NARAYANA COACHING CENTER

NARAYANA
IIT-JEE / NEET / FOUNDATIONS

44 YEARS OF EXCELLENCE

Daily Planner of Crash Course NEET - 2023

Lecture	DATE	DAY	Physics	Chemistry	Botany	Zoology
Lecture - 1	17-Mar-23	FRIDAY	Physical World, Units and Measurements Length, mass & time measurements, Accuracy & Precision, Errors, Significant figures, Dimensions	Some Basic Concepts of Chemistry-I Significant figures, Laws of chemical combination, Average atomic mass, Mole concept, Concentration terms, Equivalent concept, Percentage composition.	The Living World-I Introduction, What is living?, Characteristics of living beings, Diversity in the living world, Nomenclature, Need for classification, Classification -taxonomy, systematics, Taxonomic categories, Biological concept of species, Taxonomical aids- Herbarium, Botanical gardens, museum, zoological parks, Key, Flora, Manual, Monograph, Catalogue.	Cell: The Unit of Life-I: Introduction, What is a cell?, Cell theory, An overview of cell, Prokaryotic cell-structure, Eukaryotic cell, difference between plant cell and animal cell, plasma membrane, cell wall, Endomembrane system– Endoplasmic reticulum, Golgibody, Lysosome, Vacuole
Lecture - 2	18-Mar-23	SATURDAY	Motion in a Straight Line:	Some Basic Concepts of Chemistry-II Empirical and molecular formula, Chemical stoichiometry.	Biological Classification-I Introduction, Kingdom system of classification, Kingdom Monera- Characters of monera, Eubacteria - Life processes, Reproduction- binary fission, genetic recombination, Archaebacteria - methanogens, halophiles, thermoacidophiles, Cyanobacteria, Mycoplasma, Protista-General characters, Diatoms, Dinoflagellates, Euglenoids, Sime moulds, Protozoans	Cell: The Unit of Life-II:Mitochondria, Plastid, Ribosome, Cytoskeleton, Centrosome and centriole, cilia and flagella, Nucleus, Chromosomes, Special type of chromosome, Microbodies.
Lecture - 3	19-Mar-23	SUNDAY	Motion in a Plane-I: Concepts of Vectors, Projectile motion	Structure of Atom-I: Fundamental particles, Atomic models, Electromagnetic radiations, Max planck's theory, Bohr atomic model, Hydrogen spectrum, Dual behavious of matter, Heisenberg uncertainty principle, Quantum number, Filling of orbitals in atom.	Biological Classification-II Fungi-general characters,Reproduction in fungi, different classes of fungi - Phycomycetes, Ascomycetes, Basidiomycetes, Deuteromycetes, Mycorrhiza, Virus, Viroids, Prions, Lichens.	Cell Cycle & Cell Division-I Cell cycle and mitosis
Lecture - 4	20-Mar-23	MONDAY	Motion in a Plane-II: Relative Motion, Circular motion (Uniform and Non-uniform)	Classification of Elements & Periodicity in Properties: Genesis of Periodic classification, Modern Periodic Table, Nomenclature of elements with atomic number > 100, Classification of elements on the basis of electronic configuration, Periodic trends in physical properties: Atomic radii, Ionisation potential, Electron Gain Enthalpy, Electronegativity, Diagonal Relationship, Periodic trends and chemical Reactivity	Plant Kingdom-I Salient features and classification of plants into major groups, Algae–Comparative study of green, brown and red algae	Cell Cycle & Cell Division-II Meiosis and their significance
