

# Course Planner for ENTHUSE Batch (Class 12th Student)

## PHYSICS COURSE SCHEDULE

NEET Yearlong Physics for Class 12th of NEET 2021 by MK Sir

CHAPTER NAME	NO. OF LECTURES	CONTENT OF CHAPTER
Electrostatics	1	electrostatics introduction,charges,types & properties of charges
	2	charging of bodies,induction & conduction,coulamb's law,examples on coulamb's law
	3	effect of medium,examples on coulamb's law
	4	examples on force in electrostatics
	5	Electric Field Introduction, Electric Field due to point Charge, Electric Field due to Rod & Ring, S.H.M Due to Electric Field of ring
	6	Electric Field Due to a Circular Arc, Examples on Circular Arc, Examples on Electric Field
	7	Electric Field Lines, Properties of Electric Field Lines, Electric Flux, Examples on Electric Flux
	8	Examples on Flux, Flux Due to a Point Charge, Gauss's Theorem, Application of Gauss's Theorem
	9	Calculation of Flux, Calculation of flux in non Uniform Electric
	10	Appliction of Gauss's Law, Electric Field Due to a Solid Non Conducting Charge Sphere, Electric Field Due to Thin Sheets, Electric Field due to Charge Wire
	11	electric potential energy,electric potential energy,example on electric potential energy
	12	electric potential energy,relation between electric potential energy & electric field,calculation of electric potential energy
	13	potential inside a non conducting solid sphere,examples on potential energy,examples on equi potential surface,equipotential surfaces,motion of a charged particles in uniform electric field
	14	dipole electric,dipole moment,torque on a dipole in uniform electric field,potential energy of a dipole,flux due to a dipole
	15	electric field,electric dipoles,potential due to dipole,examples on dipoles
	16	earthing of conductors,parallel plats charge distribution,examples on earthing & parallel plats
	17	electrostatics pressure,energy density,examples on potential
	18	conductors,cavity problems in conductors,examples on cavity
	19	cavity inside a conductor,examples on electric field & potential
	1	Newtons law of gravitation, vector form, examples on N.L.G
	2	Gravitation field, Gravitation field due to Point charge, Gravitation field due to sphere and shell, Gravitation field due to a rod, Gravitation field due to a ring, effect of rotation of earth, effect of shape of earth

<b>Gravitation</b>	3	Gravitation field and intensity, acceleration due to gravity, change in value of G due to height and depth, gravitational Potential energy, Gravitational potential, G-Potential due to Sphere solid and hollow, Examples
	4	Planets and satellite, orbital velocity and Escape Velocity, Energy of a satellite, examples
	5	geostationary satellite, Kepler's Law, Bound and Unbound orbits, Energy of a satellite
	6	Examples
<b>Capacitor</b>	1	introduction of capacitors, calculation of capacitors, parallel plates capacitors, spherical & cylindrical capacitors
	2	force between plates of capacitors, energy stored in capacitors, examples on energy, energy density in electric field, examples on capacitors
	3	combination of capacitors, series combination, parallel combination, examples on combination
	4	examples on combinations
	5	dielectric materials, dielectric in capacitors, examples on dielectric
	6	combination of dielectric, examples on dielectric
	7	examples on capacitors, heat loss in sharing of charges
	8	charging & discharging of capacitor, examples on charging & discharging
<b>Current Electricity</b>	1	introduction of electric current, current density, current in a conductor
	2	relation between current, conductivity, ohm's law, V-I graphs, ohmic & non-ohmic conductors
	3	resistivity & temperature, colour code of resistances
	4	kirchoff's law, junction rule & voltage rule, voltage divider, current divider
	5	combination of resistance, series & parallel combination, wheat-stone bridge
	6	resistance problems, falling symmetry, star-delta method, examples on resistance combination
	7	cube problems, examples on resistance
	8	examples on resistance, energy and power in circuits, examples on electrical energy
	9	internal resistance of a battery, maximum power on a circuit, bulb brightness
	10	grouping of cell, series & parallel combination of cells, examples on grouping of cells
	11	electrical devices (instruments), galvanometer, ammeter, examples on ammeter
	12	voltmeter, examples on voltmeter, examples of galvanometer, voltmeter & ammeter

	13	meter bridge,potentiometer,examples on meter bridge & potentiometer
	14	examples of potentiometer,examples on electric current
<b>Magnetism</b>	1	introduction of magnetic field,orested experiment & magnetic field direction,force on a moving charge, formula of force on moving charge,rules for direction of force on moving charge
	2	motion of a charged partical in uniform magnetic field,radius of circle,time period & frequency,examples
	3	force on a current caying wire in magnetic field,helix petch
	4	torque on a current loop,velocity selector, mass spectrometer, examples
	5	magnetic field due to a current ,biot-savart law
	6	magnetic field to straight wire, magnetic field due to infinite wire, examples on magnetic field
	7	magnetic field on the axis of a ring,examples on magnetic field due to straight wire,garph of magnetic field due to a ring
	8	magnetic field examples, amere's law, applications of ampere's law, magnetic field due to a hollow & solid cylindre, current carring ring as a magnetic bar
	9	current carrying loop and bar magnet,pole strength concept of magnetic charge
	10	torque on magnet in external magntic field
	11	magnetic field due to solenoid,magnetic field due to a finite length solenoid,magnetic field due to toroid,problems on solenoid and toroid
	12	earth magnetism :- Earth as a magnetic dipole,magnetic dipole ,moment od earth,angle of inclination or dip,angle of declination,meridians : magnetic and geographical,problems
<b>E.M.I</b>	1	introduction of E.M.I.,Faraday's law,magnetic flux
	2	lenz's law,direction of induced current,Example on lenz's law
	3	example on lenz's law,motional emf,examples on motional emf
	4	motional emf examples,generator,examples on generator,rotating emf
	5	self inductance,calculation of self induction,self induction of solenoid and toroid,example on self induction
	6	mutual inductance,examples on mutual inductance,induced electric field,formula for induced electric field
	7	examples of induced electric field,induced electric field,eddy currents
	8	kirchoff's law for inductor,energy stored in an inductor,energy density of magnetic field
	9	growth and decay of current,graphs of growth and decay,examples on growth and decay
	1	introduction of A.C.,RMS and Avg. Value of current and emf,examples on A.C.

