NEET Super Saver Course Plan - Physics 12th by Nipun Mittal (NM) Sir

Class 11th (Revision)			
S. No.	**Chapter Name**	**No. of Lectures**	**Lecture Name**
1	Unit & Dimension & Vector	1	Unit , Dimension & Dimensional Analysis
		2	Complete Vector Revision
		3	Discussion
2	Error Analysis	1	Complete Error + Discussion
3	Kinematics	1	Motion in 1D + Graph
		2	Relative Motion & Projectile Motion
		3	Discussion
4	NLM	1	1st , 2 nd and 3 rd Laws of Motion , FBD
		2	Constraint Motion and Discussion
5	Friction	1	Static Friction and Kinetic Friction
		2	Problems + Discussion
6	Circular Motin	1	CIRCULAR KINEMATIC AND DYNAMICS
		2	DISCUSSION
7	WPE	1	CALCULATION OF WORK, CONSERVATIVE FORCE AND POTENTIAL ENERGY
		2	WORK-ENERGY THEORM, POWER
		3	DISCUSSION + Problems
		4	DISCUSSION + Problems
8	Com	1	CALCULATION OF COM, COM FOR 2 BODIES,CASES OF CAVITY
		2	SYSTEM OF VARIABLE MASS + Discussion
9	Rotational motion	1	MOMENT OF INERTIA, PARALLEL AND PERPENDICULAR AXIS THEORM , RADIUS OF GYRATION
		2	TORQUE, NEWTON'S LAW OF ROTATION, ANGULAR MOMENTUM , COMBINATION OF ROTATIONAL + TRANLATION MOTION
		3	SLIPPING, PURE ROLLING, MECHANIVAL ENERGY, IOAR
		4	DISCUSSION
10	SHM	1	EQUATION OF SHM, TWO BLOCK SYSTEM & COMBINATION OF SPRINGS IN SHM
		2	ANGULAR SHM, SIMPLE PENDULUM, COMPOUND PENDULUM, TORSIONAL PENDULUM
11	Wave & Sound Waves	1	EQUATION OF WAVE, SUPERPOSITION, INTERFERENCE, REFLECTION, TANSMISSION
		2	SOUND WAVE , BEATS, DOPPLER'S EFFECT, DISCUSSION
12	Heat , KTG & Thermodynamics	1	Heat Complete Theory
		2	KTG, DEGREE OF FREEDOM,AVOGADRO' LAW, MAXWELL'S LAW,RMS VELOCITY, MEAN FREE PATH
		3	WORK DONE, FIRST LAW OF THERMODYNAMICS, CYCLIC PROCESS,CARNOT THEORM,SECOND LAW OF THERMODYNAMICS
		4	DISCUSSION
13	Fluids , Surface Tension and Viscocity	1	Fluid Statics and Dynamics
		2	Surface tension and Viscocity

14	Elasticity , Thermal Expansion & Heat Transfer	1	ELASTICITY, THERMAL EXPANSION
		2	Heat Transfer ,DISCUSSION

Class 12th			
S. No.	**Chapter Name**	**NO. OF LECTURES**	**CONTENT OF CHAPTER**
1	Geometrical Optics	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
2	Wave Optics	1	introduction of wave optics,newton's corpestuals theory,hygen's theory,introduction of light
		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.breston's law
		6	examples on polarization,malus law
		1	electrostatics introduction,charges,types & properties of charges
		2	charging of bodies,induction & conduction,coulamb's law,examples on coulamb's law

3	Electrostatics	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 Sphare, 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
		20	Discussion
4	Gravitation	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
		3	Gravitation field and intensity, acceleration due to gravity, charge in value of G due to hight 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
		1	introduction of electric current,current density,current in a conductor
		2	relation between current ,conductivety,ohm's law,V-I graphs,ohmic & non-ohmic conductors
		3	resistivity & temperature,colour code of resistances

5	Current Electricity	4	kirchoff's law,junction rule & voltage rule,voltage divider,current divider
		5	combination of resistance,series & parallel combination,wheat-stone birdge
		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
		15	Discussion
6	Capacitor	1	introduction of capacitors,calculation of capacitors,parallel plats capacitors,spherical & cylindrical capacitors
		2	force between plats 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
7	Magnetism	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 cayying 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
8	E.M.I	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
		10	Discussion
9	Alternating Current	1	introduction of A.C.,RMS and Avg. Value of current and emf,examples on A.C.
		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
10	Modern Physics	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
		10	Discussion

11	Semiconductor & Logic Gates	1	Introduction Electronic Devices, Classification the basic of conductivity
		2	bond theory of solids, Conductors, isulators 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 Characterstic of a P-N Junction, Resistance of a P-N Junction, Dynamic Resistance of a P-N junction, Characterstics of an ideal diode
		5	Breakdown mechanism of p-n junction, zener diode, zener diode as a voltage stablizer, P-N- Junction as a rectifier, halfwave and full eave rectifier
		6	N-P-N Transister, P-N-P Transister, Emitter base collector terminals, working of a transister, transister as an amplifier, transister action, transister connection as an amplifier, voltage gain in amplifier
		7	Transister as a switch, examples on p-n Junction, Examples on N-PN Junction, Examples on Transister and AmplifierTransister as a switch, examples on p-n Junction, Examples on N-PN Junction, Examples on Transister and Amplifier
		8	Logic Gats :- Introduction, or gate, and gate , not gate,nor gate, hand gate, Truth table, boolean equation, examples on digital circuitsLogic Gats :- Introduction, or gate, and gate , not gate,nor gate, hand gate
12	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
		3	Discussion

NEET Physics Problem Solving Course

S.No.	Chapter Name	No. of Lectures
1	Geometrical Optics	4
2	Wave Optics	3
3	Electrostatics	4
4	Gravitation	3
5	Current Electricity	4
6	Capacitor	3
7	Magnetism	4
8	E.M.I	3
9	Alternating Current	3
10	Modern Physics	4
11	Semiconductor & Logic Gates	3
12	Error Analysis	2

NEET Super Saver Course - Chemistry 12th
by PS Sir (Phy. Chem.), JH Sir (Inorg. Che.), NJ Sir (Org. Chem.)

