Online Class Program (OCP)
Physics Road Map for Term-I (2020-2021) wef.01 jul 2020

	Class-XII (RMR) (PHYSICS)			Class -XI (SHK)(PHYSICS)	
Date	Topic	Subtopic	Topic		Subtopic
01-07-2020		Biot - Savart law and its application			Basic concept of force
02-07-2020		current carrying circular loop.			Inertia
03-07-2020		Ampere's law			Momentum
04-07-2020		infinitely long straight wire			Application of 2nd Law
05-07-2020		**SUNDAY**			
06-07-2020		Straight and toroidal solenoids			Impulse & Problems
07-07-2020		F on a moving charge in U, M&E field			Law of conservation of linear momentum
08-07-2020		Cyclotron	Newton's Laws of Motion		Application of 3rd Law
09-07-2020	Chapter-4:moving charges & magnetism	Force on a current-carrying conductor	Equilibrium of concurrent forces		Stable and unstable equilibrium
10-07-2020		numericals			Static and kinetic friction, laws of friction,
11-07-2020		force between two parallel currents	Friction		rolling friction, lubrication.
12-07-2020		**SUNDAY**			
13-07-2020		definition of ampere-applications			Problems of Friction
14-07-2020		torque experienced by a current	Dynamics of uniform circular motion		Centripetal force, Pseudo Force
15-07-2020		numericals			vehicle on a banked road
16-07-2020		moving coil galvanometer			Work done by a constant force and a variable force
17-07-2020		moving coil galvanometer-sensitivity			kinetic energy, work-energy theorem, power.
18-07-2020		numericals	Work, Engery and Power		Notion of potential energy, potential energy of a spring,
19-07-2020		**SUNDAY**			
20-07-2020	Chapter-5: Magnetism and matter	conversion to ammeter and voltmeter.			conservative forces: conservation of mechanical energy (kinetic and potential energies);
21-07-2020		aplications of galvanometer			Problems
22-07-2020		numericals			non-conservative forces: motion in a vertical circle;
23-07-2020		numericals			elastic and inelastic collisions in one and two dimensions.
24-07-2020		exercise			Centre of mass of a two-particle system, momentum conservation and centre of mass motion.
25-07-2020		exercise	System of Particles and Rotational Motion		Centre of mass of a rigid body; centre of mass of a uniform rod
26-07-2020		**SUNDAY**			
27-07-2020		Electromagnetic induction-introduction			Problems
28-07-2020		Faraday's laws			Equilibrium of rigid bodies,
29-07-2020		numericals			rigid body rotation and equations of rotational motion,
30-07-2020		induced EMF and current			comparison of linear and rotational motions.
31-07-2020		**BAKRID**			
01-08-2020	Chapter-6:Eletromagnetic induction	Lenz's Law			Moment of inertia, radius of gyration,
02-08-2020		**SUNDAY**			
03-08-2020		Lenz's Law-its applications			values of moments of inertia for simple geometrical objects
04-08-2020		Eddy currents			Statement of parallel and perpendicular axes theorems and their applications.
05-08-2020		Self and mutual induction			Problems