<b>Alternating Current</b>	2	simple ac circuit,resistive circuit,capacitive and inductive circuit,L-R circuit,R-C circuit
	3	L-C-R Circuit,resonance conditions,examples on resonance,examples on LCR circuit
	4	power in an A.C. circuit,power factor of an A.C.,wattless current,examples on power of an A.C. Circuit
<b>Geometrical Optics</b>	1	Introduction of optics, source, ray's, objects, image, reflection, rules of reflection
	2	laws of reflection,image formation from plane mirror,deviation from plan mirror,rotation of mirror & ray
	3	velocity of image in plane mirror,no. Of images formed bby plane mirror,examples on no. Of image,field of view
	4	minimum length of mirror required,spherical mirror,concave & convex lens,sign convention,parallel rays,relation of R&f
	5	spherical mirrors,formula for mirrors,magnification,examples on magnification
	6	spherical mirrors examples,longitudinal magnification,examples,graphs on mirror & newton's formula
	7	introduction of referaction,laws of refraction,snell's law,refraction index,absoulte & relative R.I.,parallel slabs
	8	apparent depth problem,shifting by a slab,examples on shifting
	9	total internal reflection(T.I.R.),examples on T.I.R.,optical fibre
	10	prism,minimum deviation form,example on prism
	11	examples on prism
	12	6refraction on curved spherical surface,examples o refraction spherical surface
	13	examples on refraction,introduction of lens,type of lens,names of lens
	14	lens makers formula,magnification,thin lens combination,examples on lens maker's formula
	15	examples on lens,cutting of lens,examples on combination of lens
	16	silvering of lens,examples on silvering of lens,examples on combination of lens
	17	displacement method,examples on lenses
	18	dispersion by a prism,dispersion without deviation,deviation without dispersion,examples on dispersion
	19	optical instruments,simple microscope,compound microscope,magnifying power,examples on microscope
	20	astronomical telescope
	1	introduction of wave optics,newton's corpestuals theory,hygen's theory,introduction of light

<b>Wave Optics</b>	2	interface example, YDSE, Fringe Width
	3	YDSE shirting, Example on YDSE
	4	Twin film interference, reflection & transmission condition, Example on twin film
	5	polarization, method of polarization. Brewster's law
	6	examples on polarization, Malus law
<b>Modern Physics</b>	1	Photo electric effect:-introduction, effect of intensity, voltage and frequency on photo electric effect, graphs of photo current, work-function:-metal
	2	Failures of wave theory, Einstein's explanation, radiation pressure, intensity of light, examples on intensity, examples on Einstein's equation
	3	examples
	4	X-rays:-introduction, x-rays setup, voltage and current control, hard and soft x-rays, absorption of x-rays, continuous characteristics of x-rays, Moseley's law
	5	definition of radioactivity, activity of a sample, laws of radioactivity, half life, mean life, examples on radioactivity
	6	matter wave: De Broglie wavelength, examples on De Broglie wave length, Bohr's model explanation, Bragg's formula, Davisson Germer experiment, examples on De Broglie wavelength
	7	nuclear physics: nucleus, fission, fusion, mass defect, binding energy, binding energy per nucleons, examples
	8	Atomic physics: Dalton's model, Thomson's model, Rutherford's model, Bohr's model, radius & velocity & energy of Bohr's model
	9	hydrogen spectrum, examples on Bohr's model
<b>Semiconductor &amp; Communication</b>	1	Introduction Electronic Devices, Classification the basic of conductivity
	2	bond theory of solids, Conductors, insulators and semiconductor on the basis of bond theory
	3	semiconductor materials, intrinsic semiconductor, electrical conductivity of intrinsic semiconductor doping, extrinsic semiconductor
	4	P-N Junction Formation, Junction Voltage and depletion Layer, biasing of a P-N junction, Forward and Reverse Biasing, V-I Characteristic of a P-N Junction, Resistance of a P-N Junction, Dynamic Resistance of a P-N junction, Characteristics of an ideal diode
	5	Breakdown mechanism of p-n junction, Zener diode, Zener diode as a voltage stabilizer, P-N Junction as a rectifier, halfwave and full wave rectifier
	6	N-P-N Transistor, P-N-P Transistor, Emitter base collector terminals, working of a transistor, transistor as an amplifier, transistor action, transistor connection as an amplifier, voltage gain in amplifier
	7	Transistor as a switch, examples on p-n Junction, Examples on N-PN Junction, Examples on Transistor and Amplifier
	8	Logic Gats :- Introduction, or gate, and gate, not gate, nor gate, hand gate, Truth table, boolean equation, examples on digital circuits

Error Analysis	1	Significant Figures, Rounding off, Order of magnitude, Accuracy and precision
	2	Error, types and representation of errors, Propagation of errors, Least Count

### NEET Yearlong Physics for Class 12th of NEET 2021 by MS Sir

CHAPTER NAME	NO. OF LECTURES	CONTENT OF CHAPTER
<b>ELECTROSTATICS</b>	1	Charge - Definition and its properties , Charging Method , gold Leaf electroscope
	2	Coulombs law , Effect of Medium , Electric Field .
	3	Electric field Lines , and Electric field , Properties of electric field
	4	Electric Field Due to point charge , arc , ring , line charge, disc , sheet, E-x Graph
	5	Motion of Charge particle in Electric field , Definition of Flux
	6	Guass Law , Flux by Guass law .
	7	Electric Field Due to spherical shell , sphere , cylindrical shell , cylinder , thick sheet
	8	Electric Field Within Cavity , Electric field for Variable Charge density
	9	Cond. , charge and Electric Field within Conductor , charge distribution on concentric metaalic Shells and Parallel metallic plate .
	10	Potential Energy for two and multiple charge system , energy of system and its conservation
	11	Electric Potential and Potential Difference , Relation between Electric Field and potential difference
	12	Electric Potential of Point Charge , ring , line charge , spherical shell , solid sphere , Relation between potential difference and Work Done .
	13	Equipotential Surface , charge sharing and earthing of conductor ,
	14	Self energy of spherical shell , sphere , energy density of electric field .
	15	electric dipole , dipole moment
	16	electric potential and electric field due to electric dipole
	17	dipole in electric field , torque, energy force , force on dipole .
	18	SHM of Dipole , point charge , dipole , dipole -dipole interaction
	19	Properties of Conductor ,electrostatic pressure , Free BoundCharges , Conductor as equipotential surface ,
	20	Shielding in conductor

	21	Di-electric and electric Polarization
	22	Discussion
	23	Discussion
	24	Discussion
	25	Discussion
<b>GRAVITATION</b>	1	Gravitational Force Field , Potential , Potential energy and comparison with electrostatic .
	2	Defination of ' g ' and its variation with with height , depth , rotation and shape
	3	Binding energy , escape velocity ,Bound System , Circular Orbits
	4	Keplers law , Geo- Stationary and Near Earth Satellite .
	5	Long pendulum , SHM if particle in tunnel , double star
	6	Discussion
<b>CAPACITORS</b>	1	Defination and equation of capacitor , capacitance , type of capacitor
	2	capacitance of spherical , cylinder , parallel plate and other capacitor
	3	Parallel plate - Equal and unequal charge case , steady state , charging
	4	Energy of capacitor , force between plates , combinsation of capacitor and charge sharing / Distribution in capacitor .
	5	Heat loss in circuit between steady state .
	6	dielectric partial and complete , polarization , induced charges , Equivalent Capacitance
	7	Heat loss and force of dielectric . Effect of charge in Capacitance
	8	Charing and discharging of capacitor , their equivalent and Equivalent time and battery efficiency
	9	More examples on Capacitance circuit questions , spherical capacitor , Earthing cases .
	10	Discussion
	1	Defination of Current , Drift Velocity ,mobility and relation between Current and drift velocity .
	2	Current density , Ohm's law , Conductivity conductance , ohmic /non ohmic resistance
	3	Resistance in different cases , Defination of Equivalent Resistance , Variation of Resistivty and Conductance with tempeture , Semiconductor and thermistors .