Class - 11th (Revision)			
S.No.	**Chapter Name**	**Lecture No.**	**Lecture Name**
1	Mole concept (Physical Chemistry)	1	Basic moles , average molar mass ,% of element , emperical & Molecular Formula, Laws Of chemica Combination, Stochiometry , Limiting Reagent, % Yield , POAC, Series Reactions
2		2	Concentration Terms and their interconversion,Dilution and mixing of solutions, Volume strength of H2O2 , Eudiometry & Methods of atomic mass determination
3	Fundamental of IOC (Inorganic Chemistry)	1	Quantum numbers, Shape of orbitals, Writing Electronic configurations
4	Classification and Nomenclature of Organic Compounds (Organic Chemistry)	1	Classification of Organic Compounds, Functional groups, Hybridisation Of Carbon and Bond Line Notation
5		2	Classification of Carbon and Hydrogen, Classification and Identification of Compounds on the basis of Functional Group,Degree of Unsaturation (DU or IHD) , Nomenclature of Alkanes
6		3	Nomenclature Of Cyclo, Bicyclo, Spiro, alkenes and alkynes, Nomenclature Of compounds containing Functional Groups (carboxylic acid, cyanide, aldehyde, amide, acid halide, esters anhydrides etc.)
7		4	Nomenclature of Compounds Containing multiple functional Groups, Nomenclature of Epoxides, Aromatic Compounds
8	Redox reaction (Physical Chemistry)	1	Introduction, Oxidation number, Balancing of redox reactions
9		2	n-factor calculation & Law of chemical equivalence, Acid base , redox, iodometric titrations
10	Periodic Table (Inorganic Chemistry)	1	Electronic configurations, valence electrons & Covalncy, Naming of elements with Z>100,
11		2	Effective Nuclear Charge & screening effect , Idea of I.E., Electron Affinity & Electronegativity , Hydration & Hydration energy , acidic basic & Amphoteric oxides
12	Electronic Displacement Effect (Organic Chemistry)	1	Inductive effect & its applications
13		2	Resonance, Condition for resonance and writing R.S.,
14		3	Aromaticity, Mesomeric effect,
15		4	Comparison of resonance energy, Bond length bond energy & rotation energy barier.
16		5	Stability of intermediate, Hyperconjugation, Applications of hyperconjugation, HOH,HOC
17		6	acid and base strength, Base strength, S.I.P., S.I.R. effect, ortho effect
18	Atomic Structure (Physical Chemistry)	1	planck's quantum theory , photo electric effect,rutherford's model
19		2	Bohr's model & Hydrogen spectrum,Quantum mechanical model & Schrodinger's wave equation
20		1	Introduction of chemical bonding, Formal Charge , Lewis octet rule , Lewis acids & Bases, VBT & Overlapping

21	Chemical Bonding (Inorganic Chemistry)	2	Involvement of d-orbitals in Overlapping,Hybridization and VSEPRT,Calculation of pπ - dπ Bonds,Bond Order,Bond Length and Bent Rule, Bond Order and Drago's Rule,Hybridisation in Solid State
22		3	Structures by Bent Rule,Dipole Moment and Applications, Back Bonding and its Application
23		4	Bridge Bond,MOT and its Application, Intermolecular Forces and their Types,Hydrogen Bonding and its Types,Ionic Bond, Polarisation and Fajan's Rule, Applications of Polarisation,Solubility and Solubility Order
24	Structural isomerism (Organic Chemistry)	1	Structural isomerism (including tautomerism).
25		2	Structural isomerism (including tautomerism).
26	Geometrical isomerism (Organic Chemistry)	1	Geometrical isomerism
27		2	Geometrical isomerism
28	Conformational isomerism (Organic Chemistry)	1	Conformation of Ethane,propane, butane (about C_1 - C_2 , C_2 - C_3)
29		2	Conformation of Cyclohexane including G.I.
30	Optical isomerism (Organic Chemistry)	1	Symmetry elements (POS, COS, AOS, AAOS), chiral centre, stereo centre (i) Optical acitivity, PPL, angle of rotation (ii) d & l , numerical on specific angle of rotation
31		2	chirality, optically active compounds, single chiral and multiple chiral atom molecules,Enantiomer & their properties, Racemization, Resolvtion optical purity, % composition, Fischer projection , R.S. configuration (not more than 2 chiral carbon containg acyclic compounds)
32		3	D & L -Configuration, Diastereomers & their properties including separation. Examples of 1-chiral, 2-chiral , 3-chiral carbon only. Calculating number of stereoisomers. Interconversion of all projection
33	Gaseous State (Physical Chemistry)	1	Gas laws and ideal gas equation, types of containers, manometer & barometer, Dalton's law of Partial pressure, Effusion and diffusion,Kinetic Theory of gases , types of molecular speeds,
34		2	kinetic energy and maxwell's speed distribution curve, Real gases and deviation from ideal behaviour , compressibility factor & calculation, Liquifaction of gases and critical constants
35	Chemical Equilibrium (Physical Chemistry)	1	Introduction characteristics of equilibrium, Law of mass action and equilibrium constant , Characteristics of equilibrium constant, writing equilibrium constant for various reactions, Calculation of Equilibrium constant and numerical application
36		2	Significance of value of equilibrium constant, calculation of degree of dissociation by V.D. Measurement , Simultaneous equilibrium, Reaction Quotient & Le chatlier's principle, Le chatlier's principle & Physical equilibrium

