18	
	10-Mar-18	
	11-Mar-18	Sunday
11.	12-Mar-18	Degeneracy and B.E. Condensation , Problem discussion of unit 2
	13-Mar-18	Unit 2 -test
	14-Mar-18	Fermi-Dirac energy distribution law, F.D. gas
	15-Mar-18	
	16-Mar-18	
	17-Mar-18	
	18-Mar-18	Sunday
12.	19-Mar-18	F.D. Degeneracy, Fermi energy and Fermi temperature
	20-Mar-18	Fermi Dirac energy distribution law for electron gas in metals,
	21-Mar-18	Zero point energy, Zero point pressure
	22-Mar-18	
	23-Mar-18	Shaheedi Diwas
	24-Mar-18	
	25-Mar-18	Sunday
13.	26-Mar-18	Assignment on Fermi Dirac energy distribution law for electron gas in metals

	27-Mar-18	Average speed (at 0 K) of electron gas
	28-Mar-18	Specific heat anomaly of metals and its solution
	29-Mar-18	Mahavir Jayanti
	30-Mar-18	
	31-Mar-18	
	1-Apr-18	Sunday
14.	2-Apr-18	M.B. distribution as a limiting case of B.E. distributions,
	3-Apr-18	M.B. distribution as a limiting case of F.D. distributions Comparison of three statistics
	4-Apr-18	Introduction to Specific Heat of Solids
	5-Apr-18	
	6-Apr-18	
	7-Apr-18	
	8-Apr-18	Sunday
15.	9-Apr-18	Dulong and Petit law. Derivation of Dulong and Petit law from classical physics
	10-Apr-18	Derivation of Dulong and Petit law from classical physics
	11-Apr-18	Specific heat at low temperature, Einstein theory of specific heat, criticism of Einstein theory
	12-Apr-18	
	13-Apr-18	
	14-Apr-18	Dr. Ambedkar Jayanti / Vaisakhi
	15-Apr-18	Sunday
16.	16-Apr-18	Debye model of specific heat of solids, success and shortcomings of Debye theory
	17-Apr-18	Comparison of Einstein and Debye theories
	18-Apr-18	Parashurama Jayanti
	19-Apr-18	
	20-Apr-18	
	21-Apr-18	
	22-Apr-18	Sunday
17.	23-Apr-18	Comparison of Einstein and Debye theories
	24-Apr-18	Unit 3 -test
	25-Apr-18	revision of numericals
	26-Apr-18	
	27-Apr-18	
	28-Apr-18	
	29-Apr-18	Sunday