Lecture - 5	21-Mar-23	TUESDAY	Law of Motion-I: Forces, Newton's laws of motion, Conservation of linear momentum, Frame of reference, Application of Newton's laws of motion.	Chemical Bonding and Molecular Structure-I: Lewis symbols, Electrovalent bond, Covalent Bond, Dipole moment, Coordinate or dative bond, Formal charge, VSEPR theory and molecular shape	Plant Kingdom-II Bryophytes & Pteridophytes : Salient and distinguishing features and examples	Biomolecules-I Biomolecules-Structure and function of Protein, Carbohydrates, Lipids
HOLIDAY	22-Mar-23	WEDNESDAY	UGADI HOLIDAY			
Lecture - 6	23-Mar-23	THURSDAY	Law of Motion-II: Friction, Circular motion	Chemical Bonding and Molecular Structure-II: Valence Bond theory, Hybridisation, Hydrogen bond, Resonance, Molecular orbital theory.	Plant Kingdom-III Gymnosperms : Salient feature and classification of plants into major groups, Angiosperms-Salient and distinguishing features and examples,	Biomolecules-II Nucleic acid, Enzymes-types, properties, enzyme action

Lecture - 7	24-Mar-23	FRIDAY	Work, Energy & Power-I: Work, Work done by a variable force, Kinetic energy, The work-energy theorem, Potential energy, Conservative and non-conservative forces, Mechanical energy and its conservation, Vertical circular motion, Power	States of Matter:Gases and Liquids-I Ideal gas equation, Deviation from ideal behavior. Critical temperature, Viscosity, Surface tension	Morphology of Flowering Plants-I: Root, stem, Leaf	Structural Organisation in Animals-I: Introduction, Classification of Animal tissues, Epithelial tissues : General Features, Basement membrane, Classification, Types of simple, epithelium including glandular epithelium, Compound epithelium, and its types with examples, Cell junctions. Connective Tissue : Components, Classification, Loose connective tissue, Dense, Specialised : Cartilage and bone - Structure, Location, Function; Types of bone, Fluid connective tissue: blood (Brief introduction), Muscular tissue : Types of muscles - Skeletal, Visceral, Cardiac. Nervous (Neural) tissue : Structure of neuron and its parts, Types of neurons (based on number of processes), Neuroglia - types and function
Lecture - 8	25-Mar-23	SATURDAY	Collisions & Centre of mass	Thermodynamics-I Ist law and 2nd law of thermodynamics, Extensive and intensive property. Different forms of enthalpy of reaction	Morphology of Flowering Plants-II Inflorescence- cymose and recemose, Flower, fruit and seed	Morphology of Animals-I: Salient features of the Periplaneta: Habitat, External features, exoskeleton, Head-mouth parts, thorax-thoracic appendages, Abdomen, Digestive system of cockroach-peritrophic membrane, Respiratory system & its mechanism, Circulatory system: Heart, blood sinuses, Excretory system : Malpighian tubules, Neural system, Nerve cord, Sense organs of cockroach, Reproductive system of cockroach-male & female system, fertilization, Development, Moulting
Lecture - 9	26-Mar-23	SUNDAY	Rotationalmotion: Pure rotation of rigid body, Moment of inertia of diffrent rigid bodies.	Thermodynamics-II Entropy, free energy, spontaneous and non-spontaneous process, third law of thermodynamics	Morphology of Flowering Plants-III families of angiospermic plants	Animal Kingdom-I: General bases of classification, Level of organization, Symmetry, Body-plan, Coelom,Types of coelom, Open/closed vascular system, segmentation, notochord. Porifera: General characters, Body wall, Types of cells, spicules, canal system-(General), Reproduction, Larva, examples, Cnidaria: General characters, Body wall, Nematoblasts-Structures, Hydra-General characters, Polymorphism, Types of zooids, Polyps, Medusa, Metagenesis, Corals.