Class - 12th			
S.No.	**Chapter Name**	**Lecture No.**	**Lecture Name**
1		1	Leaving group E^+, N u^-. solvents, Idea of EAS (benzene)
2		2	G.M.P. of carbocation, Rearrangement

3	Alkyl halides (Organic Chemistry)	3	Acid catalysed & other dehydration of R–OH, pinacolone formation
4		4	Pinacole, Pinacolane rearrangement
5		5	E+ Aaddition (HX, HOX, NOX, interhalogen X2, X2 + water) M - rule, Nonclassical Carbo cation, HBO, OMDM, Kucherov Reaction
6		6	S_N^1, S_N^2 kinetics, mechanism; stereochemistry, substrate effect Application of S_N
7		7	(a) G.M.P. alkyl halide, by HCL, HCL, + $ZnCl_2$ + ; Nacl + H_2SO_4 PCL $SOCl_2$, PCl_3 on alcohol,
8		8	Finkelstein, swarts
9		9	(b)G.M.P. of alcohol (c) G.M.P. of ether (williamson)
10		10	Introduction of elimination reaction E_1, E_2, E_1cb Application of elimination
11		11	(b) Elimination of esters (c) Hoffman's exhaustive elemenation
12		12	photohalogenation of alkanes number of monohalogen derivatives Wurtz family reaction & Kolbe electrolysis Pinacoal formation
13		13	Antimarkownikoff addition, NBS Sheet Discussion & NCERT Exercise Discussion
14	Alcohols & Ethers (Organic Chemistry)	1	GMP of RCHO & R_2CO by dry distillation,soda lime, decarboxylation
15		2	Complete heating effect
16		3	G.M.P. by RMgX
17		4	G.M.P. by reduction by H–, LAH,SBH, DIBAL-H,BH_3, MPV hydrogenation (lindlars catalyst & others)
18	Co-ordination Compounds (Inorganic Chemistry)	1	Introduction, Classification of Ligands ,
19		2	Oxidation number, Effective atomic number
20		3	Nomenclature of Coordination Compounds , Werner's coordination theory
21		4	
22		5	Crystal Field Theory ,Valence Bond Theory
23		6	CFT
24		7	Calculation of CFSE, Factors affecting splitting energy , Applications Of CFSE
25		8	Synergic bonding and
26		9	stability of complexes
27		10	Structural isomerism
28		11	Stereoisomerism
29	Chemical Kinetics (Physical Chemistry)	1	Introduction, Rate of reaction, Rate law
30		2	order and molecularity, significance of order of reaction
31		3	Zero order,1st order, 2nd order, nth order
32		4	Calculation of 1st order rate constant in terms of different Parameters
33		5	Kinetics of parallel reaction
34		6	Collision Theory and Arrhenius Equation
35		7	Maxwell's distribution,
36		8	factors affecting rate of reaction
37	Radioactivity	1	Introduction, Phenomenon of radioactivity, calculation of alpha, beta particles
38		2	carbon datiing, determination of age of rocks and minerals

39	(Physical Chemistry)	3	Stability of Nucleus, n/p ratio emission of radioactive particles
40		4	magic number even odd rule, binding energy
41	Carbonyl Compounds (Organic Chemistry)	1	GMP of RCHO & R2CO by RCN , Acid & derivatives by reduction, Nucleophilic addition HCN, NaHSO3, NH2-Z, 2, 4 DNP, H2O, Wolf kishner & Clemenson reduction.
42		2	Nucleophilic addition of ROH (Protection of carbonyl), GMP of RCHO & R_2CO from alkene using ozonolysis
43		3	Complete oxidation of alkene (hydroxilaton, prileschev, followed by diol cleavage
44		4	GMP of RCHO & R_2CO by oxidation of alcohol. (by $KMnO_4$, $K_2Cr_2O_7$, Cu /300ºC , PCC , PDC, NBS, MnO_2
45		5	Oxidation of carbonyl compound Haloform reaction, Bayer v. oxidation, tollens, fehling , benedict, schiff, $HgCl_2$, SeO_2.
46		6	Name reaction - Aldol, claisen,
47		7	Perkin, acid. Reformatsky, knoevngal reactions
48		8	Cannizaro's reaction , benzil -benzilic acid rearrangement.
49	Metallurgy (Inorganic Chemistry)	1	Introduction, ore, mineral Steps involved in Metallurgy
50		2	Gravity separation,Magnetic separation
51		3	froth floatation,Leaching
52		4	Conversion of ore into oxide, Reduction of oxide into metal (smelting), Self reduction
53		5	Refining of metal
54		6	Thermodynamics of metallurgy - Ellingham Diagram
55		7	Extraction of Fe & Cu
56		8	Extraction of Al, Ag & Au
57	Metallurgy (Inorganic Chemistry)	1	Introduction, Basic definition, Types of system, State function / path function, Extensive & intensive properties,
58		2	Work, Heat & Internal Energy, heat capacities, First law of thermodynamics
59		3	Enthalpy , Relation between Enthalpy and Internal Energy, Calorimetry
60		4	Thermodynamic Processes , Reversible & Irreversible process and their comparision
61		5	Isochoric process,Isobaric process , Isothermal process, Adiabatic process
62		6	Comparison between isothermal & adiabatic process,Polytropic process
63		7	Second law of Thermodynamics , Entropy &spontaniety , Calculation of DS total DSsys & DS surr.
64		8	Calculation of entropy in different cases ,, third law of thermodyanmics
65		9	Gibbs free energy , calculation of Change in G, condition for spontaniety,
66		10	Variation of gibbs free energy with P & T, concept of equilibrium
67		1	Introduction, Basic definition, Types of system, State function / path function, Extensive & intensive properties,
68		2	Work, Heat & Internal Energy, heat capacities, First law of thermodynamics
69		3	Enthalpy , Relation between Enthalpy and Internal Energy, Calorimetry
70		4	Thermodynamic Processes , Reversible & Irreversible process and their comparision