<b>CURRENT ELECTRICITY</b>	4	Ideal battery , EMF , Equivalent of Circuit elements ,Kirchoff's law	
	5	Series and parallel combination of resistance and batteries .	
	6	Wheat stone bridge , infinite series , symmetry , PT. Potential ,Nodal analysis	
	7	More examples on finding equivalent resistance and Resistance for Cubical frame .	
	8	Unbalanced wheatstone bridge , symmetric and non symmetric combinations	
	9	Power of resistance , battery , parallel connection in home	
	10	Max. Power Transfer theorem (MPTT) and examples of Power	
	11	Fuse wire , Galvanometer , ammeter , Voltmeter and their Conversion	
	12	Discussion and questions on Ammeter and Voltmeter	
	13	Meterbridge and Discussion	
	14	Potentiometer and Application	
	15	Potentiometer and Application	
	16	PO Box and Carbon Coding of resistance	
	17	Discussion	
	18	Discussion	
	<b>MAGNETIC EFFECT OF CURRENT</b>	1	Production of Magnetic Field , Biot Savart law , magnetic Field Lines
		2	Magnetic Field Due to St. Wire , Loop ,Arc , sheet
		3	Magnetic field due to Cylinder trough , solenoid
4		More on Magnetic Field Lines , Magnetic Field Due to Moving Charge , E/B Value .	
5		Ampere's law , Finding Line Integration of magnetic field .	
6		Magnetic Field inside and Outside wires ,Magnetic Field Within Cavity	
7		Magnetic field between sheets , solenoid , Toroid .	
8		Discussion	
9		Magnetic Force , Motion in Uniform magnetic field	



	10	Circular and Helical Motion
	11	Lorentz Force , Motion under Electric field and Magnetic field , energy discussion
	12	Velocity Selector ,mass spectrometer , force on wire
	13	Effective length in uniform Magnetic field , Force Between parallel wires , Magnetic dipoles , field Lines
	14	Dipole moment ,M of moving charge , field on dipole .
	15	Torque , energy and force on dipole due to Magnetic field , Dipole -Dipole
	16	MCG ,Current /Voltage Sensitivity ,Discussion
	17	Discussion
<b>MAGNETISM</b>	1	Earth magnetism , Meridian , Dip angle , dip circle , app. Dip
	2	Vibrational Magnetometer , Mag. Shielding ,Meissener effect
	3	Magnetic material and Microscopic explanation
	4	Magnetization variable , Curie law , curie-weiss law , Curie temp .
	5	Hysterises , B Vs H Graph , coercivity , retentivity , Losses
	6	Discussion
<b>EMI</b>	1	Translational and Rotational of conducting rod in uniform Magnetic field
	2	Accelarating and rotating conducting rod in absense of Magentic field , Magnetic Flux and Faraday Law and Lenz law
	3	Induced Current , Understanding E , Circuit diagram
	4	Energy Loss , In-out of Magnetic field by a closed body
	5	Horizontal - Vertical Rails
	6	Cases including C , terminal velocity , rotating disc
	7	Cases having Induced EMF and Battery
	8	Disc Rotation about diameter , AC generator
	9	time variation of Mangetic field , Induced EMF inside outside
	10	Finding Potential difference and Induced EMF b/w points , charges flow , impluse

	11	questions on Magnetic field Variation and Discussion
	12	Discussion
	13	Mutual Induction Law , Conentric Coils , Co-axial Solenoid .
	14	More example on Mutual , Self induction Law , Inductor
	15	Inductance , equivalent Inductance of solenoid , toroid , Inductor Combination
	16	Ex. Of inductor , Magnetic Energy Density , Growth /fall of current in LR Circuit
	17	Examples of LR Circuit
	18	L-C Oscillations , Equivalent time calculation ,comparision with spring - block
	19	Discussion
	20	Discussion
<b>AC</b>	1	AC Current , Frequency , avg, ,RMS ,peak .AC Circuit , Phase angle , Power and power factor
	2	Phasor diagram , resistance , X ,Z , rms value of V and Instantaneous value of V across elements .
	3	Fundamental AC Circuit , R only, L only , C only . Series Circuit : R-L ,L-C , R-C , L-C-R Circuit
	4	resonance and Circuit analysis , examples
	5	Quality factor ,half power frequency , Discussion
	6	Parallel AC Circuit , Conductance , Susceptance and admittance
	7	Choke Coil , Transformer .
	8	Discussion
<b>DAMPING</b>	1	Natural Damped oscillation ,underdamping , critical damping & over damping
	2	Under- damping - A variation , Q Value , Power Loss , Log decrement
	3	Forced damped oscillation , resonance
	4	Discussion
	1	Maxwell's Displacement current and Ampere's law failure
	2	Maxwell Equation ,EM waves and hertz Experiment

EM WAVES	3	wave Eqn , Poynting vecor , EM Energy Density
	4	momentum transfer , Specturm of EM Waves Discussion
	5	Discussion
GEOMETRICAL OPTICS	1	Introduction to ray optics , rectilinear propogation and bending ,reflection & Refraction
	2	Reflection ,Laws of reflection vector Law , Plane mirror , Object and image
	3	Plane mirror deviation , Field of View ,object - image velocity, no. of images
	4	Spherical Mirror - Concave /convex , focal length , mirror formula , newtons formula
	5	object - image speed , u-v Graph , focus ( experimentally ) Parallax .
	6	discussion
	7	Refraction ,Law of Rrefraction , Vector Law , Refractive index , Refraction in multiple parallel mediums , equations of Ray .
	8	Rectangular Slab , lateral shift , normal location in different medium , velocity in different medium .
	9	shifting by slab , TIR and critical angle , Graph b/w deviation and angle of incidence .
	10	Circle of illuminance, optical fibre , Mirage , Looming .
	11	Discussion , Prism , graph b/w deviation and angle of incidence .
	12	No emergence prism , $i'=0$ , small angled prism
	13	Cauchy 's Formula , Dispersion , Dispersive Power , Prism Combination , achromatism .
	14	Discussion , Spherical refraction , formula F1 and F2 .
	15	Spherical Refraction examples , Lens Formula , Magnification
	16	Cases for Lenses , obj-image Velocity , cutting -splitting
	17	Lens Combination , power ,silvering of lens.
	18	Displacement Method , lens Defect , Achromatic combination
	19 + 20	discussion
	1	Obj. Size , Simple Microscope , Magifying power
	2	Compound Microscope - Magnification power and length of tube .