TEST-01	27-Mar-23	MONDAY	PART TEST-01			
Lecture - 10	28-Mar-23	TUESDAY	Angular momentum and its conservation, applications, Rolling motion	Equilibrium-I Chemical Equilibrium: Law of mass action and equilibrium constant, Factors affecting KC, degree of dissociation & numerical	Anatomy of Flowering Plants-I Tissues, Tissue system	Animal Kingdom-II: Ctenophora; General characters, comb plates, examples. Platyhelminthes: General characters, Symmetry, Flame cells, Ladder shaped nervous part, Reproduction, Examples & diseases. Aschelminthes / Nematoda: General characters, Pseudocoelom, Renette cells, Reproduction with examples and diseases, Annelida: General characters, Metamerism, Nephridia, Reproduction, Larval form, Nereis, Pheretima, Hirudinaria

Lecture - 11	29-Mar-23	WEDNESDAY	Gravitation-I: Kepler's laws, Newton's law of Gravitation, Variation in the value of 'g', Gravitational potential energy, Escape speed, Earth satellite, Energy of orbiting satellite, Geostationary and Polar satellites, Gravitational field, Gravitational potential, Binary star system.	Equilibrium-II Ionic Equilibrium: pH of weak acids, weak bases, buffer solutions, Hydrolysis of salts and mixture of acids & bases	Anatomy of Flowering Plants-II Anatomy of different parts of flowering plants, secondary growth - Root & Stem	Animal Kingdom-III: Arthropoda: General characters of arthropods, Chitinous exoskeleton, Types of respiration, excretory structures, reproduction, Insects of economic importance, Mollusca: General characters and examples, Echinodermata: General characters, Water vascular system and examples. Hemichordata: General characters, stomochord, types of larva & examples. Chordates: General characters, 3 subphyla- Urochordata, Cephalochordata, Vertebrata. Urochordata- General characters with example. Cephalochordates - General characters with examples. Vertebrata: Agnatha & Gnathostomata.
Lecture - 12	30-Mar-23	THURSDAY	Mechanical Properties of Solids & FluidsI: eleasticity, surface Tension and Viscosity	"Redox Reaction Oxidation Number and n-factors of oxidizing & reducing agent, Balancing of equations"	Transport in Plants-I Movement of water, gases and nutrients; Cell to cell transport–Diffusion, facilitated diffusion, active transport, plant water relations	Animal Kingdom-IV:Cyclostomata - general characters, examples Petromyzon, Myxine, Pisces: General characters, Classes, Chondrichthyes, Osteichthyes, Difference between cartilaginous & bony fishes, Scoliodon, Exocoetus, Labeo, Lateral line system, Types of scales. Amphibia: General characters, Difference between frog & toad, Examples, Reptilia: True land vertebrates, General characters & examples, Aves: General characters & examples, Mammalia: General characters, Subclasses-Prototheria, Metatheria, Eutheria and examples.
Lecture - 13	31-Mar-23	FRIDAY	Mechanical Properties of Fluids-II: Fluid statics and Fludi dynamics	Electrochemistry-I: Ohm's law, Resitivity, Specific conductance, Cell constant, Conductivity of electrolytic solution, Factors for the variations of molar conductance.	Transport in Plants-II Long distance transport of water, transpiration, uptake and translocation of mineral nutrients, Transport of food	Digestion and Absorption-I Alimentary canal and digestive glands, role of digestive enzymes and gastrointestinal hormones, Peristalsis, Digestion, absorption and assimilation of proteins, carbohydrates and fats. Caloric value of proteins, carbohydrates and fats. Egestion, Nutritional and digestive disorders-PEM, indigestion, constipation, vomiting, jaundice, diarrhea
Lecture - 14	1-Apr-23	SATURDAY	Thermal Properties of Matter: Heat, Thermometry, Thermal expansion, Calorimetry, Heat transfer, Newton's law of cooling, Wien's displacement law.	Electrochemistry-II:Kohlrausch law, Electrode Potential and EMF of a cell, Electrolysis, Commercial cells.	Mineral Nutrition-I Hydroponics Essential minerals and their role, Deficiency symptoms and Mineral toxicity	Breathing & Exchange of Gases-I Respiratory system in humans; Mechanism of breathing and its regulation in humans-Exchange of gases,
Lecture - 15	2-Apr-23	SUNDAY	Thermodynamics : Zeroth law of thermodynamics, First law of thermodynamics, Thermodynamic processes, Indicator diagram, Cyclic process. Heat engine, Refregerators and heat pump, Second law of thermodynamics, Carnot engine, Carnot theorem.	The Solid State-I: Classification of solids, Space lattice, Types of cubic unit cell, Packing in metallic crystals, Density of crystalline solid, Relation between d, a and r, Radius ratio, Structure of Ionic solids, Imperfections in solids, Electrical properties of solids, Magnetic properties of solids.	Mineral Nutrition-II Nitrogen metabolism	Breathing & Exchange of Gases-II Transport of gases and regulation of respiration Respiratory volumes; Disorders related to respiration-Asthma, Emphysema, Occupational respiratory disorders.