71	Thermodynamics (Physical Chemistry)	5	Isochoric process,Isobaric process , Isothermal process, Adiabatic process
72		6	Comparison between isothermal & adiabatic process,Polytropic process
73		7	Second law of Thermodynamics , Entropy &spontaniety , Calculation of DS total DSsys & DS surr.
74		8	Calculation of entropy in different cases ,, third law of thermodyanmics
75		9	Gibbs free energy , calculation of Change in G, condition for spontaniety,
76		10	Variation of gibbs free energy with P & T, concept of equilibrium
77	Thermochemistry (Physical Chemistry)	1	Enthalpy of reaction, Enthalpy of formation,
78		2	Enthalpy of combustion , Hess's law, Enthalpy of neutrilisation
79		3	lattice enthalpy, Enthalpy of hydration, Enthalpy of solution
80		4	Enthalpy for phase transformation, Enthalpy of atomisation
81		5	Bond energy, Calculation of Enthalpy of reaction by bond energy data
82	p-block (Inorganic Chemistry)	1	Boron Family
83		2	Boron Family
84		3	Carbon family
85		4	Silcates & Silicones
86		5	Nitrogen family
87		6	Nitrogen Family
88		7	Oxygen Family
89		8	Oxygen Family
90		9	Halogen Family
91		10	Halogen Family
92		11	Noble gases
93	Hydrocarbons (Organic Chemistry)	1	Alkanes (GMP and Properties)
94		2	Alkenes (GMP and Propeties)
95		3	Alkynes (GMP and Properties)
96	Liquid solution (Physical Chemistry)	1	Introduction, Vapour pressure,Phase diagram , Raoult's law & Application
97		2	Mole fractions in liquid and vapor phase , Ideal & Non-Ideal solutions
98		3	Colligative properties , RLVP
99		4	Eubllioscopy, Cryoscopy, Osmotic pressure
100		5	Abnormal colligative properties and Van't hoff factor, Henry's law
101	D-Block & F-Block (Inorganic Chemistry)	1	Introduction, and general properties of D-block elements ,
102		2	Properties of K2Cr2O7
103		3	Properties of KMnO4
104		4	Important compounds of D-block elements
105		5	F-block
106	Carboxylic Acids and Amines (Organic Chemistry)	1	Carboxylic acids methods of preparation and properties
107		2	GMP of amines , Schimdt , Lossen , Curtius reaction Hoffmann broamide degradation, Gabrial pthalimide reaction
108		3	Beckmann rearrangement, Carbylamine test , Hinsbergs test Musturd oil reaction, Diazotisation Sheet Discussion carboxylic acids & Amines
109		1	Introduction, Basic definition, Unit cell / Bravais lattices

110	Solid State (Physical Chemistry)	2	Analysis of unit cells and packing in crystals
111		3	Radius ratio
112		4	structure of ionic crystals
113		5	defects in solids and magnetic properties
114	S-Block (Inorganic Chemistry)	1	Properties & compounds of Alkali metals
115		2	Properties & compounds of Alkaline earth metals
116		3	Important compounds,biological fucntion of Na,K,Mg,Ca
117	Aromatic Compounds (Organic Chemistry)	1	Electrophillic aromatic substitution reaction , Nitration , sulphonation halogenation
118		2	F.C. alkylation , acylation, formylation,
119		3	Gattermann Koch, Gattermann Aldehyde reaction, Directive Influence and Activating Deactivation
120		4	Diazo Coupling (C-N, N-N) , other reaction of PhN_2Cl
121		5	Preparation of phenol (ArSn, Cumen hydroperoxide, Dows etc)
122		6	Reaction of phenol (Reimer -Tieman reaction, Kolbe reaction) Preparation of DDT, Phenopthalein, TNT, Picric acid , Oxidation & reduction of aromatic compound
123	Ionic Equilibrium (Physical Chemistry)	1	Acid - Base theories , Amphiprotic species, Levelling effect Arrhenius theory of dissociation
124		2	common ion effect, properties of water, pH scale , Calculation of pH for strong acids /bases
125		3	Calculation of pH of solution containing weak acid or base
126		4	Calculation of pH of mixtures , Calculation of pH of solution containing polytropic acid/base
127		5	Salt hydrolysis
128		6	Buffer solutions and Acid Base Titrations
129		7	Indicators and selection of Indicators
130		8	Solubility and solubility product,Solubility in presence of common ion Condition for precipitation , selective precipitation
131		9	Solubility in buffer and complex formation
132	Hydrogen And Its Compounds (Inorganic Chemistry)	1	Complete properties
133		2	compounds of Hydrogen
134		3	Hardness of water
135	Biomolecules (Organic Chemistry)	1	Introduction of amino acid,Types of amino acid(Classification) Preparation of amino acid Electrophorses, Isoelectric point & calculation of isoelectric point.
136		2	Structure of amino acid at different pH, Separation of mixture of amino acid Reaction of amino acid Peptide , hydrolysis of peptide, Proteins & all structure , Test for protein
137		3	Introduction , definition & classification , Naming of monosaccharide Epimer & anomer Hawarth projection & chair conformation representation of monosaccharide(glucose, fructose, mannose, galactose,)
138		4	Study of Disaccharide and polysaccharide & their hydrolysis, Test for carbohydrate DNA & RN
139		1	Introduction, Construction of galvenic cell, cell reaction and cell representation Electrode potential,
140		2	EMF of cell, Siginificance of electrode potential, Nernst Equation
141		3	EMF and equilibrium constant , Application of nernst equation, Concentration cells