<b>OPTICAL INSTRUMENTS AND EYE DEFECTS</b>	3	Astronomical telescope - Magnification power and length of tube .
	4	Resolving power and comparison ,lens cameras and Focal length , eye defects , myopia , hypermetropia , presbyopia , astigmatism
	5	Discussion
<b>WAVE OPTICS</b>	1	Huygens hypothesis , wave front , secondary wavelets , laws of reflection /refraction , failure .
	2	Coherent sources and YDSE , Intensity
	3	Variation on screen , no. of maxima & minima on screen .
	4	Optical path , slabs on slits
	5	bi and multi chromatic , white light .
	6	Medium change , screen movement , Multi slits
	7	shape of fringes , lloyd's Mirror
	8	Thin Film interference , Newtons Ring
	9	Polarization , polaroid , malus and Brewster Law , Scattering
	10	Diffraction , fresnel/Fraunhofer diffraction , slit/Circular Hole , resolution
	11	Discussion
	12	Discussion
<b>PHOTON THEORY ,MATTER WAVE ,PHOTO-ELECTRIC EFFECT</b>	1	Photon , Power ,intensity , force on beam .
	2	Examples of force on beam
	3	De-broglie wavelength , matter waves , quantization , particle in a box , bohr Model
	4	Quantization examples , discussion
	5	Photo - electric effect , hertz , hallwachs , einstein explanation
	6	Isolated sphere and PEE Experiment ,stopping potential
	7	I-V Graph and effect of intensity and frequency
	8	Discussion
	1	different models of Atom , Bohr Model and equations

<b>ATOMIC STRUCTURE AND X RAYS</b>	2	V, r ,E dependency on n and Z . Modified Bohr Model
	3	Excitation - De- excitation energy levels , series , rydberg equation .
	4	Recoil and Series Energy , atomic Collision
	5	Atomic Collision Example
	6	Motion of nucleus ,failure of Bohr model , discussion
	7	Discussion
	8	X Rays
	9	X rays
	10	Discussion
	<b>NUCLEAR PHYSICS AND RADIOACTIVITY</b>	1
2		Isotope , isotone , isobar , binding energy and mass defect
3		Nuclear Forces , BE/A , Stability , Fission ,Fusion
4		Behaviour , of BE/A Graph ,volume , surface and potential energy
5		Nuclear reaction , Q value , Nuclear Decays , alpha, beta, gamma comparison
6		Alpha decay , beta decay , K capture , Gamma Decay
7		Fission Reactors , Fast Breeders , Fusion ,Pair production and anihilation
8		Discussion
9		Alpha ,beta, gamma decay , activity , law of radioactivity , units
10		Half Time ,Avg. Time , decay constant , soddy and Fajan's Rule Series
11		Parallel disintegration , Equivalent decay constant , Disintegration with product
12		Discussion
	1	Band theory , Forbidden gap , Concept of Holes in semi-conductor
	2	Intrinsic ,extrinsic ,doping , N type ,P type , Mass action law .
	3	P-N Junction ,diffusioin , drift current , potential barrier , depletion layer , Diode- Forward & Reversed Biased

<b>ELECTRONIC DEVICES</b>	4	Zener and avalanche breakdown , application of diode LED ,photodiode ,solarcell ,Zener diode ,rectifier - Full wave , half wave ,Bridge recitifier
	5	Transistor , E,B,C, npn ,pnp . Region of Working
	6	Transistor circuits , Common base , Common emiiter Common collector , input output charateristics
	7	Current Gain ,Voltage Gain and other relation . Questions , transistor as amplifier
	8	Discussion
	9 + 10	Logic gates : OR ,AND, NOT , NOR,NAND , XOR, XNOR Gate . Boolean algebra ,truth table , Elec. Analogue and Circuit diagram
	11	Discussion
<b>COMMUNICATION SYSTEM</b>	1	Communication and Element of Communication System , types , basic definitions tranducer , noise , signal ,attenuation
	2	Prop. Of EM waves , Ground ,Sky ,space Communication . Modulation : AM ,FM ,PM
	3	Modulation Index , Band Width Sq.law Device ,Band Pass Filter , Demodulation ,IP Stage , Envelope Detector , Cmax.
	4	Discussion

## CHEMISTRY COURSE SCHEDULE

### NEET Yearlong Physical & Inorganic Chemistry for Class 12th of NEET 2021 by PS Sir

CHAPTER NAME	NO. OF LECTURES	CONTENT OF CHAPTER
<b>CHEMICAL KINETICS (3.5 WEEKS)</b>	1	introduction, rate of reaction, rate of appearance & disappearance, Differential rate law, rate in terms of pressure
	2	rate law or rate expression, elementary & complex reaction, order & molecularity, Determination of rate law for complex reactions
	3	significance of order of reaction, experimental determination of order of reaction, unit of rate constant
	4	integrated rate equation for zero order reactions, characteristics of zero order reaction & Illustrations
	5	first order reaction, characteristics of first order reactions
	6	Illustrations on first order reactions, second order reaction, nth order reaction
	7	monitoring of first reaction in terms of pressure & Illustrations
	8	monitoring the progress of reaction by measuring volume of gases evolved, by measuring volume of alkali used, by measuring angle of rotation
	9	rate in terms of angle of rotation, rate in terms of thickness of oxide film, pseudo first order reactions
	10	Parallel first order reactions, Numerical based on parallel first order reaction
	11	kinetics of reversible first order reaction, kinetics of series first order reaction
	12	collision theory & its application
	14	arrhenius equation & numericals based on it, temperature coefficient
	15	maxwell's speed distribution curve, variation of equilibrium constant with temperature, factors affecting rate of reaction
	16	effecting of catalyst on reaction rate, reaction mechanism, energy diagram for complex reaction, writing rate law for complex reaction, steady state approximation, miscellaneous numericals
	<b>RADIOACTIVITY(2 WEEKS)</b>	1
2		kinetic of radioactivity, activity & its units, numerical problems
3		carbon dating, uranium dating, estimation of value of blood
4		series & parallel decay, stability of nucleus, cause of radioactivity
5		K-electron, $\gamma$ -emission, artificial radioactivity, stability of nucleus, binding energy
6		Nuclear fission:- atomic bomb, nuclear reactor, nuclear fusion
	1	Basic terms used in thermodynamics system, surrounding, boundary or wall, extensive & intensive properties, State & Path functions

<b>THERMODYNAMICS (4 WEEKS)</b>	2	Heat capacities, Molar heat capacity( $C_v$ & $C_p$ ),degree of freedom for monoatomic,diatomic,triatomic gas
	3	Law of Equipartition of energy,internal energy(for ideal gas & solid and liquid)
	4	internal energy for real gases, heat and work, Zeroth law of T.D., First Law Of T.D.
	5	Applications of first law , Enthalpy function
	6	relation between $\Delta H$ & $\Delta U$ , Applications & Illustrations
	7	reversible and irreversible processes,comparision of work done in reversible and irreversible processes
	8	thermodynamic processes,analysis of a)isobaric process b) isochoric process c) isothermal process
	9	reversible and irreversible adiabatic process,comparision of final temperature in reversible and irreversible adiabatic,comparision of isothermal & adiabatic process
	10	free expansion,cyclic process,polytropic process, Kirchoff's law
	11	limitations of first law of thermodynamics, spontaneous and non-spontaneous process, cornot cycle and its efficiency
	12	entropy and its significance,mathematical defination of entropy,condition for spontaniety,statements of 2nd law
	13	calculation of entropy of system,surrounding and total entropy for isochoric process,isobaric process,isothermal process,adiabatic process
	14	calculation of entropy in free expansion,entropy change for heating of solid,liquid & gas,entropy of reaction,third law of thermodynamics
	15	introduction of gibbs function,criteria for spontaniety,physical significance of gibbs free energy
	16	variation of gibbs free energy with pressure and temperature,gibbs free energy and equilibrium constant
	<b>THERMOCHEMISTRY (2 WEEKS)</b>	1
2		introduction,enthalpy of formation,calculation of enthalpy of reaction by enthalpy of formation,enthalpy of compustion
3		enthalpy of neutrilisation and its calculation,lattice enthalpy & born haber cycle
4		enthalpy of hydration,enthalpy of solution,enthalpy of atomisation & other enthalpies
5		calorimetry, adiabatic flame temperature
	6	bond energy, bond dissociation energy, resonance energy
	1	introduction,type of electrochemical cells,galvenic cell & its working,functions of salt bridge
	2	properties of inert electrolyte,effect of external battery on galvenic cell,representation of cell, writing the cell reaction



