Contents

Class 11

1.	Units and Measurements 1		
	Topic-1	Physical Quantities and Their Units	
	Topic-2	Dimensional Analysis and Its Applications	
	Topic-3	Accuracy, Precision of Measuring Instruments Significant Figures	
		and Error in Measurements	
2.	Motion	in a Straight Line	11-23
	Topic-1	Terms Related to Motion	
	Topic-2	Kinematics Equations of Uniformaly and Non-uniformly Accelerated	Motion
	Topic-3	Graphs Related to Motion	
	Topic-4	Relative Motion in One Dimension	
3.	Motion	in a Plane	24-33
	Topic-1	Vectors	
	Topic-2	Motion in a Plane and Projectile Motion	
	Topic-3	Relative Velocity in Two Dimensions	
	Topic-4	Uniform Circular Motion	
4.	. Laws of Motion		34-49
	Topic-1	Newton's Laws of Motion	
	Topic-2	Impulse and Conservation of Momentum	
	Topic-3	Equilibrium of a Particle and Common Forces in Mechanics	
	Topic-4	Friction	
	Topic-5	Dynamics of Circular Motion	
5.	. Work, Energy and Power		50-66
	Topic-1	Work and Energy	
	Topic-2	Kinetic Potential Energy	
	Topic-3	Work Energy Theorem and Conservation of Energy	
	Topic-4	Power	
	Topic-5	Motion in Vertical Circle	
	Торіс-6	Collision	
6.	System	of Particles and Rotational Motion	67-89
	Topic-1	Rigid Body, Centre of Mass and Its Motion	
	Tonic-2	Torque and Equilibrium of Rigid Rody	

	Topic-3	Moment of Inertia	
	Topic-4	Kinematics of Rotational Motion and Angular Velocity	
		Angular Momentum and its Conservation	
	Торіс-б	Dynamics of Rotational Motion	
7.	Gravitat	ion	90-103
	Topic-1	Kepler's Law	
	Topic-2	Universal Law of Gravitation	
		Acceleration Due to Gravity and its Variations	
		Gravitational Potential and Gravitational Potential Energy	
	Topic-5	Escape Velocity and Motion of Satellite	
8.	Mechan	ical Properties of Solid	104-107
	Topic-1	Elastic behaviour of Material, Hooke's Law and Elastic Moduli	
	Topic-2	Stress-Strain Curve's, Elastic Potential Energy and Thermal Stress	
9.	Mechan	ical Properties of Fluids	108-113
	Topic-1	Pressure, Pascal's Law and Archimede's Principle	
	Topic-2	Fluid's Flow, Viscosity and Bernoulli's Principle	
	Topic-3	Surface Tension and Capillarity	
10.	Therma	I Properties of Matter	114-123
		Thermometry and Thermal Expansion	
	Topic-2	Specific Heat Capacity, Change of State and Calorimetry	
		Heat Transfer	
1.	Thermodynamics 124-132		
		Zeroth Law and First Law of Thermodynamics	
	Topic-2	Thermodynamic State Variable and Thermodynamic Processes	
12.	Kinetic 1	Γheory of Gases	133-140
		Kinetic Theory of Gases and Gas Laws	
		Degree of Freedom and Law of Equipartition of Energy	
	Topic-3	Specific Heat Capacity and Mean Free Path	
13.	Oscillati	ons	141-154
		Simple Harmonic Motion	
	Topic-2	Energy in SHM	
		Some Systems Executing SHM	
	Topic-4	Free Forced Damped Oscillations	
14.	Waves		155-169
-		Types of Wave & Its Motion	
		Displacement Relation in Progressive Wave	
	-	Principle of Superposition of Waves and Organ Pipe	
	'	Beats and Doppler Effect	
		• •	

Class 12

15.	Electric	: Charges and Fields	170-179
		Electric Charges and Coulomb's Law	
		Electric Field	
		Electric Dipole	
	Горіс-4	Continuous Charge Distribution, Electric Flux and Gauss's Law	
16.	•		180-194
		Electrostatic Potential and Equipotential Surface	
		Electric Dipole and Potential Energy	
		Capacitors and its Capacitance	
	Topic-4	Combination of Capacitors and Energy Stored in Capacitor	
17.	Curren	t Electricity	195-219
	Topic-1	Electric Current, Drift Velocity and Mobility	
	Topic-2	Ohm's Law, Resistance and Resistivity	
	Topic-3	Combination of Resistors	
	Topic-4	Cells , Its Combination and Kirchhoff's Law	
	Topic-5	Electrical Energy, Heating Effect of Current and Electrical Power	
	Торіс-6	Measuring Instruments	
18.	Moving Charges and Magnetism		220-238
		Biot Savart's Law and Ampere's Circuital Law	
		Magnetic Force on Charged Particle in Magnetic Field and Motion in Magnetic Field	
	Topic-3	Force and Torque on Current Carrying Conductor	
	Topic-4	Moving Coil Galvanometer	
19.	Magne	tism and Matter	239-244
	Topic-1	Bar Magnet and Magnetic Dipole Moment	
	Topic-2	Magnetic Dipole in Uniform Magnetic Field	
	Topic-3	Gauss's Law in Magnetism	
	Topic-4	Magnetic Materials and its Properties	
20.	. Electromagnetic Induction		245-252
	Topic-1	Magnetic Flux, Faraday's Law and Lenz's Laws	
	Topic-2	Motional EMF and Eddy Current	
	Topic-3	Mutual -Inductance	
	Topic-4	Self-Inductance	
21.	Alterna	iting Current (AC)	253-261
		Introduction to Alternating Current and Voltage	
		AC Circuit and Power in AC Circuit	
		Resonance	
	'	Transformer and AC Generator	

22.	Electromagnetic Waves		262-268
		Displacement Current, Electromagnetic Wave & Its Characteristics	
	Topic-2 Electromagnetic Spectrum		
23.		Ray Optics and Optical Instruments	
	,	Reflection of Light	
		Refraction, TIR and Prism	
	,	Lenses Optical Instruments	
24.	Wave O		286-294
		Huygen's Principle and Doppler's Effect of Light	
		Interference and Young's Double Slit Experiment	
	,	Diffraction	
	Торіс-4	Polarisation	
25.	Dual Na	ature of Radiation and Matter	295-309
	Topic-1	Photoelectric Effect & Einstein's Photoelecrtic Equation	
	Topic-2	Particle Nature of Light : The Photon	
	Topic-3	Matter Waves and Davisson - Germer Experiment	
26.	Atoms		310-320
	Topic-1	lpha-Particle Scattering & Rutherford Nuclear Model of Atom	
	Topic-2	Bohr's Model and Hydrogen Spectra	
27.	Nuclei		321-329
	Topic-1	Nucleus and Radioactivity	
		Nuclear Fission , Fusion and Binding Energy	
28.			330-343
20.		Semiconductor and <i>p-n</i> Junction Diode	330 343
		Digital Circuits	
29.	-		344-358
29.	Experimental Skills Topic-1 Experiments Related to Units and Measurements		
		Experiments Related to Oscillations and Waves	
	,	Experiments Related to Oscillations and Waves Experiments Related to Properties of Solids and Liquids	
	,	Experiments Related to Current Electricity	
		Experiments Related to Optics	
	,	Experiments Related to Electronics Devices	
	- 1		