142	Electrochemistry (Physical Chemistry)	4	different type of half cells, Metal SSS half cell
143		5	Thermodynamics of galvenic cells
144		6	Electrolysis and products of electrolysis,
145		7	Faradays laws of electrolysis
146		8	Conductance and conductivity cell, variation of molar conductivity with dilution
147		9	Kohlrausch's law and its applications,Application of Kohlrausch's law , Type of batteries
148	Environmental Chemistry (Inorganic Chemistry)	1	Environmental pollution,Atmospheric pollution,Tropospheric pollutants
149		2	Stratospheric pollution,Water Pollution,Soil pollution
150	Polymers & POC-1 (Organic Chemistry)	1	Introduction , classification , Based on source / shape / reaction they are formed Classification based on molecular forces (Elastomer, fibre, thermoplastic, thermosetting), Types of polymerisation reaction, Zeigler natta catalyst. Details study of natural rubber, Gutta purcha , nylon-6, nylon-66 , phenol- formaldehyde resin, malamine formaldehyde resin, neoprin, buna-s, buna-n etc.,Commercial use of polymer
151		2	Test of alcohols, phenolic OH, terminal alkyne, aldehydes , Ketone, unsaturation, amines, carboxylic acid, aromatic compounds. Lassign test (elemental analysis) , binary mixture separation , solubility test
152	Surface Chemistry (Physical Chemistry)	1	Adsorption & Absorption, catlysis & their types
153		2	colloids and their classification , preparation of colloids
154		3	properties of colloids, Coagulation and protecton of cooloids, purification and Emulsions
155	Chemistry in everyday life (Organic Chemistry)	1	Drugs and Medicines & its classification , Drug target intraction; Theropeutic action of drug (tranquilizers, analgesics, antibiotics,antiseptic, disinfectants, antifertillity drugs,) Chemical & foods (artificial sweeting agent, Food preservatives) Soaps, Saponification, degergents

Chemistry Problem Solving Schedule		
S. No.	**Topic**	**No. of Lectures**
1	Chemical Kinetics	2
2	Co-ordination Compounds	2
3	GOC-2	2
4	Radioactivity	1
5	Metallurgy	2
6	Hydrocarbons	2
7	Thermodynamics	2
8	p-Block Elements	2
9	Halogen Derivatives	2
10	Thermochemistry	2
11	d &f- Block Elements	2
12	Liquid Solution	2
13	Soild State	2
14	Alcohol Phenol & Ether	2

15	Carbonyl Compounds	2
16	Ionic Equilibrium	3
17	Electrochemistry	2
18	Carboxylic Acid & Amines	2
19	Surface Chemistry	2
20	Biomolecules	2
21	Polymers	1
22	Practical Organic Chemistry	1

NEET Super Saver Course - Biology 12th
by Dr. Akanksha Agarwal (AA) Ma'am

Class 11th (Revision)			
S. No.	**Chapter Name**	**Lecture No.**	**Course**
1	The living world	1	What is living, Binomial nomenclature, Taxonomic categories, Taxonomic Aids
2	Cell the unit of life	1	Prokaryotic & Eukaryotic cell, chromosome
3	Cell cycle and cell division	1	Cell cycle, Mitosis
4		2	meiosis
5	Biomolecules	1	Aminoacids, Proteins, Carbohydratas, Lipids, Nucleotides
6		2	nucleic Acid, enzyme
7	Digestion and absorption	1	Human digestive system
8		2	Physiology of digestion & absorption
9	Breathing & exchange of gases	1	Breathing & exchange of gases
10	Body fluids and Circulation	1	Blood groups , blood, blood vessels, heart
11		2	Functioning & Disorders of Human heart
12	Excretory products and their elimination	1	Structure & function of human excretory system
13	Locomotion and movement	1	Muscle, Skeleton system
14	Neural control and Coordination	1	Generation and conduction of nerve impulse, synapse
15		2	Human nervous system
16	Chemical Coordination	1	Endocrine glands, Hormones mechanism of action
17		2	Human endocrine system
18	Mineral nutriation	1	Nitrogen metabolism
19	Photosynthesis in Higher Plants	1	Photosyntheis - light reaction
20		2	Photosynthesis Dark reaction
21	Respiration in Plants	1	Glycolysis , fermentation, kreb cycle
22		2	Oxidative phosphoryation, ETS
23	Plant Growth and Development	1	Plant hormones , photoperiodism
24	Transport in Plants	1	Means of transport, plant water relation, long distance transport of water
25		2	Transpiration, phloem transport
26	Biological Classification	1	Kingdom monera , protista, fungi
27	Plant kingdom	1	Algae , Bryophytes, Pteridophytes
28		2	Gymnosperms, Angiosperm

29	Animal Kingdom	1	Classification of Animals
30	Morphology of Flowering plants	1	The root, stem, leaf, inforescence
31		2	Flower, fruit, seed
32	Anatomy of Flowering plants	1	Plant tissue system, anatomy of dicot & monocot leaf
33		2	Anatomy of dicot & monocot root,stem
34	Structural organisation in Animals	1	Animal tissue - epithelial, connective
35		2	muscular and neural tissue

