

**Indus Degree college kinana Jind**

**Lesson Plan of B.Sc.-3<sup>rd</sup> (6<sup>th</sup> Sem.)**

**Name of asst. / Associate Prof. Nidhi sharma**

1 January 2018	Unit 1 : Crystal Structure -introduction
2 <sup>nd</sup> Jan. 2018	Crystalline and glassy forms, liquid crystal
3 <sup>rd</sup> Jan.2018	crystal structure, periodicity
4 <sup>th</sup> Jan.2018	translation vector and axes
5 <sup>th</sup> Jan.2018	unit cell, primitive cell
6 <sup>th</sup> Jan.2018	Wienger sietz primitive cell
8 <sup>th</sup> Jan.2018	symmetry operation for a two dimensional crystal
9 <sup>th</sup> Jan.2018	Bravis lattice for two and three dimension
10 <sup>th</sup> Jan.2018	do
11 <sup>th</sup> Jan. 2018	crystal plane and miller indices
12 <sup>th</sup> Jan.2018	inter planar spacing and numerical
13 <sup>th</sup> Jan.2018	crystal structures
15 <sup>th</sup> Jan.2018	Unit 2 <sup>nd</sup> -introduction
16 <sup>th</sup> Jan.2018	X-ray and Braggs Diffraction
17 <sup>th</sup> Jan.2018	K –spacing and reciprocal lattice and its physical significance
18 <sup>th</sup> Jan.2018	do
19 <sup>th</sup> Jan.2018	2 <sup>nd</sup> paper Atomic and Molecular Spectroscopy -introduction
20 <sup>th</sup> Jan.2018	emission and absorption spectra
23 <sup>st</sup> Jan.2018	Bohrs Atomic Model
25 <sup>th</sup> Jan.2018	spectra of hydrogen atom
27 <sup>th</sup> Jan.2018	complete explanation of spectra
29 <sup>th</sup> Jan.2018	do

30<sup>th</sup> Jan.2018    Rudberg constant mass shortcoming of Bohrs model

01 Feb.2018    wilson sommerfield quantization rule

2<sup>nd</sup> Feb.2018    Bhors corresponding model, shortcoming of this model

5<sup>th</sup> Feb.2018    vector atom model

6<sup>th</sup> Feb.2018    various quantum no. associated with vector model and selection rule

7<sup>th</sup> Feb.2018    Power Point Presentation

8<sup>th</sup> Feb.2018    Unit 2<sup>nd</sup> -introduction

9<sup>th</sup> Feb. 2018    orbital ,magnetic dipole moment

12<sup>th</sup> Feb.2018    Class test

14<sup>th</sup> Feb.2018    larmor precession and theorm

15<sup>th</sup> Feb. 2018    penetrating and non penetrating model

16<sup>th</sup> Feb.2018    quantum defect and spin orbit interaction energy

17<sup>th</sup> Feb.2018    Quiz

19<sup>th</sup> Feb.2018    revision

19<sup>th</sup> Feb.2018    hydrogen fine spectra main feature of alkali spectra and theoretical intepretation

21<sup>st</sup> Feb.2018    -Do

21<sup>st</sup> Feb.2018    absorption spectra of alkali atom intensity rule for doublets

22th Feb.2018    comparison of alkali and hydrogen spectra

23<sup>rd</sup> Feb.2018

reciprocal lattice vectors

24<sup>th</sup> Feb.2018    reciprocal lattice to a simple cubic lattice,b.c.c and f.c.c.

26<sup>th</sup> Feb.2018    do

27<sup>th</sup> Feb.2018    Power Point Presentation on crystal structure

05<sup>th</sup> March 2018    Assignment on miller indice and structures

6<sup>th</sup> Mar.2018    Unit 3<sup>rd</sup> -introduction

7<sup>th</sup> Mar.2018 survey of superconductivity, high and  $T_c$  superconductor

8<sup>th</sup> Mar.2018 isotopic effect, critical magnetic field, Meissner effect

9<sup>th</sup> Mar.2018 London and Peppars equation

10<sup>th</sup> Mar.2018 classification of superconductor

10<sup>th</sup> Mar.2018 BCS Theory and flux quantisation

10<sup>th</sup> Mar.2018 Josephson effect, application and limitation of superconductivity

14<sup>th</sup> Mar.2018 introduction to Nano Physics

15<sup>th</sup> Mar.2018 Assignment

16<sup>th</sup> Mar.2018 definition, length scale, importance of Nano scale and technology

17<sup>th</sup> Mar.2018 history, benefits and challenge in molecular manufacturing

19<sup>th</sup> Mar.2018 molecular assembler concept, vision and objective of nano technology

20<sup>th</sup> Mar.2018 do

21<sup>st</sup> Mar.2018 application of nano technology in different fields

22<sup>nd</sup> Mar.2018 unit 3<sup>rd</sup> of 2<sup>nd</sup> paper – vector atom model for two valence electron

24<sup>th</sup> Mar.2018 Seminar on nano technology

26<sup>th</sup> Mar.2018 LS Coupling and jj coupling

27<sup>th</sup> Mar.2018 Numerical practice of chapter 1<sup>st</sup>

28<sup>th</sup> Mar.2018 Numerical practice of chapter 2<sup>nd</sup>

30<sup>th</sup> Mar.2018 2<sup>nd</sup> assignment on vector atom model and jj coupling

31<sup>st</sup> Mar.2018 hyperfine structure of spectral line and its origin, nuclear spin

2<sup>nd</sup> April, 2018 Numerical practice of 3<sup>rd</sup> and 4<sup>th</sup> chapter

3<sup>rd</sup> April.2018 Group discussion on above topics

4<sup>th</sup> April .2018 Unit 4<sup>th</sup> -atoms in external field

5<sup>th</sup> April. 2018 Zeeman effect, types and Landé  $g$  factor

6<sup>th</sup> April 2018 Paschen –Back effect of a single valence electron system

7<sup>th</sup> April 2018 rotation spectra,vibration spectra and rotator model of diatomic model

9<sup>th</sup> April 2018 Class test of unit – II of solid state

10<sup>th</sup> April 2018 Class test of unit – III of solid state

11<sup>th</sup> April 2018 Class test of unit – IV of nano physics

12<sup>th</sup> April 2018 Class test of unit – I of 2<sup>nd</sup> paper

13<sup>th</sup> April 2018 Class test of unit -2 of 2<sup>nd</sup> paper

16<sup>th</sup> April 2018 Class test of unit – III of 2<sup>nd</sup> paper

17<sup>th</sup> April 2018 Class test of unit – IV of 2<sup>nd</sup> paper

19<sup>th</sup> April 2018 onwards revision