TEST-02	3-Apr-23	MONDAY	PART TEST-02			
Lecture - 16	4-Apr-23	TUESDAY	Kinetic Theory: Ideal gas, Gas laws, Pressure of an ideal gas, Degree of freedom, Law of equipartion of energy, Mean free path	Solutions-I: Types of solutions, Concentration of solution, Henry's law, Vapour pressure, Raoult's law for volatile solutes, Vapour pressure of solutions of solids in liquids, Ideal solutions, Non-Ideal solutions, Azeotropic mixture, Colligative properties, Abnormal molecular mass, Van't hoff factor.	Photosynthesis in Higher Plants-I Site of Photosynthesis, pigments involved, cyclic and non-cyclic photophosphorylation, chemiosmotic hypothesis	Body Fluids & Circulation-I Human circulatory system-Structure of human heart and blood vessels; Cardiac cycle, cardiac output, ECG

Lecture - 17	**5-Apr-23**	**WEDNESDAY**	**Oscillations-I: Periodic motion an oscillatory motion, Simple harmonic motion, Velocity and acceleration in S.H.M., SHM and uniform circular motion, Oscillations-II: Energy in SHM, Some systems excecuting simple hormonic motion, Damped oscillations, Forced oscillations and resonance**	**Chemical Kinetics-I: Rate of chemical reaction, Law of mass action, Molecularity of the reaction, Order of reaction, Zero order reaction, First order reaction. Method to determine the order of reaction, Rate constant, Factors affecting rate of a chemical reaction. Collision theory of reaction rates, Activation energy.**	**Photosynthesis in Higher Plants-II: Photorespiration, Comparative account of C3 and C4 pathways, Factors affecting photosynthesis and Respiration in Plants-I : Cellular respiration-Glycolysis and Fermentation (anaerobic)**	**Body Fluids & Circulation-II Double circulation; Regulation of cardiac activity; Disorders of circulatory system-Hypertension, Coronary artery disease, Angina pectoris, Heart failure.**
Lecture - 18	**6-Apr-23**	**THURSDAY**	**Waves-I: Wave, Speed of wave, Equation of simple harmonic progressive wave, Sound wave, Characteristics of sound wave, Superposition of waves, Reflection of wave, Standing wave.**	**Surface Chemistry-I: Adsorption, Adsorption of gases on solid, Effect of temperature, Effect of pressure, Colloidal solution, Types of colloidal system, Preparation of colloid solution, Properties of colloidal solution, Catalysis.**	Respiration in Plants-II TCA cycle and ETS (aerobic), Energy relations, Amphibolic pathways, Respiration quotient	**Excretory Products and their Elimination-I : Modes of excretion- Ammonotelism, ureotelism, uricotelism; Human excretory system-structure and function; Urine formation, Osmoregulation**
Lecture - 19	**7-Apr-23**	**FRIDAY**	**Waves-II: Beats, Doppler's effect.**	**Organic Chemistry - Some Basic Principles and Techniques-I: Classification of organic compounds, Nomenclature system, Isomerism, Reaction intermediates, General concept of organic reactions , Mechanism of organic reactions**	**Plant Growth and Development Phases of plant growth and growth rate, sequence of developmental process in a plant cell, Comparitive study of growth regulators, Seed germination and dormancy, photoperiodism, vernalisation**	Excretory Products and their Elimination-II Regulation of kidney function-Renin-angiotensin, Atrial Natriuretic Factor, ADH and Diabetes insipidus; Role of other organs in excretion; Disorders; Uraemia, Renal failure, Renal calculi, Nephritis; Dialysis and artificial kidney.
