

Dr. B.R. Ambedkar Govt. College, Palwal
Lesson plan 2021-2022

Name of Assistant/Associate professor: Dr. Yogesh Kumar
Class and section: B.Sc 2nd Year (4th Sem)
Subject: Physics paper 1st (Statistical mechanics)

Week 1
Unit 1st
<ul style="list-style-type: none"> • 1.1.Probability
<ul style="list-style-type: none"> • 1.2.1 Trial and events, favorable events
<ul style="list-style-type: none"> • 1.3.1 Independent and dependent event, permutations and combinations • 1.3.2 Difference between permutations and combinations

Week 2
<ul style="list-style-type: none"> • 2.1.1 Addition theorem of probabilities • 2.1.2 Multiplication theorem of probabilities
<ul style="list-style-type: none"> • 2.2. Some probabilities considerations
<ul style="list-style-type: none"> • 2.3. Combination possessing maximum probability

Week 3:-
<ul style="list-style-type: none"> • 3.1.1. Combination possessing minimum probability
<ul style="list-style-type: none"> • 3.2. Distribution of molecule in two boxes (N=2,3)
<ul style="list-style-type: none"> • 3.3.1 Distribution of molecule in two boxes (N=4)

Week 4:-
<ul style="list-style-type: none"> • 4.1.1 Constrains and accessible states.
<ul style="list-style-type: none"> • 4.2.1 Case with weight age with general
Pease space

Week 5:-
<ul style="list-style-type: none"> • 5.1.1 Microstates and mecrostates
<ul style="list-style-type: none"> • 5.2.1 Statistical fluctuations constants
<ul style="list-style-type: none"> • Accessible States thermodynamically probability

Week 6
Unit 2nd
<ul style="list-style-type: none"> • 6.2.1 Postulates of statistical physics
<ul style="list-style-type: none"> • 6.3.1 Condition of equilibrium between two system in thermal contact Part-I

Week 7
<ul style="list-style-type: none"> 7.1.1 Condition of equilibrium between two system in thermal contact Part-II
<ul style="list-style-type: none"> 7.2.1 Beta parameter
<ul style="list-style-type: none"> 7.3.1 Entropy and probability

Week 8
<ul style="list-style-type: none"> 8.1.1 Boltzmann's distribution law
<ul style="list-style-type: none"> 8.2.1 Evaluation of A and Beta
<ul style="list-style-type: none"> 8.3.1 Bosh Einstein statics

Week 9
<ul style="list-style-type: none"> 9.1.1 Application of B.E. statics to Planck's radiation law
<ul style="list-style-type: none"> 9.2.1 B.E. Gas
<ul style="list-style-type: none"> 9.3.1 Division of phase space into cells

Week 10
Unit 3rd
<ul style="list-style-type: none"> 10.2.1 M.B law as limiting case of B.E. Generation
<ul style="list-style-type: none"> 10.3.1 B.E. Concatenation

Week 11
<ul style="list-style-type: none"> 11.1 Fermi-dirac statics
<ul style="list-style-type: none"> 11.2.1 Continuum limit
<ul style="list-style-type: none"> 11.3.1 Fermi-dirac gas

Week 12
<ul style="list-style-type: none"> 12.1.1
<ul style="list-style-type: none"> 12.2.1 Fermi energy
<ul style="list-style-type: none"> 12.3.1 Degeneracy of Fermi Gas

Week 13
<ul style="list-style-type: none"> 13.1.1 Degeneracy and B.E Condensation and
<ul style="list-style-type: none"> 13.2.1 Electron Gas metal part-I
<ul style="list-style-type: none"> 13.3.1 Electron Gas metal part-II

Week 14
<ul style="list-style-type: none">• 14.1.1 Zero point energy of electron Gas
<ul style="list-style-type: none">• 14.2.1 Zero point pressure of electron Gas
<ul style="list-style-type: none">• 14.3.1 Average speed of electron gas at 0K

Week 15:-
<ul style="list-style-type: none">• 15.1.1 Zero point energy.
<ul style="list-style-type: none">• 15.2.1 Specific heat of metals and its solution
<ul style="list-style-type: none">• 15.3.1 Revision

Week 16
<ul style="list-style-type: none">• Test on statistical physics -III
<ul style="list-style-type: none">• Revision
<ul style="list-style-type: none">• Revision