

SIEM(1974) Coaching Academy

Public questions - 2023 (9566424680)

+2 - Physics

Dear students, study all the questions in this paper. It contains public questions of this year. It will help you to score more than 90% of marks in public. If you want any help, please contact us. Get all other question papers from us. (All subjects - 10, 11, 12 standards) Be in touch with us upto the last minute of exams. Please give this copy to your friends and relatives.

"All the best"

Chapter - 1

Basic properties of charges, Coulomb's law - definition, Rules followed for drawing electric field lines, Electric dipole - axial line, Torque on dipole, Eg-1.11, Gauss' law, I, II appli., Eg-1.20, Appl. of Capacitors, Corona discharge, Lightning arrester.

Chapter - 2

Drift velocity, Eg-2.2, 2.3, Ohm's law, Electrical resistivity, Eg-2.9, ρ - define, Kirchoff's rule (SM), comp. of emf's two cells, Joule's law, -application, Thomson effect.

Chapter - 3

Magnetic flux & density, Magnetic field at equatorial line, Tangent law and explain (SM), Eg-3.9, Mag. permeability, Intensity, Curie's law, Hysteresis, Biot-savart law - Mag. field due to long straight conductor carrying current (SM), Right hand thumb rule, Lorentz force, Eg-3.22, cyclotron, Fleming's left hand rule, Ampere, current sensitivity of galvanometer, Phosphor-bronze wire is used, Shunt resistance, Galv. to voltmeter.

Chapter - 4

Faraday's law, Lenz law, Eddy current drawbacks, Application (SM), Vone henry, self & mutual inductance, Induced emf (methods), Eg-4.14, Induction of emf by changing Φ , AC generator, Transformer energy losses, RMS value, RLC circuit (SM) Eg-4.22, Q factor, problems - 5, 9, 10, 17

Chapter - 5

Displacement current, Prop. of electro magnetic waves, Eg-5.2, Spectrum (emission & absorption), X-rays, Maxwell's eq. in integral form,

Chapter - 6

Law of reflection, char. of image, Mirror equation, Eg-6.3, Snell's law, principle of reversibility, Total internal reflection (SM), critical angle, Lens maker formula (SM), Lens equation, Dispersive power (SM), Scattering law, Huygen's principle, coherent sources, Young's double slit expt., Conditions for clear & broad Fresnel & Fraunhofer, Eg-6.35, Malus law, uses of polaroids, Brewster's law, Nicol prism, Double refraction.

Chapter-7

Work function, one eV, photoelectric eff. (SM) - laws, Stopping potential, - problem, Einsteins photoelectric equation, Appl. of photo cells, Eg-7.4, De-broglie λ , $\lambda = \frac{h}{\sqrt{2mk}}$, Electron microscope, Eg-7.7, Appl. of x-rays, problems - 56, 12, 8

Chapter - 8

Properties of cathode rays, (SM) Thomson's expt. (e/m), Contact distance (closest), Bohr postulates, Radius of nth orbit, \times velocity of electron, Energy levels of H-atom, Spectral series - H atom, Mass defect, BE curve, Law of radioactive decay, Becquerel, $T = \frac{1}{\lambda}$, Eg 8.12, 8.13, characteristic x-ray spec. \times - problem

Chapter - 9

Forbidden energy gap, doping, Biasing, Forward characteristics, (SM) Half-wave & full wave rectifiers, Break down (Zener, Avalanche), Zener diode as voltage regulator, LED, Current gain, Relation α & β , Eg-9.7, Transistor as amplifier, Barkhausen Condition, NAND, NOR gates, Boolean laws, De-Morgan's theorems, Advant. of IC, Prob. 1, 4, 5

Chapter - 10

Modulation, Advantages & disadv., Bandwidth, Propagation, Tilting, Skip distance, Skip zone, Fibre optic communication, GPS, Radar, (SM) Antenna size

Chapter - 11

Nano science, Technology, Nano in nature, Robotics, Components, surgery. \times

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