**ELECTROCHEMISTRY  
(4.5 WEEKS)**

3	electrode potential,EMF of cell,standard hydrogen electrode,measurement of standard electrode potential,significance of standard electrode potential
4	electrochemical series, $\Delta G$ & $E_{cell}$ ,nernst equation,using nernst equation on a complete cell
5	application of nernst equation for a half cell, different types of half-cells and their application in numericals
6	Concentration cells and their application
7	electrode gas concentration cell,metal sparingly soluble salt-anion electrode and its application
8	questions based on molten electrode,when 2 or more half cell reactions are combined to form a new half cell reaction,thermodynamics of cell
9	electrolysis & electric cell,product of electrolysis
10	products of electrolysis of NaCl,HCl,H <sub>2</sub> SO <sub>4</sub> ,CuSO <sub>4</sub> ,important points to remember for electrolysis
11	quantitative analysis of electrolysis and faradays first law
12	faraday's law of electrolysis,classification of conductors
13	"introduction to conductivity cell and important terms (conductance,conductivity and molar conductivity)"
14	equivalent conductivity, variation of conductivity and molar conductivity with dilution
15	variation of molar conductivity with dilution ( for strong and weak electrolyte ) , Kohlrausch's law and Ostwald's dilution law
16	calculation of degree of dissociation of weak electrolyte,calculation of solubility product of sparingly soluble salt
17	ionic mobility,conductometric titration(titration of SA vs SB,titration of WA vs Sb)
18	conductometric titrations,precipitation titration,types of batteries

**LIQUID SOLUTION  
(3 WEEKS)**

1	Definition of solution,vapour pressure of a liquid:evaporation & condensation,variation of vapour pressure with temperature,boiling point
2	Raoult's law, vapor pressure of an ideal binary solution containing and volatile liquid
3	"liquid and vapor composition curve for ideal solution, variation of composition of liquid and vapors with external pressure"
4	illustration of variation of composition of liquid and vapour with external pressure,principle of isobaric and isothermal distillation
5	vapor pressure composition curve,boiling point composition curve,illustrations solved in class,vapor pressure of two immiscible liquids (Nalatile)
6	ideal and non-ideal solution, illustration on identification & characteristics of ideal and non-ideal solution
7	"azeotropic mixture,their types and properties,colligative properties, relative lowering in vapour pressure"
8	elevation in boiling point,experimental determination of $\Delta T_{bp}$ ,illustrations on colligative properties( $\Delta T_{bp}$ )

	9	illustration on elevation in boiling point, depression in freezing point
	10	illustration based on depression in freezing point, osmotic pressure & osmosis
	11	illustration of osmotic pressure, van't Hoff factor
	12	good illustration on van't Hoff factor, solubility of gases in liquids, Henry's law, Raoult's law as a special case of Henry's law
<b>SURFACE CHEMISTRY (2 WEEKS)</b>	1	adsorption and absorption, mechanism and thermodynamics of adsorption, types of adsorption
	2	adsorption isotherm (Freundlich isotherm, Langmuir's isotherm), adsorption from solution, catalysis (types of catalysis), promoters and poisons
	3	theory of catalyst, characteristics of catalyst, enzymes, characteristics of enzymes
	4	colloidal solution, classification of colloids (based on size of particle, based on physical state of dispersion medium and dispersed phase), micelles, classification based on interaction of dispersed
	5	preparation of colloids, dispersion method & condensation method, properties of colloid
	6	properties of colloid: charge on colloid, Tyndall effect, color of a colloid, Brownian movement
	7	coagulation, methods of coagulation, purification of colloids, emulsions & test of emulsions
<b>SOLID STATE (3 WEEKS)</b>	1	introduction, amorphous & crystalline solids, types of crystalline solids, crystal lattice & unit cell, types of unit cell & Bravais lattices
	2	analysis of unit cells, simple cubic unit cell, BCC unit cell & FCC unit cell
	3	Density of unit cell and its calculation, calculation of formulae, illustrations
	4	close packing of atoms, square & hexagonal close packing, tetrahedral voids & octahedral voids
	5	HCP & CCP structures and their formation, location of octahedral & tetrahedral voids
	6	limiting radius ratio & its calculation, questions based on radius ratio rule
	7	structure of ionic compounds, NaCl type & CsCl type, zinc blende structure, wurtzite structure, fluorite and anti-fluorite structure
	8	defects in solids, stoichiometric defects (Schottky & Frenkel defects), non-stoichiometric defects
	9	magnetic properties of materials, piezoelectricity, pyroelectricity, Bragg's equation
	1	introduction, complex compounds and double salts, central metal atom, ligands and their classification
	2	coordination number, classification of ligands on the basis of denticity, chelating ligands and chelates
	3	ambidentate ligand, flexible ligands, classical and nonclassical ligands, $\pi$ -donor and $\pi$ -acceptor ligands, oxidation number
	4	effective atomic number, Sidgwick's EAN rule

Co-ordination Compounds (14)	5	Nomenclature Of Coordination compounds, Naming of bridging complexes,werner's coordination theory
	6	valence bond theory(VBT),assumptions of VBT and Important Aspects,Complexes with CN=4, complexes with CN=6 and 5,Limitations of VBT
	7	crystal field theory,crystal field splitting in octahedral field,filling of electrons in octahedral complexes
	8	cystal field splitting in tetrahedral and square planar field,comparision of CFSE,factors affecting CFSE
	9	stability of complex compounds,color of complex compounds,charge transfer spectra
	10	jahn-teller distortion(tetragonal distortion),stability of complexes
	11	isomerism in coordination compounds,structural isomerism,stereoisomerism
	12	isomerism in octahederal complexes
	14	Applications Of Coordination Compounds
P-Block (13)	1	Introduction, General Properties of P-Block Elements, Inert Pair Effect, Anamolous Behaviour of First Member of Group
	2	Boron Family, Compounds of Boron, Borax, Baric Acid
	3	Diborane & its Properties, Carbon Family & its Properties
	4	Allotropes of Carbon, Important Compounds of Carbon
	5	Silicon and its Compound Silica, Silicates, Silicones
	6	Zeolites, 15th Group Elements, Hydrides of 15th Group Elements Stablity, Oxides of Nitrogen, Compounds of Nitrogen
	7	Compounds of Nitrogen, N <sub>2</sub> - uses of N <sub>2</sub> , NH <sub>3</sub> - Preparation, Properties
	8	Test for ammonia,Oxides of nitrogen & their properties,Nitric acid & its properties
	9	Phosphorus and its Compounds, Allotropes of Phosphorus, White Phosphorus, Red Phosphorus, Black Phosphorus, Phosphine(PH <sub>3</sub> ), Acids of Phosphorus, Halides of Phosphorus
	10	Oxygen Family, Physical Properties Compounds of 16th Group, 1.Dioxygen(O <sub>2</sub> ), 2. Ozone (O <sub>3</sub> )
	11	Sulphur & its Allotropes, Sulphur Dioxide, Sulphur Trioxide, Sulphoric Acid, Oxoacids of Sulphur
	12	Halogen Family & their Compounds
	13	Noble Gases & their Components, Uses of Noble Gases
	1	Introduction,Physical Properties of D-block Elements