Class 12th			
S. No.	**Chapter Name**	**Lecture No.**	**Lecture Name**
1	Reproduction in Organisms	1	Introduction,Life Span and Life Expectancy of Some Organisms,Difference Between Asexual and Sexual-Reproduction,Types of Asexual Reproduction-Fission,Budding Fragmentation,Regeneration,Sporulation
2		2	Vegetative Propagation-Natural and Artificial(Cutting,Layering,Grafting)
3		3	Sexual Reproduction Parthenogenesis
4	Sexual Reproduction	1	Flower–Structure,Calyx and its Types Corolla,Androecium,Gynoecium Structure of Stamen,Anther Anther Wall
5		2	"Types of Tapetum,Functions of Tapetum Microsporogenesis - Simultaneous & Successive Types"
6		3	Pollen Grain,Pollen Viability and Storage Development of Male Gametophyte
7		4	Gynoecium,Carpel- Structure and Types,Ovule- Structure and Types
8		5	Megasporogenesis,Development of Female Gametophyte,Structure of Embryo- Sac
9		6	Pollination-Types,Adaptations for Self and Cross-Pollination
10		7	Agents of Pollination, Abiotic-Anemophily and Hydrophily, Biotic Agents and Modifications
11		8	Mutualism in Plants,Pollen - Pistil Interaction,Double Fertilisation
12		9	Post Fertilization Events Embryo Development in Dicots
13		10	Development of Monocot Embryo,Endosperm Development - Introduction,Types of Endosperm,Fate of Endosperm,Xenia and Metaxenia
14		11	SEED-Structure Types,Germination,Dormancy and Viability
15		12	Fruits-True,False,Parthenocarpic,Apomixis,Polyembryony and Its Type
16		1	"Steps of Reproduction Male Reproductive System-Testes,Epididymis, Vasa Deferens,Seminal Vesicle,Prostate,Cowpers Gland"
17		2	Penis Seminiferous Tubules,Sertoli Cells,Leydig Cells,Hormonal Control of Male Reproductiove System Disorders of Male Reproductive System
18		3	Spermatogenesis Spermiogenesis Spermiation Human Sperm
19		4	Female Reproductive System Ovary,Fallopian Tube,Uterus,Vagina External Genitilia in Female Bartholins and Skene Glands
20		5	Mammary Glands Folliculogenesis in Ovary

21	Human Reproduction	6	Oogenesis Fraternal Twins Difference Between Spermatogenesis and Oogenesis Hormonal Control in Females
22		7	Menstrual Cycle Estrous Cycle Rut Cycle
23		8	Egg & Egg membranes Structure of human egg Insemination Introduction of Fertilization
24		9	Steps in Fertilization- Capacitation,AF-F Reaction,Acrosome / Cortical / Zona Reaction,Syngamy
25		10	Embryology,Cleavage and Types,Morula,Blastocyst,Implantation
26		11	Bilaminar Disc,Extra-Embryonic Membranes,Gastrulation,Neurulation,Fate of Germ Layers
27		12	Placenta – Introduction,Types Human Placenta Substances and Pathogens Crossing Placenta
28		13	Umbilical Cord Gestation Period Teratogens Parturition Lactation
29	Reproductive Health	1	Introduction 2011 Census Overpopulation and its Solution Amniocentesis MTP
30		2	Contraception – Temporary and Permanent
31		3	Infertility Assisted Reproductive Technology (ART) Sexually Transmitted Infections
32	Principles of Inheritance	1	Inheritance,Variation,Genetics Theories of Blending Inheritance(Pre-Mendelism) Difference Between Character and Trait Some Important Terms Related to Genetics
33		2	Some Important Terms Mendelism Rediscovery of Mendels Work Reasons for Non-Recognition and Success of Mendel's Work Garden Pea Experimental Model
34		3	Emasculation and Bagging Technique Strategy of Mendel List of 7 Characters Inheritance of one Gene Monohybrid Cross Law of Dominance
35		4	Law of Segregation Types of Gametes Binomial Expression of Monohybrid Cross Test Cross
36		5	Incomplete Dominance Pleiotropy
37		6	Co-dominance Multiple Allelism Numerical on Blood Groups
38		7	Lethal Genes Dihybrid Cross Law of Independent Assortment
39		8	Trihybrid Cross Back Cross Test Cross Outcross Reciprocal Cross
40		9	Intergenic Interactions : Complementary Genes Duplicate Genes Polymeric/Additive Duplicate Genes Supplementary Genes Collaborative Genes
41		10	Epistasis – Dominant and recessive Qualitative and Quantitative Inheritance Polygenic Inheritance in Wheat and Human skin Color
42		11	Some Numerical of Genetics Chromosomal Theory of Inheritance Drosophila as Experimental Model of Morgan
43		12	Contributions of Morgan Linkage Unlinked,Completely and Incompletely Linked Genes Theory of Linkage,Linkage Groups Cis and Trans Arrangement of Genes Some Numerical on Linkage
44		13	Dihybrid Test Cross in Linkage Morgans Experiment on Linkage Recombination Frequency Factors Affecting Cross-Over Linkage map Numericals on Linkage Map