Lecture - 20	**8-Apr-23**	**SATURDAY**	**Electric Charges & Field-I: Electric charge, Properties of charge, Methods of charging, Coulomb's law, Electic field, Electric field, Electric line of forces, Calculation electric field strength using coulomb's law, Dipole in a uniform electric field, Dipole in non-uniform electric field, Electric flux, Gauss's law, Applications of Gauss law, Motion of charged particle in uniform electric field**	**Organic Chemistry - Some Basic Principles and Techniques-II: Purification of organic compounds, Qualitative analysis, Quantitative analysis.**	**Reproduction in Organisms: Life span, Types of reproduction, Asexual reproduction, Sexual reproduction - Features, Phases of life cycle, Events i.e. Pre-fertilisation, Fertilization and Post-fertilization.**	**Locomotion & Movement-I Types of movement- ciliary, flagellar, muscular; Skeletal muscle- contractile proteins and muscle contraction**
Lecture - 21	**9-Apr-23**	**SUNDAY**	**Electrostatic Potential and Capacitance-I: Electrostatic potential, Calculating field from potential, Potential due to a point charge, Potential due to a systems of charges, Equipotential surfaces, Electrostatic potential energy, Electrostatics of conductor, Capacitors and capacitance, Parallel plate & Spherical Capacitors, Combination of capacitors, Capacitor with dielectric, Sharing of charge and loss of energy**	**Hydrocarbons-I: Conformations of alkanes, Geometrical isomerism, Alkanes : Preparation, Chemical properties, Alkenes: Preparation, Chemical properties.**	**Sexual Reproduction in Flowering Plants-I: Flower - A fascinating organ of Angiosperm, Pre-fertilization - structures and events - Stamen, Microsporangium, Microsporogenesis, Pollen grain. Development of male gametophyte, The pistil, Megasporangium (ovule), Types of ovule, Megasporogenesis**	**Locomotion & Movement-II Skeletal system and its functions; Joints; Disorders of muscular and skeletal system- Myasthenia gravis, Tetany, Muscular dystrophy, Arthritis, Osteoporosis, Gout.**
TEST-03	**10-Apr-23**	**MONDAY**	**PART TEST-03**			
Lecture - 22	**11-Apr-23**	**TUESDAY**	**Current Electricity-I: Current, Resistance, Current density, Drift velocity, Ohm's law, Resistance & Resistivity, Temperature dependence of resistivity, Emf of a cell, Internal resistance, Kirchhoff's rules, Wheatstone bridge**	**Hydrocarbons-II: Alkynes : Preparation, Chemical properties, Reaction of aromatic hydrocarbons.**	**Sexual Reproduction in Flowering Plants-II: Embryo sac development, Pollination, Outbreeding devices, Pollen-pistil interaction, Double fertilization, Post-fertilization structures and events - Endosperm, Embryo development, Seed, Fruit, Apomixis and Polyembryony**	**Neural Control & Coordination-I Neuron and nerves; Nervous system in humans (central nervous system)**
Lecture - 23	**12-Apr-23**	**WEDNESDAY**	**Current Electricity-II: Instruments : Ammeter and voltmeter, Potentiometer, Power in an electrical circuit, Maximum power theorem, Fuse wire.**	**Haloalkanes and Haloarenes-I: Introduction, Classification, IUPAC Nomenclature, Methods of preparation of Haloalkanes, Physical properties, Chemical properties, Sterochemical aspects of nucleophilic substitution reactions, Polyhalogen compounds**	**Principles of inheritance & Variations-I: Introduction, Mendel's law of inheritance, Inheritance of one gene, Laws of inheritance - Dominance, Segregation, Explanation of the concept of dominance, Incomplete dominance, Multiple alleles, Co-dominance, Pleiotropy, Inheritance of two genes, Law of independent assortment, Complementary and Duplicate gene interaction, Epistasis and polygenic inheritance.**	**Neural Control & Coordination-II Peripheral nervous system and visceral nervous system; Generation and conduction of nerve impulse; Reflex action**