Date	Chapter	Topic	Section	Topic
06-08-2020	chap	numericals	Gravitation	universal law of gravitation.Acceleration due to gravity and its variation with altitude and depth.
07-08-2020		exercise		Gravitational potential energy and gravitational potential, Kepler's laws of planetary motion,
08-08-2020		Alternating currents-introduction		escape velocity, orbital velocity of a satellite, Geo-stationary satellites.
09-08-2020		**SUNDAY**		
10-08-2020		peak and RMS value of alternating current/voltage;		Problems
11-08-2020	chapter-7:Alternating current	reactance and impedance;	Revision of Part-1	Revision of Part-1
12-08-2020		**JANMASTAMI**		
13-08-2020		LC oscillations		Revision of Part-1
14-08-2020		LCR series circuit		Revision of Part-1
15-08-2020		**INDEPENDANCE DAY**		**INDEPENDANCE DAY**
16-08-2020		**SUNDAY**		**SUNDAY**
17-08-2020		resonance; power in AC circuits	Mechanical Properties of	Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus,
18-08-2020		power factor, wattless current		shear modulus of rigidity, elastic energy.
19-08-2020		AC generator and transformer	Mechanical Properties of Fluids	Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes),
20-08-2020		numericals		effect of gravity on fluid pressure..
21-08-2020		exercise		Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity,
22-08-2020	chapter-8:em waves	Basic idea of displacement current		Bernoulli's theorem and its applications
23-08-2020		**SUNDAY**		
24-08-2020		Electromagnetic waves		Surface energy and surface tension, angle of contact,
25-08-2020		Transverse nature of em waves		excess of pressure across a curved surface, application of surface tension ideas to drops,
26-08-2020		Electromagnetic spectrum		bubbles and capillary rise.
27-08-2020	chapter-11:D.N of radiation and matter	Dual nature of radiation		Problems
28-08-2020		Photoelectric effect		Problems
29-08-2020		**MUHARRAM**	Thermal Properties of Matter	Heat, temperature, thermal expansion;
30-08-2020		**SUNDAY**		
31-08-2020		Hertz and Lenard's observations;		thermal expansion of solids, liquids and gases, anomalous expansion of water;
01-09-2020		Einstein's photoelectric equation		specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity.
02-09-2020		Experimental study of photoelectric effec		Heat transfer-conduction, convection and radiation, thermal conductivity,
03-09-2020		Matter waves-wave nature of particles		qualitative ideas of Blackbody radiation, Wein's displacement Law,
04-09-2020		de-Broglie relation, D.Gexperiment		Stefan's law, Green house effect.
05-09-2020		exercise		Problems
06-09-2020		**SUNDAY**		**SUNDAY**
07-09-2020	nic devices	Energy bands in conductors,	Thermodynamics	Thermal equilibrium and definition of temperature
08-09-2020		Semiconductor diode		heat, work and internal energy.
09-09-2020		I-V characteristics in forward and reverse bias		First law of thermodynamics, isothermal and adiabatic processes.
10-09-2020		diode as a rectifier		Second law of thermodynamics: reversible and irreversible processes,
11-09-2020		Special purpose p-n junction diodes		Heat engine and refrigerator.
12-09-2020		LED		Problems

Date	Chapter	Topic	Section	Topic
13-09-2020	Chapter-14:electro	**SUNDAY**		**SUNDAY**
14-09-2020		LED-uses	Kinetic Theory	Equation of state of a perfect gas, work done in compressing a gas.
15-09-2020		solar cell		Kinetic theory of gases - assumptions, concept of pressure.
16-09-2020		Zener diode		Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom,
17-09-2020		characteristics of zener diode		law of equi-partition of energy (statement only) and application to specific heat capacities of gases;
18-09-2020		zener diode as a voltage regulator		concept of mean free path, Avogadro's number.
19-09-2020		exercise		Problems
20-09-2020	**SUNDAY**	**SUNDAY**		**SUNDAY**
21-09-2020	chapter-12:Atoms	Alpha-particle scattering experiment	Oscillations	Periodic motion - time period, frequency, displacement as a function of time, periodic functions.
22-09-2020		Rutherford's model of atom		Simple harmonic motion (S.H.M) and its equation;
23-09-2020		Bohr model,		phase; oscillations of a spring-restoring force and force constant;
24-09-2020		energy levels, hydrogen spectrum		simple pendulum derivation of expression for its time period. Free, forced and damped oscillations (qualitative ideas only), resonance.
25-09-2020		numericals		Problems
26-09-2020		exercise		Problems
27-09-2020		**SUNDAY**		**SUNDAY**
28-09-2020	chapter-13:Nuclei	Composition and size of nucleus	Waves	Wave motion: Transverse and longitudinal waves, speed of wave motion,
29-09-2020		Radioactivity,alpha rays		displacement relation for a progressive wave, principle of superposition of waves,
30-09-2020		beta rays properties		reflection of waves, standing waves in strings and organ pipes,
01-10-2020		gamma rays properties		fundamental mode and harmonics, Beats, Doppler effect.
02-10-2020		radioactive decay law,		Problems
03-10-2020		half life and mean life.		Problems
04-10-2020		**SUNDAY**		**SUNDAY**
05-10-2020		Mass-energy relation, mass defect	Revision of Part-2	Revision of Part-2
06-10-2020		binding energy per nucleon		Revision of Part-2
07-10-2020		nuclear fission, nuclear fusion.		Revision of Part-2