Lesson plan 2023-24
Physics Paper -1
Properties of Matter, Kinetic Theory and Relativity
B.Sc. 2nd Sem
Amar Singh (Extension Lecturer)
SMSD GOVT COLLEGE NANGAL CHAUDHARY

3rd Week of January month

- Introduction of unit 1st (Properties of matter)
- Elasticity, Stress and Strain
- Hooke' law, Stress Strain Graph
- Elastic Constants, Young's modulus,Bulk Modulus, Modulus of Rigidity

4rth week of January month

- Relation between elastic Constants, Poisson 's Ratio
- torsion of Cylinder and twisting couple

1st week of February month

- Bending of beam (Bending moment and its magnitude)
- Cantilevers

2nd week of February month

- Centrally loaded beam
- Numerical Problems etc.
- Introduction of unit 2nd (Kinetic Theory of Gases)

3rd Week of February month

- Assumptions of Kinetic theory of Gases
- Law of equipartition of energy and its applications for specific heats of gases

4rth week of February month

- Maxwell distribution of speeds and velocities

1st week of March month

- Most probable speed
- Average and r.m.s. speed
- Mean free path

2nd week of March month

- Transport of energy and momentum
- Diffusion of gases
- Brownian motion (qualitative)

3rd Week of March month

- Real gases, Vander Waal's equation.
- Numerical Problems etc.
- Introduction of unit 3rd (Theory of Relativity)

1st week of April month

- Reference systems, inertial frames
- Gallilean invariance and Conservation laws

2nd week of April month

- Newtonian Relativity principle
- Michelson Morley experiment Search for ether
- Lorentz transformations

3rd Week of April month

- Length contraction, time dilation
- Velocity addition theorem
- Variation of mass with velocity and mass energy equivalence.

4rth week of April month

- Numerical Problems etc.
- Revisions

S.M.S.D. Govt. COLLEGE, NANGAL CHAUDHARY (M/GARH)

LESSON PLAN FOR SESSION: 2023-24 (Even Semester)

NAME:- DR. HEMANT KUMAR SHARMA

CLASS:- B.Sc. 1st year (2nd Semester)

SUBJECT:- PHYSICS (PAPER-IInd)

=> JAN-2024:- WEEK-1st (12/01/24 to 27 JAN) (UNIT-1st)

* Electromagnetic Induction - Growth and decay of Current in a Circuit with (a) C&R (b) R&L (c) C&L (d) C, R, & L.

=> WEEK-2nd [29 JAN TO 03 FEB]

* A.C. Circuit analysis Using Complex Variables with (a) C&R (b) R&L (c) C&L (d) C, L & R

=> Feb-2024 (WEEK-1st) (05 Feb to 10 Feb)

* Series and Parallel resonant Circuit.
* Quality factors (Sharpness of resonance)

=> WEEK-2nd (12 FEB to 17 FEB)

* SEMICONDUCTOR DIODES - ENERGY BAND IN SOLIDS,
* INTRINSIC AND EXTRINSIC SEMI-CONDUCTOR
* HALL EFFECT
* P-N JUNCTION DIODE

=> WEEK-3RD (19 FEB to 24 FEB)

* V-I CHARACTERISTICS OF P-N JUNCTION DIODE.

[P.T.O]

* ZENER DIODE AND AVALANCHE BREAKDOWN.

⇒ WEEK - 4th [26 FEB TO 02 MARCH]

* RESISTANCE OF A DIODE.
* LIGHT EMITTING DIODE (LED)

⇒ MARCH - 2024 [WEEK - 1st] [04 MARCH TO 09 MARCH]

* PHOTO CONDUCTION IN SEMI CONDUCTORS
* PHOTO DIODE.
* SOLAR CELL.
* DIODE RECTIFIERS.

⇒ WEEK - 2ND [18 MARCH TO 26 MARCH]

* TYPES OF FILTERS CIRCUITS.
* ZENER DIODE AS VOLTAGE REGULATOR.
* SIMPLE REGULATED POWER SUPPLY.

⇒ APRIL - 2024 [WEEK - 1st] (01 APRIL TO 06 APRIL)

* TRANSISTOR - JUNCTION TRANSISTORS
* BIPOLAR TRANSISTOR.
* WORKING OF NPN AND PNP TRANSISTORS.
* TRANSISTOR CONNECTIONS
* CONSTANT OF TRANSISTOR:

⇒ WEEK - 2nd [08 APRIL TO 13 APRIL]

* TRANSISTOR AMPLIFIERS: TRANSISTOR BIASING.
* METHOD OF TRANSISTOR BIASING.
* COMMON - BASE AND COMMON EMITTER TRANSISTOR BIASING.
* CLASSIFICATION OF AMPLIFIER. (P.T.O.)

- FEED BACK IN AMPLIFIERS.
* CLASSIFICATION OF OSCILLATORS.

⇒ WEEK - 3RD (15 APRIL TO 20 APRIL).

* BARKHOUSEN CRETERION FOR OSCILLATIONS.
* TUNED COLLECTOR COMMON EMITTER OSCILLATOR
* HARTLEY OSCILLATOR.
* COLPITTS OSCILLATOR.

⇒ WEEK - 4th [21 APRIL TO ONWARDS]

* REVISION & CLASS TEST.

Hemant.