Lecture - 24	13-Apr-23	THURSDAY	Moving Charges and Magnetism-I: Ampere's ciruital law, Solenoid, Toroid, Magnetic dipole moment of revolving electron, Force on a current carrying conductor, Current carrying loop in magnetic field, Moving coil Galvanometer	Alcohols, Phenols and Ethers-I: Introduction, Alcohols and phenols, Nomenclature of Alcohols and phenols preparation of alcohols, reactions of alcohols,	Principles of inheritance & Variations-II: Chromosomal theory of inheritance, Linkage and recombination, Sex determination, Mutations - Gene mutation, Mutations - Chromosomal aberrations, Genomatic mutation.	Neural Control & Coordination-III Sense organs; Elementary structure and function of eye and ear
Lecture - 25	14-Apr-23	FRIDAY	Moving Charges and Magnetism-II: Magnetic field, Lorentz force, Motion of charged particle in uniform magnetic field, Motion of charged particle under combined electric and magnetic field, Cyclotron, Biot-Savart law, Applications of Biot-savart law	Alcohols, Phenols and Ethers-II:Preparation of phenols, Reactions of phenols, Some commercially important alcohols, Ethers, preparation of ethers, reactions of ethers	Principles of inheritance & Variations-III: Genetic disorders - Pedigree analysis, Genetic disorders - Mendelian and Chromosomal disorders	Chemical Coordination and Integration-I Endocrine glands and hormones; Human endocrine system Hypothalamus, Pituitary, Pineal, Thyroid, Parathyroid, Adrenal, Pancreas,
Lecture - 26	15-Apr-23	SATURDAY	Magnetism and Matter-I: Magnetism, Bar magnet, Bar magnet in uniform magnetic field, Tangent law, Oscillation of bar magnet in uniform magnetic field, Earth's magnetism, Magnetic materials and their properties	Aldehydes, Ketones and Carboxylic Acids-I: Introduction, Nomenclature and structure of carbonyl group, Method of preparation for aldehydes and ketones, Physical, chemical properties of aldehydes and ketones,	Molecular Basis of Inheritance-I: Introduction, The DNA-structure of polynucleotide chain, Derivation of DNA structure, Central Dogma of molecular biology, DNA packaging in prokaryotes and eukaryotes, The search for genetic material, Transforming principle, Evidence from experiments with bacteriophage, Properties of genetic material	Chemical Coordination and Integration-II Gonads; Mechanism of hormone action (Elementary Idea); Role of hormones as messengers and regulators, Hypo-and hyperactivity and related disorders (Common disorders e.g. Dwarfism, Acromegaly, Cretinism, goiter, exopthalmic goiter, diabetes, Addison's disease)
Lecture - 27	16-Apr-23	SUNDAY	Electromagnetic induction-I: Magnetic flux, Faraday's law of induction, Lenz law, Methos of inducing emf.	Aldehydes, Ketones and Carboxylic Acids-II:Nomenclature and structure of carboxylic group, Methods of preparation for carboxylic acids, Physical Properties of Carboxylic acids, Chemical properties of carboxylic acids.	Molecular Basis of Inheritance-II:RNA world, Replication of DNA - The experimental proof, The machinery and enzymes.	Reproduction in Organisms, Human Reproduction-I Male and female reproductive systems; Microscopic anatomy of testis and ovary;
TEST-04	17-Apr-23	MONDAY	PART TEST-04			
Lecture - 28	18-Apr-23	TUESDAY	Electromagnetic induction-II: Motional emf, Induced electric field, Self inductance, Mutual inductance, Combination of inductors.	Amines (Organic Compound containing Nitrogen)-I: Introduction, Structure of Amines classification, Nomenclature, Preparation of amines, Physical properties, Chemical reactions, Diazonium salts, Cyanides and isocyanides.	Molecular Basis of Inheritance-III:Transcription - Transcription unit, Types of RNAs and Transcription in prokaryotes, Transcription in Eukaryotes.Genetic code - Salient features, t-RNA - The adapter molecule, Translation.	Human Reproduction-II Gametogenesis-spermatogenesis & oogenesis; Menstrual cycle,