45		14	Sex Linkage Sex Limited and Sex Influenced Traits Sex Determination on Basis of Fertilization Environmental & Non-Allosomic Sex Determination
46		15	Allosomic Sex Determination (XY,XO,ZW,ZZ Types) Sex Determination in human Haplo-Diploidy
47		16	Genic Balance Theory Mutations – Introduction Chromosomal Aberration Genomatic Mutation Aneuploidy
48		17	How Aneuploidy Develops Euploidy Auto and Allopolyploidy Gene Mutation Classification of Mutations
49		18	Mutagens Barr Body Y-body Chromosomal Disorders - Downs,Edward,Patau,Kleinfelter,Turner,Jacobs,Superfemales
50		19	Mendelian Disorders Autosomal Dominant Autosomal Recessive Y-Linked Disorders
51		20	X-Linked Dominant X-Linked Recessive Numericals Based on Mendelian Disorders,Probability
52		21	Twins – Monozygotic & Dizygotic Rh Factor Inheritance Cytoplasmic Inheritance Shell Pattern in Snail Kappa Particle in Parameocium
53		22	Pedigree Analysis
54	Molecular Basis of Inheritance	1	Introduction Nucleic Acids components and Formation of Nucleotide Formation of Phosphodiester Bond Structure of Polynucleotide Chain Introduction to Double Helix Structure of DNA Chargaafs Rule Base Ratio
55		2	Double Helix Structure of B-DNA Packaging of DNA Helix Types of DNA C-DNA
56		3	Search for Genetic Material Transforming principle by Griffith Biochemical Characterisation of Transforming Principle Hershey-Chase Experiment Properties of Genetic Material (DNA versus RNA) RNA World
57		4	Semi-Conservative DNA Replication Messelson and Stahl's Experiment Numericals Based on Semi-Conservative Replication Mechanism of DNA Replication – The Machinery and Enzymes Ori,Activation of Nucleotides,Unwinding of Helix
58		5	Mechanism of DNA Replication - the Machinery and Enzymes, Primer Formation, elongation of DNA Strand, Leading and Lagging Strands, Proof Reading, Types of DNA Polymerase - 1,2,3
59		6	"Theta mode of replication , Different types of RNA – mRNA , tRNA , rRNA Clover leaf model of tRNA , Genetic and Catalytic RNA , snRNA , scRNA , Central and Reverse central dogma , Transcription-introduction & why both strands not copied"
60		7	Coding and Template Strand,Transcription Unit,Split Gene,Transcription in Prokaryotes
61		8	Transcription in Eukaryotes,Post transcriptional modification Difference between transcription in prokaryotes and eukaryotes,Genetic code and codon Experimental proof of Triplet codon, stop codons Exceptions to,Checkerboard for genetic code "
62		9	Wobble hypothesis,Mutation and genetic code,Frame shift mutation,Substitution mutation Mis-sense , Same sense , Non-sense mutation,Some numericals solving,Introduction of Translation
63		10	Process of Translation

64		11	Regulation of Gene Expression, Lac Operon Tryptophan Operon
65		12	Human Genome Project DNA Fingerprinting Basis VNTR DNA Polymorphism
66		13	Technique of DNA Fingerprinting Applications of DNA Fingerprinting
67	Evolution	1	Origin of Universe,Earth Theory of Origin of Life on Earth Chemosynthetic Theory
68		2	Experimental Evidences for Chemosynthetic Theory Spark Discharge Experiment,Protobionts Evidences for Evolution Homologous and Analogous Organs
69		3	Vestigial Organs,Atavism,Connecting Links Biochemical,Biogeographical,Embryological Evidences
70		4	Paleontological Evidence Carbon Dating Geological Time Scale
71		5	Geological Time Scale Continue Theory of Biological Evolution – Lamarckism,Continuity of Germplasm,Darwinism
72		6	Theory of Biological Evolution – Mutation Theory Neo-Darwinism Gene Pool Genetic Drift Gene Migration Reproductive Isolation Speciation –Allopatric and Sympatric
73		7	Hardy-Weinberg Equilibrium and Some Numericals Factors Affecting Hardy-Weinberg Equilibrium Natural Selection Examples (Industrial Melanism,Sickle Cell Anemia,DDT Resistant Mosquitoes,
74		8	Types of Natural Selection – Stabilizing,Ddirectional,Disruptive Phylogeny of Horse
75		9	Human Evolution
76	Human Health & Disease	1	"Classification of Disease Kochs Postulates Bacterial Diseases (Plague,Cholera,Diphtheria,Leprosy,Pertussis,Scarlet Fever,Tetanus,Pneumonia)"
77		2	TB,Typhoid,Viral Diseases (Small Pox,Chicken Pox ,Measles,Rubella,Rabies,Herpes)
78		3	Viral diseases (Influenza,Common Cold,Yellow Fever,Dengue,Chikunguniya,Mumps,Polio,Hepatitis) Protozoal Diseses (Giardiasis,Trypanosomiasis,Leishmaniasis,Trichomoniasis)
79		4	Pyorrhea,Amoebiasis,Balantidiasis,Tick Fever,Coccidiosis,Pebrine Disease,Malaria-I
80		5	Malaria
81		6	Schistosomiasis,Taeniasis,Cysticercosis,Ascariasis,Filariasis Other Round Worm Diseases Fungal Disease
82		7	AIDS
83		8	Cancer
84		9	Immunity Lymphoid organs Innate Lmmunity – 4 barriers and Blood Complement System
85		10	Acquired Immunity T & B-Lymphocytes CMI and AMI Antigen Antibody – Structure and Types
86		11	Antigen Antibody Reaction Primary and Secondary Immune Response Types of Acquired Immunity – Active and Passive Auto-Immunity Immunodeficiency Diseases Hypersensitivity / Allergy
87		12	Grafting/Transplantation of Organs Mental Health and Disease Drug Abuse – Opiate Narcotics,Coca Alkaloids,Cannabinoids

