

Lesson plan 2023-24
Physics Paper -1 B.Sc.III
Amar Singh (Extension Lecturer)
SMSD GOVT COLLEGE NANGAL CHAUDHARY

4th week of Month July

Crystalline forms
Gallssy forms,
Liquid crystals.

1st week of Month August

Crystal structure,
Periodicity,
Lattice and basis,

2nd week of Month August

crystal translational vectors and axes.
Unit cell
primitive cell,

3rd week of Month August

Winger Seitz primitive Cell,
Symmetry operations for a two dimensional
crystal,

4rht week of Month August

Bravais Lattices in two dimensions
Bravais Lattices three dimensions.

1st week of Month September

crystal planes and
Miller indices,

2nd week of Month September

Interplanner spacing,
Crystal structures of Zinc sulphide,

3rd week of Month September

Crystal structure Sodium Chloride
Crystal structure of diamond,

4th week of Month September

X-ray diffraction,
Bragg's Law

1st week of Month October

Experimental x-ray diffraction methods,
K-space.

2nd week of Month October

Reciprocal lattice and
Physical significance of Reciprocal lattice

3rd week of Month October

Reciprocal lattice vectors,
Reciprocal lattice to a simple cubic lattice

4th week of Month October

Reciprocal lattice to b.c.c
Reciprocal lattice to f.c.c.

1st week of Month November

Specific heat : Specific heat of solids,
Einstein's theory of specific heat

2nd week of Month November

Debye model of specific heat of solids.

3rd week of Month November

Revision & related Numerical problems

4th week of Month November

Revision & related Numerical problems

* SMSD GOVT COLLEGE, NANGAL CHOUDHARY (M.GARH)

DR. HEMANT KUMAR SHARMA

B. Sc. 2nd year (3rd semester)

DEPARTMENT OF PHYSICS

PAPER-II (OPTICS-I)

⇒ JULY - 2023 (WEEK - 4th) (FROM :- 24 JULY TO 31 JULY)

UNIT - I

- * SPEED OF TRANSVERSE OF WAVES ON A UNIFORM STRING.
- * SPEED OF LONGITUDINAL WAVES IN A FLUID.

⇒ AUG - 2023 (WEEK - 1st) (FROM :- 31 JULY TO 5 AUG)

- * SUPERPOSITION OF WAVES.
- * FOURIER ANALYSIS OF COMPLEX WAVES AND ITS APPLICATION FOR THE SOLUTION *

⇒ (WEEK - 2nd) (FROM :- 07 AUG TO 12 AUG)

- * SOLUTION OF TRIANGULAR WAVES
- * SOLUTION OF RECTANGULAR WAVES.

⇒ WEEK - 3rd (FROM :- 14 AUG TO 19 AUG)

- * HALF WAVE RECTIFIERS OUTPUTS
- * FULL WAVE RECTIFIER OUTPUTS

⇒ WEEK - 4th (FROM :- 21 AUG TO 26 AUG)

- * FOURIER TRANSFORMS AND ITS PROPERTIES.

⇒ WEEK - 5th (FROM :- 28 AUG TO 2 SEPT.)

- * APPLICATION OF FOURIER TRANSFORM TO FOLLOWING FUNCTION :- (I) $f(x) = e^{-x^2/2}$ (II) $f(x) = 1$ for $|x| < a$
0 for $|x| > a$

SEPT-2023 (WEEK-1st) (FROM:- 04 sept. to 9 sept.)²

UNIT-II

- * MATRIX METHODS IN PARAXIAL OPTICS.
- * EFFECT OF TRANSLATION.

WEEK-2nd (FROM:- 11 sept. to 16 sept.)

- * EFFECT OF REFRACTION.
- * DERIVATION OF THIN LENS

WEEK-3rd (FROM:- 18 sept. to 23 sept.)

- * DERIVATION OF THICK LENS FORMULAE.
- * UNIT PLANE.

WEEK-4th (FROM:- 25 sept. to 30 sept.)

- * NODAL PLANES.
- * SYSTEM OF THIN LENSES.
- * CHROMATIC SPHERICAL COMA.

OCT-2023 (WEEK-1st) (FROM:- 02 oct to 07 oct)

- * ASTIGMATISM
- * DISTORTION ABERRATIONS AND THEIR REMEDIE

WEEK-2nd (FROM:- 08 oct to 14 oct.)

UNIT-III

- * INTERFERENCE BY DIVISION OF WAVEFRONT
- * FRESNEL'S BIPRISM

WEEK-3rd (FROM:- 16 oct to 21 oct)

- * APPLICATIONS OF FRESNEL'S BIPRISM.
- * APPLICATIONS TO DETERMINATION OF WAVE LENGTH OF SODIUM LIGHT.

(P.T.C)

WEEK-4th (From :- 23 Oct to 28 Oct.)

* DETERMINATION OF THICKNESS OF A MICA SHEET.

⇒ NOV-2023 (WEEK-1st) (From :- 30 Oct. to 04 Nov.)

* LLOYD'S MIRROR & ITS APPLICATION.

⇒ WEEK-2nd (From :- 06 Nov to 11 Nov)

* PHASE CHANGE ON REFLECTION.

⇒ WEEK-3rd (From :- 17 Nov to 24 Nov)

* REVISION & TEST *

Hemant