<b>D-BLOCK &amp; F_BLOCK ELEMENTS (5)</b>	2	Trend in SRP Values, Stability of Higher Oxidation States, Color of Ions
	3	Catalytic Properties, Some Important Compound of D-block, Potassium Permanganate, Potassium Dichromate
	4	Chromyl Chloride Test, Compounds of Zn, Compounds of Ag
	5	Compounds of Copper, Compounds of Iron
<b>METALLURGY (8)</b>	1	Introduction, Method for Metallurgical Extraction, Concentration, Gravity Separation, Magnetic Separation
	2	Froth Flotation, Calcination, & Roasting Flux & Slag
	3	Reduction of oxide to metal, Ellingham Diagram, Reduction by C (smelting)
	4	Reduction of Metal Oxide and Refining of Metals
	5	Metallurgy of Iron, Reducing Character Of Carbon & CO
	6	Metallurgy of Copper (Cu)
	7	Extraction of Aluminium
	8	Metallurgy of silver & Gold
<b>NEET Yearlong Physical &amp; Inorganic Chemistry for Class 12th Class of NEET 2021 by JH Sir</b>		
<b>CHAPTER NAME</b>	<b>NO. OF LECTURES</b>	<b>CONTENT OF CHAPTER</b>
<b>Solid State-9</b>	1	Introduction, Basic definition, Unit cell / Bravais lattices
	2	Cubic unit cell, Various solved Examples
	3	Packing in solids
	4	Octahedral & Tetrahedral void
	5	Radius Ratio, Packing in ionic solids
	6	NaCl / ZnS / CsCl structure, Na <sub>2</sub> O / CaF <sub>2</sub> structure
	7	Defects
	8	Electrical & Magnetic properties
	9	Discussion
	1	Introduction, Vapour pressure

<b>Liquid Solution-7</b>	2	Rault's Law
	3	Colligative properties, $\Delta T_b$ , $\Delta T_f$
	4	Osmotic pressure, Abnormal colligative properties
	5	Non-ideal solution, Distillation / Azeotrope
	6	Henry's law
	7	Discussion
	<b>Kinetics -12</b>	1
2		Rate law, Zero order
3		1st order
4		2nd order, nth order
5		Exp. determination of order of reaction, Calculation of 1st order rate constant
6		Kinetics of parallel reaction, Kinetics of reversible reaction
7		Kinetics of sequential reaction
8		Reaction mechanism, Steady state and equilibrium approach
9		Arrhenius Equation
10		Collision theory of reaction
11		Activated complex theory
12		Discussion
<b>Radioactivity-4</b>	1	Theories for nuclear stability
	2	Radioactive disintegration series, Radioactive disintegration law, Radioactive Decay
	3	Rock dating, Carbon dating,
	4	Nuclear reaction, Discussion
	1	Introduction, Basic definition, Types of system, State function / path function, Extensive & intensive properties
	2	Reversible & Irreversible process

<b>Thermodynamics (I) - 7</b>	3	Work, Heat & Internal Energy, First law of thermodynamics
	4	Enthalpy, Isothermal process, Isochoric process, Isobaric process
	5	Adiabatic process
	6	Comparison between isothermal & adiabatic process, Polytropic process
	7	Various Solved Examples
<b>Thermochemistry -7</b>	1	Introduction, Exothermic & Endothermic reaction
	2	$\Delta H = \Delta U + \Delta n.RT$ , Kirchoff's Equation
	3	Enthalpy of reaction, factors affecting $\Delta H$
	4	Enthalpy of combustion, Formulation, Bond Enthalpy, Resonance energy
	5	Enthalpy of sublimation, Enthalpy of atomisation, Ionisation enthalpy, Electron gain enthalpy, Lattice enthalpy, Born-Haber Cycle
	6	Enthalpy of hydration, Enthalpy of solution, Enthalpy of dilution, Enthalpy of Neutralisation
	7	Discussion
<b>Thermodynamics (II) - 7</b>	1	Carnot cycle, Second law of P.D.
	2	Entropy, Physical significance of entropy
	3	Calculation of entropy, Entropy change for phase transformation, Entropy change for chemical reaction
	4	Third law of thermodynamics, Residual Entropy
	5	Gibbs free energy, Calculation of change in 'G'
	6	Gibb's free energy & non-PV work, Concept of equilibrium
<b>IONIC EQUILIBRIUM- 11</b>	1	Classification, Arrhenius theory of dissociation, Dissociation of H <sub>2</sub> O, Ph
	2	Calculation of pH of solution containing acid or base
	3	Calculation of pH of solution containing polyprotic acid/base & mixture of acid/base
	4	Salt hydrolysis, Amphiprotic salt
	5	Buffer solution, Change in pH of Buffer, Buffer index
	7	Indicators, Double indicator acid base titration

	8	Solubility product
	9	Effect of complex formation on solubility, Effect of hydrolysis on solubility
	10	Precipitation
	11	Discussion
<b>Electrochemistry-12</b>	1	Introduction, Electrode potential, Daniel cell, $E_{cell} = E_{oxid} + E_{red}$ $\Delta G = -nFE_{cell}$
	2	Representation of cell, Types of half cell, Electrode potential & $K_{eq}$
	3	Nernst equation
	4	Various Solved Examples
	5	Primary cell / secondary cell
	6	Electrolytic cell, Faraday's law
	7	Various Solved Examples
	8	Sequence of deposition
	9	Conductance / Conductivity, Molar conductance
	10	Kohlraush law
	11	Conductometric titration, Ionic mobility
	12	Discussion
<b>Surface Chemistry-6</b>	1	Adsorption
	2	Catalyst
	3	Colloidal solution Classification
	4	Preparation & Properties of Colloids
	5	Emulsion
	6	Discussion
	1	Introduction, Complex Compounds and Double Salts, Central Metal Atom, Ligands and Their Classification
	2	Co-ordination Number, Classification of Ligands on the Basis of Denticity, Chelating Ligands and Chelates

<b>Co-ordination Compounds-15</b>	3	ambidentate ligand,flexidentate ligands,classical and nonclassical ligands, $\pi$ -donor and $\pi$ -acceptor ligands,oxidation number	
	4	effective atomic number, Sigdwick's EAN Rule	
	5	Nomenclature Of Coordination compounds, Naming of bridging complexes,werner's coordination theory	
	6	valence bond theory(VBT),assumptions of VBT and Important Aspects,Complexes with CN=4, complexes with CN=6 and 5,Limitations of VBT	
	7	crystal field theory,crystal field splitting in octahedral field,filling of electrons in octahedral complexes	
	8	cystal field splitting in tetrahedral and square planar field,comparision of CFSE,factors affecting CFSE	
	9	stability of complex compounds,color of complex compounds,charge transfer spectra	
	10	jahn-teller distortion(tetragonal distortion),stability of complexes	
	11	isomerism in coordination compounds,structural isomerism,stereoisomerism	
	12	isomerism in octahederal complexes	
	14	Applications Of Coordination Compounds	
	15	Discussion	
	<b>Metallurgy-8</b>	1	Introduction, Method for Metallurgical Extraction, Concentration, Gravity Separation, Magnetic Separation
		2	Forth Floatation, Calcination, & Rousting Flux & Slag
		3	Reduction of oxide to metal, Ellingham Diagram, Reduction by C (smelting)
4		Reduction of Metal Oxide and Refining of Metals	
5		Metallurgy of Iron, Reducing Character Of Carbon & CO	
6		Metallurgy of Copper (Cu)	
7		Extraction of Aluminium	
8		Metallurgy of silver & Gold	
	1	Introduction, General Properties of P-Block Elements, Inert Pair Effect, Anamolous Behaviour of First Member of Group	
	2	Boron Family, Compounds of Boron, Borax, Baric Acid	
	3	Diborane & its Properties, Carbon Family & its Properties	
	4	Allotropes of Carbon, Important Compounds of Carbon	