Lecture - 29	19-Apr-23	WEDNESDAY	Alternating Current-I AC series LCR circuits, resonance, power consumption, wattless current, LC oscillations, Transformer	Biomolecules-I: Introduction, Carbohydrates, Proteins, Enzymes, Vitamins, Nucleic acid, Polymers-I: Introduction, Classification of polymers, Types of polymerisation reactions, Biodegradable polymers, Polymers of commercial importance	Molecular Basis of Inheritance-IV:Regulation of gene expression, Operon concept, Human genome project - Goals, Methodologies, Salient features, Applications and Future challenges, DNA fingerprinting	Human Reproduction-III Fertilisation, embryo development upto blastocyst formation,
Lecture - 30	20-Apr-23	THURSDAY	Electromagnetic Waves Displacement current, EM waves & their characteristics, Electomagnetic spectrum	Chemistry in Everyday Life-I: Drugs and their Classification, Chemicals in Food. Cleansing agents Hydrogen : Hydrogen, Resemblance with Alkali metals, Resemblance with Halogens, Preparation, Physical properties, Chemical Properties, Hydrogen peroxide, Volume strength of H_2O_2	Principles and process of Biotechnology-I: Biotechnology - Principles, Tools of recombinant DNA technology, Restriction enzymes, Ligases, Polymerases, Cloning vectors, Essential features and details of pBR322 , Blue white selection (Insertional inactivation), Process of Recombinant DNA technologies, Isolation of DNA, Fragmentation of DNA, Electrophoresis, PCR, Ligation of DNA fragment into a vector, Insertion of Recombinant DNA into the host cell, Competent cells, Methods of transformation, Culturing the host cells in a nutrient medium, Bioreactors & their types, Types of fermentation, Downstream processing	Human Reproduction-IV Implantation; Pregnancy and placenta formation (Elementary idea); Parturition (Elementary idea); Lactation (Elementary idea)

Lecture - 31	21-Apr-23	FRIDAY	Ray Optics and Optical Instruments-I Reflection, Spherical Mirrors	s-Block Elements-I:Alkali metals, Alkaline earth metals: Atomic properties, Chemical reactivity, Diagonal relationship, Some important compounds of sodium and calcium.	Application of Biotechnology-I: Biotechnological applications in agriculture– Green revolution, Golden rice, Bt cotton, Pest resistant plants, RNAi, Biotechnological applications in medicine–Genetically engineered insulin, Gene Therapy, Molecular Diagnosis - PCR, ELISA, autoradiography, Transgenic Animals, Ethical Issues, Biopiracy	Reproductive Health-I Need for reproductive health and prevention of sexually transmitted diseases (STD); Birth control-Need and Methods.
HOLIDAY	22-Apr-23	SATURDAY	RAMZAN			
Lecture - 32	23-Apr-23	SUNDAY	Ray Optics and Optical Instruments-II Refraction, Lenses & Optical Instruments	The p-Block Elements-I: Group 13 Elements : Atomic and physical, Properties, Hydrides, Oxides and hydroxides, Carbon family, Group 14 Elements : Atomic and physical properties, Allotropes, Hydrides, Halides, Oxides, Silicates, Silicones,	**Strategies for Enhancement in Food Production**: Introduction, Plant breeding, Main steps, Green revolution, Plant breeding for disease resistance, Plant breeding for resistance to insect pests, Improved food quality, Breeding for anti-nutritional factor, Single cell protein, Tissue culture. Plant breeding for resistance to insect pests, Improved food quality, Breeding for anti-nutritional factor, Single cell protein, Tissue culture.	Reproductive Health-II Contraception and Medical Termination of Pregnancy (MTP); Amniocentesis; Infertility and assisted reproductive technologies – IVF, ZIFT, GIFT
TEST-05	24-Apr-23	MONDAY	PART TEST-05			