88		13	Alcohol Abuse Tobacco Abuse Anabolic Steroids Effects of Drug Abuse Dependence and Addiction Prevention of Drug and Alcohol Abuse
89	Strategies for Enhancement	1	Animal Husbandry Livestock Types of Breeding – Inbreeding and Out Breeding Controlled Breeding Technique (AI-MOET)
90		2	Farm Management Poultry Cattle Farming – Cow,Buffalo,Goat,Sheep,Camel Elephant,Yak,Horse,Donkey Pig Industry Diseases of Livestock
91		3	Apiculture Sericulture Lac Culture Aquaculture Pisciculture
92		4	Plant Breeding – Introduction and Steps Types of Hybridization
93		5	Heterosis/Hybrid Viguor Inbreeding Depression Mutation Breeding Green Revolution-Wheat,Rice,Sugarcane,Millets
94		6	Plant Breeding for Disease Resistance Plant Breeding for Resistance to Insect Pest Biofortification
95		7	Single Cell Protein Natural Polyploidy Origin of Bread Wheat & Pasta Wheat
96		8	Artificial Polyploidy – Triticale Selection Methods – Mass/Pureline/Clonal Plant Tissue Culture – Micropropagation,Somaclone,Historical Background,Nutrient Media
97		9	Sterilization Callus and Suspension Culture Meristem / Embryo / Haploid Culture Protoplast Fusion
98	Microbes in Human Welfare	1	Introduction Microbes in Household Products
99		2	Microbes in Industrial Products Microbes as Biofertilizers
100		3	Microbes in Sewage Treatment
101		4	Microbes in Biogas Production Biocontrol Agents
102	Biotechnology : Principles and Processes	1	Definition,Principal-Genetic Engineering and Chemical Engineering,Construction of First rDNA,Gene Cloning,Tools-Lysing Enzymes
103		2	Restriction Endonucleases,DNA Ligase,Synthesising Enzymes,Alkaline Phosphatase
104		3	Cloning Vectors-Ori,Rop,Copy Number,Cloning Sites,Selectable Markers,Insertional Inactivation,PBR322 Structure,PUC8,Blue\White Screening
105		4	Types of Vectors,Ti-Plasmid,Competent Host,Processes of rDT,Gel Electrophoresis
106		5	Polymerase Chain Reaction,Bioreactor / Fermentors, Downstream Processing
107	Biotechnology & its Applications	1	Areas of Research,Therapeutics In India,Genetically Engineered Insulin,Gene Therapy
108		2	Monoclonal Antibodies,PCR, Autography,Elisa (Direct,Indirect, Sandwich)
109		3	Applications in Agriculture Hirudin Production Golden Rice Bt Cotton RNA Interference Technique
110		4	Pest Resistant Tobacco Flavr Savr Tomato Genetically Modified Organisms (Plants,Animals,Microbes) Transgenic Animals
111		5	Cloning Cloning of Dolly,The sheep Bioethics Biopatents Biopiracy Biowar
112		1	Ecology , Ecological Hierarchy , Organisms and It's Environment , Habitat and Niche , Climatic Zones , Major Biomes , Ecological Factors Classification

113	Organisms & Populations	2	Ecological Factors- Temperature, Water, Light, Atmosphere, Air, Wind, Fire, Humidity, Precipitation
114		3	Edaphic factor Soil , Response to Abiotic Factors , Regulate , conform , Migrate , Suspend
115		4	Adaptations in Animals and Plants (Xerophytes , Halophytes , Hydrophytes)
116		5	Population Attributes , Age Pyramids , Population Growth , Growth Models (Exponential and Logistic Growth) , Life History Variation
117		6	Population Interactions – Predation , Parasitism , Ammensalism , Competition , Commensalism , Proto-cooperation , Mutualism
118	Ecosystem	1	Types and Components of Ecosystem , Producers , Consumers , Decomposers , Ecosystem Structure and Function Introduction
119		2	Productivity , Decomposition , Energy Flow , Food Chain
120		3	Lindmann 10% Energy Transfer Law Types of Food Chain – Grazing , Parasitic , Detritus Food Web Ecological Pyramids of Number , Biomass , Energy
121		4	Ecological Succession, Lithosere/Xerosere, Hydrarch
122		5	Nutrient Cycling Carbon and Phosphorus cycle Ecosystem Services Some Important Points
123	Biodiversity & Conservation	1	Introduction ,Levels of Biodiversity ,Magnitude of Biodiversity in World and India, India as Mega diversity Region ,Patterns of Biodiversity ,latitudinal gradients ,high Biodiversity in Tropics , Species-area Relationships
124		2	Importance of Species Diversity to Ecosystem Attributes of stable Community ,David tilman’s Experiments,Recent Extinctions Risk of Extensions ,Red data book , Causes of Biodiversity loss the evil quartet, Susceptibility to Extinctions
125		3	How to Conserve Biodiversity In-situ and ex-situ Methods Conventions on Biodiversity Some Important Information
126	Environmental Issues	1	Pollution and Pollutants Types, Air Pollution and Its Control, Major Air Pollutants,Acid Rain, Los Angeles and London Smog ,Bhopal Gas Tragedy, Control of Air Pollution ,Electrostatic Precipitator, Scrubber, Control of Vehicular Air Pollution
127		2	Case study of Delhi , Noise pollution , Water pollution and its control , BOD , Biomagnification
128		3	Eutrophication , Algal bloom , Thermal Waste Water ,Case Study of Integrated Waste Water Treatment ,Ecological Sanitation , Hospital waste , Electronic Waste , Municipal Solid Waste , Case Study of Remedy for Plastic waste
129		4	Radioactive Wastes Greenhouse Effect and Global Warming, Ozone Depletion in Stratosphere
130		5	Degradation by Improper Resource Utilisation and Maintenance,Soil Erosion and Desertification,Waterlogging and Soil Salinity Deforestation,Reformation ,Case Study of People""s Participation in Conservation of Forests ,Soil Pollution

Problem Solving Course Biology

S. No.	Chapter Name	No. of Lectures
1	Reproduction in Organisms	2
2	Sexual Reproduction	2
3	Human Reproduction	2
4	Reproductive Health	2
5	Principles of Inheritance	2
6	Molecular Basis of Inheritance	2
7	Evolution	2
8	Human Health & Disease	2
9	Strategies for Enhancement	2
10	Microbes in Human Welfare	2
11	Biotechnology : Principles and Processes	2
12	Biotechnology & its Applications	2
13	Organisms & Populations	2
14	Ecosystem	2
15	Biodiversity & Conservation	2
16	Environmental Issues	2