<b>p-block-13</b>	5	Silicon and its Compound Silica, Silicates, Silicones
	6	Zeolites, 15th Group Elements, Hydrides of 15th Group Elements Stability, Oxides of Nitrogen, Compounds of Nitrogen
	7	Compounds of Nitrogen, N <sub>2</sub> - uses of N <sub>2</sub> , NH <sub>3</sub> - Preparation, Properties
	8	Test for ammonia, Oxides of nitrogen & their properties, Nitric acid & its properties
	9	Phosphorus and its Compounds, Allotropes of Phosphorus, White Phosphorus, Red Phosphorus, Black Phosphorus, Phosphine (PH <sub>3</sub> ), Acids of Phosphorus, Halides of Phosphorus
	10	Oxygen Family, Physical Properties Compounds of 16th Group, 1. Dioxygen (O <sub>2</sub> ), 2. Ozone (O <sub>3</sub> )
	11	Sulphur & its Allotropes, Sulphur Dioxide, Sulphur Trioxide, Sulphuric Acid, Oxoacids of Sulphur
	12	Halogen Family & their Compounds
	13	Noble Gases & their Components, Uses of Noble Gases
	<b>d-block &amp; f-block Element-5</b>	1
2		Trend in SRP Values, Stability of Higher Oxidation States, Color of Ions
3		Catalytic Properties, Some Important Compound of D-block, Potassium Permanganate, Potassium Dichromate
4		Chromyl Chloride Test, Compounds of Zn, Compounds of Ag
5		Compounds of Copper, Compounds of Iron
<b>NEET Yearlong Organic Chemistry for Class 12th of NEET 2021 by SY Sir</b>		
<b>CHAPTER NAME</b>	<b>NO. OF LECTURES</b>	<b>CONTENT OF CHAPTER</b>
<b>General Reaction Mechanism(10)</b>	1	Introduction of Reaction Mechanism
	2	Electrophilic Addition Reaction, Rearrangement of Carbocation
	3	Electrophilic Addition Reaction, Rearrangement of Cyclic Rings (Expansion and Contraction)
	4	Electrophilic Addition, Stereochemistry of Reaction, Kinetically Controlled Product (KCP), Thermodynamically Controlled Product (TCP)
	5	Electrophilic Addition Reaction
	6	Free Radicals Addition Reaction
	7	Free Radicals Addition, Kolbe Electrolysis, Anti Markownikoff Rule
	8	Nucleophilic Addition Reaction, Reaction with Grignard Reagent

	9	Nucleophilic Substitution Reactions SN1 and SN2 Reaction
	10	Acyl nucleophilic substitution (SNAC) (SNAE)
Halogen Derivatives (28)		<b>Reaction reagents (2)</b>
	1	Electrophile, nucleophile
	2	Variation of Electrophilicity and nucleophilicity
		<b>Carbocation (2)</b>
	3	General, Generation
	4	General reaction. And its rearrangements
		<b>Important Reaction Involving carbocation (R-X, form + Rxn) (8)</b>
	5	Addition of HX, and H <sub>3</sub> O <sup>+</sup> addition with alkenes / alkynes,
	6	Addition of X <sub>2</sub> , IX, NOX,, HO-X with alkenes / alkynes,
	7	Addition of X <sub>2</sub> , IX, NOX,, HO-X with alkenes / alkynes,
	8	Discussion
	9	OMDM, HBO
	10	Dehydration of alcohol (E <sub>1</sub> -Reaction)
	11	Pinacol-Pinacolone rearrangement
	12	Demjanav rearranement, Dienone Phenol
	13	Demjanav rearranement, Dienone Phenol
		<b>Nucleophilic Substitution reaction (SN-RXN)(5)</b>
	14	SN <sup>1</sup> & SN <sup>2</sup>
15	Comparison of SN <sup>1</sup> & SN <sup>2</sup>	
16	SN <sub>i</sub>	
17	Examples of SN reactions of R-X, R-OH, R-O-R	
18	Examples of SN reactions of R-X, R-OH, R-O-R + SNNGP	

	<b>Elimination Reaction (5)</b>
19	$E_1, E_2, E_{1CB}$
20	$E_1, E_2, E_{1CB}$
21	Orientation of E.R
22	Pyrrolylic / thermal elimination rxn
23	Dehydration, Dehalogenation
	<b>Free Radical (5)</b>
24	Introduction, G.M.P, GR
25	Important reaction involving FR. (Kolbe, Electrolysis, wurtz reaction) and related reactions
26	Photohalogenation (chlorination, Bromination)
27	Per-oxide effect, NBS RXn, Pinacol-form n
28	Hunsdiecker reaction
	<b>Grignard Reagent(3)</b>
1	Grignard reagent -1
2	Grignard reagent -2
3	Grignard reagent -3
	<b>Reduction of various functional group (4-5)</b>
4	Reduction by $H_2$ /cat
5	Reduction by $LiAlH_4$
6	Reduction by $SBH, BH_3-THF/H^+, DIBAL-H$
7	Some important reduction
8	Some important reduction
	<b>Oxidation (4)</b>
9	Oxidation -1 (Alkane, alkene, alkyne)

Alcohol and Ether (11-12)

	10	Oxidation -2 (Alkane, alkene, alkyne)
	11	Oxidation -3 (R-OH, R-X)
	12	Oxidation -4 (Aldehyde, ketone)
Carbonyl compounds (Aldehyde, ketone) (10)		<b>Heating effect (2)</b>
	1	Heating effect on various compound -(2)
	2	Heating effect on various compound -(2)
		<b>Nucleophilic addition reaction (2)</b>
	3	Reaction with NaHSO <sub>3</sub> , HCN, H <sub>2</sub> O, H <sub>2</sub> N-Z
	4	Reaction with R-OH
		<b>Name reactions (6)</b>
	5	Haloform reaction
	6	Aldol condensation reaction
	7	cannizaro's reaction
	8	Claisen-sehmidt, perkin, reformalsky,
	9	Knoevengel, claisen-ester condensation, michael addition rxn
	10	Benzil-Benzilic acid rearrangement, benzoin, corey House synthesis
Carboxylic acid derivatives and Amines(7)		<b>Carboxylic acid derivatives (3)</b>
	1	G.M.P (general method of preparation)
	2	G.M.P (general method of preparation and reactions)
	3	General reactions
		<b>Amines (4)</b>
	4	General method of preparion
	5	Aldol condensation reaction and reactions
6	Aldol condensation reaction and reactions	