Lecture - 33	25-Apr-23	TUESDAY	Wave Optics-I Huygen's principle, Interference	The p-Block Elements-II: Group-15 Elements : Atomic and physical properties, Hydrides, oxides, Oxides of phosphorus, Oxoacids of nitrogen, Oxoacids of phosphorus, Group-16 Elements : Atomic and physical properties, Halides, Oxides, Oxoacids, Hydrides, Sulphur, Atomic and physical properties.	Microbes in Human Welfare-I Microbes in household food processing and industrial production, sewage treatment plant, biogas plant, Biocontrol agents and biofertilizers.	Evolution-I: Origin of life–Big bang theory,Theories of origin of life, Evolution of life forms, Evidences of Evolution-I: Palaentological, Anatomical, Embryological, Biogeographical, Adaptive radiation
Lecture - 34	26-Apr-23	WEDNESDAY	Wave Optics-II Diffraction, Polarization, Resolving Power	The p-Block Elements-III:Group-17 Elements: Atomic and physical properties, Hydrides, oxides of Halogens, Oxoacids of halogens, Interhalogen compounds. Group-18 Elements: Atomic and physical properties, Preparation of fluorides, Preparation of oxides, Preparation of oxyfluorides.	Organisms and Population-I: Introduction, Levels of organisation, Major biomes, Abiotic factors, Temperature, Abiotic Factors–Light, Water, Soil, Response to abiotic factors.	Evolution-II Biological evolution, Lamarckism , Darwinism, Hugo de Vries: Mutation theory, Hardy Wienberg principle, Modern synthetic theory, Types of Natural selection, Genetic Drift, Gene Flow, Gene migration, Founder effect, Speciation–Types of speciation, Brief account of evolution, Human evolution–Origin & evolution of man
Lecture - 35	27-Apr-23	THURSDAY	Dual Nature of Radiation and Matter Photoelectric effect, Matter waves	General Principles and Processes of Isolation of Elements-I: Minerals, Flow sheet of metallurgy, Some important terms, Extraction of some elements.	Organisms and Population-II: Adaptations, Population characteristics and growth Population interactions.	Human health & Disease-I Health–Various types of diseases in Human–Bacterial, Viral, Protozoan, Helminthic & Fungal diseases, Types of Immunity–Innate, acquired, Humoral mediated Immunity, Types of Immunity-Cell Mediated Immunity, Active & passive immunity, Vaccination and immunization, Allergies, Auto immunity, Immune system of the body, Lymphoid organs, AIDS–Cause, Prevention
Lecture - 36	28-Apr-23	FRIDAY	Atoms & Nuclei	d & f block elements	Ecosystem-I: Introduction, Types of ecosystem, Components of ecosystem, Ecosystem structure, Productivity and decomposition.	Human health & Disease-II Cancer–Causes, detection & diagnosis,Treatment drugs and Alcohol Abuse–Opioids, Cannabinoids, Sedatives, Hallucinogens, Stimulants, Adolescence & drug/alcohol abuse, Addiction & dependence, Effects of drug and alcohol abuse, Prevention & control

Lecture - 37	**29-Apr-23**	**SATURDAY**	**Semiconductor-I: P-N junction, Types of diode, Application of junction diode as a rectifier, Juiction transistor, transistor as Amplifier and Oscillators.**	**coordination compounds-I Synergic bonding, Werner's Theory, macrocyclic effect, facial, meridional isomer**	**Ecosystem-II: Energy flow, Ecological pyramids, Nutrient cycling, Ecological succession, Ecosystem services.**	**Strategies for Enhancement in Food Production:** Animal Husbandry
Lecture - 38	**30-Apr-23**	**SUNDAY**	**Semiconductor-II: Logic gates Communication Systems.**	**coordination compounds-II Organometallic compounds, Magnetic properties and colour of compounds, Environmental Chemistry Acid rain, effect of depletion of ozone layer, green chemistry**	**The Environmental Issues-I Air pollution , Water pollution, Agrochemicals and their effects, Solid waste management, Radioactive waste management , Green house effect and global warning, ozone depletion, deforestation**	**Biodiversity and Conservation**
TEST-06	**1-May-23**	**MONDAY**	**PART TEST-06**			
TEST-07	**2-May-23**	**TUESDAY**	**GRAND TEST-01**			
TEST-08	**3-May-23**	**WEDNESDAY**	**GRAND TEST-02**			
TEST-09	**4-May-23**	**THURSDAY**	**GRAND TEST-03**			
TEST-10	**5-May-23**	**FRIDAY**	**GRAND TEST-04**			
TEST-11	**6-May-23**	**SATURDAY**	**GRAND TEST-05**			