

[Volume-I] XII - PHYSICS - 2022 - 2023

Ln-1 (2m)

- 1) D/w Coloumb's force and Gravitational force.
- 2). Gauss's Law
- 3). Electric field lines never intersect. why.
- 4). Electric flux - unit
- 5). E. dipole and dipole moment.
- 6). Capacitance - unit
- 7). corona discharge (or) Action at points
- 8) Inside a car (or) bus - safe
- 9) dielectric strength.

3m

- 1) Electric potential due to point charge
- 2). Capacitance of the Parallel plate capacitor.
- 3). Energy stored in the capacitor

Extra:

Torque - experienced by dipole.

5m

- 1) Axial line
- 2) Equatorial plane
- 3) E. potential due to an E. dipole
- 4) Van de graff generator

Extra:

- 1) Infinitely long charged wire

Ln-2

Qn.No.

2m

- 1) Microscopic form of ohm's Law
- 2) Macroscopic form of ohm's Law
- 3). what ohmic and Non ohmic device.
- 4). D/w Drift velocity and mobility.
- 5). Specific Resistance (or) Electrical resistivity
- 6). KCL and KVL
- 7). Applications of Seebeck effect.

3m

- 1) what is internal resistance? I.r of a cell using voltmeter.
- 2) I.r of a cell using potentiometer.
- 3) Resistors are connected in Series and Parallel.
- 4). Cells in Series

5m

- 1) Microscopic form of ohm's Law
- 2). wheatstone bridge
- 3). comparison of emf b/w two cells.

2m

- 1) Fleming left hand rule.
- 2) Ampere circuital Law.
- 3) Define. Ampere
- 4) Coloumb's Inverse square Law
- 5) Biot - Savart Law.
- 6) Ammeter is connected in series (or) Parallel. why?

3m

- 1) Compare dia, para, ferro
- 2) characteristics of M. L. force
- 3) Magnetic field due to a straight conductor using Ampere's circuital Law.
- 4) $G \rightarrow A$ & $G \rightarrow V$

5m

- 1) Infinitely long straight wire
- 2) circular coil
- 3) cyclotron
- 4) Force b/w two parallel straight conductors.

Lh - 42m

- 1) Faraday's Laws
- 2) Len's Law
- 3) Methods of Producing induced EMF
- 4) RMS values of AC
- 5) D/w Step up and Step down
- 6) ϕ -factor
- 7) Electrical Resonance

Qn.No.

3m

- 1) Advantages and disadvantages of AC over DC.
- 2). Emf induced by changing Area enclosed by the coil
- 3). Energy losses in a transformer.
- 4). total energy is conserved - LC oscillation.

5m

- 1) Single - phase - AC - generator
- 2). transformer
- 3). RLC

Ln-5

2m

- 1) E. M. waves
- 2). Displacement current
- 3). Modification of Ampere circuital Law
- 4). Fraunhofer lines - use
- 5) Uses of IR, UV

3m

- 1) Maxwell Integral form
- 2) Hertz expt...

5m

- 1) Properties of E. M. waves
- 2) Absorption Spectra
- 3) Emission Spectra

Volume - 2

Ln-6

- PHYSICS

2m

- 1) Sky appear blue
- 2) Reason - Stars twinkle.
- 3) Snell's Law
- 4) Principle of Reversibility.
- 5) clouds white.
- 6) Condition for total internal Reflection.
- 7) What are critical angle and total internal Reflection.

3m

- 1) Relation b/w f and R
- 2) Apparent depth
- 3) Optical path
- 4) Obtain the equation for lateral magnification of thin lens.

5m

- 1) Mirror Equation and lateral magnification
- 2) Fizeau's method
- 3) Lens maker's formula
- 4) Snell's window

Ln-7

Qn.No.

2m

- 1) D/w Fresnel and Fraunhofer diffraction
- 2) What is astigmatism? What is its remedy?
- 3) D/w Interference and diffraction
- 4) Why lens are immersed in oil.
- 5) D/w polarised and unpolarised light.

3m

- 1) Fresnel's distance
- 2) Uses of Polaroids
- 3) State and obtain Malus's Law
- 4) Nicol Prism
- 5) Brewster's Law
- 6) Astronomical telescope.

5m

- 1) Young double slit expt. (i) Set-up
(ii) Path difference.
- 2) YDSE $\rightarrow$ (i) Path difference
(ii) Band width.
- 3) n^{th} minimum.
- 4) Laws of Reflection
- 5) Compound microscope.

2m

Ln-8

- 1) Work function - unit
- 2) De-Broglie hypothesis

3) Photo electric effect

4). Threshold Frequency

5). Stopping potential

6). Proton and electron have equal KE.

which one have maximum De Broglie wavelength.

7). why do not see wave properties in base ball?

8) Bremsstrahlung - (or) Breaking Radiation

3m

1) Laws of photoelectric effect

2). De - Broglie wavelength of electron

3). Applications of Photo cell.

4) Construction and working of Photo emissive cell.

5) Characteristics of photons

5m

1) Einstein photo electric equation

2). Davison Germer expt

3). $\bar{e}$ - microscope.

Ln-9

2m

1) Cathode rays

2) Closest approach

3) Impact Parameter

4) Postulates of Bohr atom model

5) D/w Ionization Energy and I. potential.

Qn.No.

Page No.

- 6) Atomic mass unit (1amu)
- 7) Energy equivalence of 1amu
- 8) Radio activity.

3m

- 1) idea for radio carbon dating.
- 2) Properties of neutrino and role in β -decay
- 3) Variation of average binding energy with the mass number using graph.

5m

- 1) J.J. Thomson
- 2) H₂-Spectral series
- 3) Law of Radioactivity
- 4) Radius of the n th orbit.

Ln-10

2m

- 1) Barbausion condition for Sustained oscillation.
- 2) Diode Avalanche and Zener breakdown
- 3) Rectification
- 4) Modulation
- 5) Diode - called as unidirectional device. Why?
- 6) Doping

3m

- 1) De-Morgan's theorems.
- 2) Advantages and Limitations of FM
- 3) transistor act as a switch -

5m

- (1) Full wave Rectifier
- (2) Half-wave
- (3) transistor amplifier