	7	Benzene diazonium chloride and its rxn
Aromatic compound-7		<b>Phenols (3)</b>
	1	G.M.P
	2	Rxn of Phenol
	3	Rxn of Phenol
		<b>Aniline (3)</b>
	4	G.M.P & GR
	5	G.M.P & GR
	6	Test of phenol and aniline, coupling reactions.
		<b>Chlorobenzene (1)</b>
	7	G.M.P & Rxn.
Biomolecule (9)		<b>Amino Acid &amp; Proteins (2)</b>
	1	Introduction, classification, physical properties Isoelectric point
	2	Reaction of Amino acid, protein and its classification
	3	Nucleic acid / Vitamines
		<b>Carbohydrates (4)</b>
	4	Introduction, classification
	5	Structure of monoseccharides (Glucose, fructose)
	6	Reactions of monosaccharides
	7	Disaccharides and polysoccharides
	8	Polymers
9	Chemistry in every day life	

# BIOLOGY COURSE SCHEDULE

## NEET Yearlong Biology for Class 12th of NEET 2021 by AA Mam

CHAPTER NAME	NO. OF	CONTENT OF CHAPTER
<b>Reproduction in Organisms (3)</b>	1	Life span , Asexual reproduction
	2	Vegetative Propagation
	3	Sexual Reproduction & Parthenogenesis
<b>Human Reproduction (12)</b>	1	Male Reproductive System
	2	Internal Structure of Testis, Hormonal control
	3	Spermatogenesis, Sperm Structure, Disorders
	4	Female reproductive System
	5	Mammary glands, folliculogenesis
	6	Oogenesis, Hormonal Control, Menstrual cycle
	7	Egg & Egg membranes
	8	Fertilization process
	9	Embryology
	10	Embryology
	11	Placenta, Umbilical cord
	12	Gestation, Parturition, Lactation
<b>Reproductive Health (3)</b>	1	Population Explosion, Family planning, RCH, Methods of Control
	2	Contraception, STDs
	3	Infertility
<b>Sexual Reproduction in Flowering plants (8)</b>	1	Structure of Flower , Androecium
	2	Microsporogenesis, Pollen grain, Male gametophyte
	3	Gynoecium, Structure & Types of ovules, Megasporogenesis
	4	Female gametophyte, Pollination- Types , Agents, Adaptation
	5	Anemo/ Hydro/ Entomophily, Pollen- Pistil Interaction
	6	Double Fertilization, Dicot Embryo, Moncot Embryo
	7	Endosperm development, seed
	8	Fruit development , Apomixis , Polyembryony
<b>Human Health &amp; Disease (10)</b>	1	Introduction , Bacterial disease
	2	STDs, Viral diseases
	3	Viral & Helminthic diseases
	4	Helminthic & Protozoa diseases
	5	Malaria
	6	AIDS, Cancer

	7	Immune System – Lymphoid organs, Types of Immunity
	8	Aquired Immunity
	9	Active & Passive Immunity , Auto-Immune, Immunity, Allergy
	10	Mental Health , Alcohol & Drug Abuse
<b>Principles of Inheritance &amp; Variations (13)</b>	1	Blending inheritance, Terminology, Mendelism
	2	Rediscovery, Reason for Non-recognition & Success of mend
	3	Law of Dominance, Law of Segregation
	4	Exceptions to law of Dominance
	5	Dihybrid cross, Law of Independent Assortment
	6	Non-Allelic Interactions
	7	Chromosomal theory of inheritance
	8	Linkage
	9	Sex determination Mutations
	10	Genetic disorders
	11	Cytoplasmic inheritance
	12	RH inheritance , Pedigree
	13	Numericals
<b>Molecular Basis of Inheritance (8)</b>	1	Nucleic acid , Double helix DNA, DNA packaging, Types of DNA
	2	Search for Genetic material Properties , RNA world
	3	Mechanism of DNA Replication
	4	RNA Structure, Types. Transcription Unit , Transcription
	5	Transcription, Gene code, Gene mutation
	6	Gene regulation, Lac Operon, HGP
	7	DNA fingerprinting , VNTRs
	8	Numerical solving
<b>Biotechnology – Principles &amp; Processes (5)</b>	1	Principles, rDNA construction, Gene cloning, Enzymes
	2	Restriction Enzymes
	3	Vectors & Competent host
	4	Processes – Gel Electrophoresis, PCR
	5	Transformation of Host, Bioreactors, Downstream processing
<b>Biotechnology &amp; its Application (6)</b>	1	Genetically Engineered Insulin
	2	Gene Therapy, MonoclonalAntibodies
	3	PCR, ELISA, Autoradiography, Green Revolution
	4	Golden Rice, Hirudin ,Bt cotton
	5	RNAi, Flavr Savr Tomato, Pest- resistant plants

	6	Transgenic Organisms, Cloning, Biopiracy, bioethics
<b>Evolution (6)</b>	1	Origin of Universe, earth (theories), Chemical evolution, Urey Miller experiment
	2	Evidences of evolution
	3	Geological Time s\Scale, Lamarckism
	4	Darwinism, Mutation theory, Neo- Darwinism
	5	Hardy- Weinberg equilibrium, speciation, Natural selection
	6	Human Evolution, Phylogeny of horse
<b>Microbes in human welfar (3)</b>	1	Microbes in household products, Industrial products
	2	STPs, Bioferfilizers
	3	Biogas, Biocontrol Agents
<b>Strategies for Enhancement in Food production (7)</b>	1	Animal husbandry , Breeding types
	2	AI-MOET, Dairy & Poultry farming
	3	Api, Seri, Lac & Aquaculture
	4	Plant Breeding steps
	5	Hybridisation, Inbreeding depression, Polyploidy
	6	Mutation breeding , Green Revolution, Disease Resistance
	7	Insect resistance, Biofortification, SCP, PTC Methods
<b>Organisms &amp; Population (6)</b>	1	Ecological Hierarchy, Habitat, Niche, Climatic Zones
	2	Biomes, Temperature, water, Light
	3	Soil, Response to Abiotic factors
	4	Adaptations in Animals & Plants
	5	Population Attributes & Growth models
	6	Interactions
<b>Ecosystem (5)</b>	1	Types & Components of ecosystem, structure
	2	Productivity, Decomposition
	3	Energy flow, food chains & food webs
	4	Ecological Pyramids, Succession Types
	5	Nutrient Cycling, Ecosystem Services
<b>Biodiversity &amp; its Conservation (4)</b>	1	Genetic , Species & Ecological biodiversity, Global Indian diversity
	2	Patterns of biodiversity, David Tilman experiment Rivet Popper hypothesis
	3	Causes of , biodiversity loss , Reasons for Conservation, Extinction susceptibility
	4	In-situ & Ex-situ methods of conservation
<b>Environmental Issues (6)</b>	1	Pollution Types , Air pollution
	2	Bhopal gas Tragedy, Vehicle pollution Noise pollution
	3	BOD & DO Relation, water pollutions, Case study of Integrated waste water Treatment
	4	Chemical oxygen Demand , Bio magnification,Eutrophication, Case study for plastic waste Remedy
	5	Case Study of organic Farming, Green house effect, Global warming
	6	International Initiates for GHG & Ozone depletion, Peoples initiatives for wildlife protection