DAILY PLANNER NEET – CRASH COURSE 2024

LECTURE	DATE DAY	PHYSICS	CHEMISTRY	BOTANY	ZOOLOGY	MATHEMATICS
Lecture 1	25.03.2024 Monday	Physical World, Units and Measurements Length, mass & time measurements, Accuracy & Precision, Errors, Significant figures, Dimensions	1)Organic Chemistry - Some Basic Principles and Techniques-I: Classification of organic compounds, Nomenclature system, Isomerism, Reaction intermediates 1, General concept of organic reactions , Mechanism of organic reactions	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.	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	Limits and Continuity
Lecture 2	26.03.2024 Tuesday	Motion in a Straight Line:, Motion in a Plane-I: Concepts of Vectors, Projectile motion, Relative Motion, Circular motion (Uniform and Non-uniform)	2)Organic Chemistry - Some Basic Principles and Techniques-II: Purification of organic compounds, Qualitative analysis, Quantitative analysis.	Biological Classification-I Introduction, Kingdom system of classification, Kingdom Monera- Characters of monera, Eubacteria - Life processes, Reproductionbinary fission, genetic recombination, Archaebacteria - methanogens, halophiles, thermoacidophiles, Cyanobacteria, Mycoplasma, Protista-General characters, Diatoms, Dinoflagellates, Euglenoids, Sime moulds, Protozoans, Fungi-general characters, Reproduction in fungi, different classes of fungi - Phycomycetes, Ascomycetes, Basidiomycetes, Deuteromycetes, Mycorrhiza, Virus, Viroids, Prions, Lichens.	Cell: The Unit of Life-II: Mitochondria, Plastid, Ribosome, Cytoskeleton, Centrosome and centriole, cilia and flagella, Nucleus, Chromosomes, Special type of chromosome, Microbodies.	Differentiation and Differentiability
Lecture 3	27.03.2024 Wednesday	Law of Motion-I: Forces, Newton's laws of motion, Conservation of linear momentum, Frame of reference, Application of Newton's laws of motion, Friction, Circular motion, Work, Energy & Power-I: Work, Work done by a variable	3)Hydrocarbons-I: Conformations of alkanes, Geometrical isomerism, Alkanes : Preparation, Chemical properties, Alkenes: Preparation, Chemical properties. Hydrocarbons-II: Alkynes : Preparation, Chemical properties, Reaction of aromatic hydrocarbons	Plant Kingdom-I Salient features and classification of plants into major groups, Algae–Comparative study of green, brown and red algae, Bryophytes & Pteridophytes : Salient and distinguishing features and examples, Gymnosperms : Salient feature and classification of plants into major groups, Angiosperms- Salient and distinguishing features and examples,	Cell Cycle & Cell Division-I Cell cycle and mitosis. Cell Cycle & Cell Division-II Meiosis and their significance	Integration

		force, Kinetic energy, The work-energy theorem, Potential energy, Conservative and nonconservative forces, Mechanical energy and its conservation, Vertical circular motion, Power				
Lecture 4	28.03.2024 Thursday	Collisions & Centre of mass, Rotationalmotion: Pure rotation of rigid body, Moment of inertia of diffrent rigid bodies. Angular momentum and its conservation, applications, Rolling motion	4)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	Morphology of Flowering Plants-I: Root, stem, Leaf, Inflorescence- cymose and recemose, Flower, fruit and seed, families of angiospermic plants	Biomolecules-I Biomolecules-Structure and function of Protein, Carbohydrates, Lipids, Nucleic acid, Enzymes-types, properties, enzyme action	Definite Integration
	30.03.2024 Saturday	UNIT TEST I				
Lecture 5	01.04.2024 Monday	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.	5)Alcohols, Phenols and Ethers-I: Introduction, Alcohols and phenols, Nomenclature of Alcohols and phenols preparation of alcohols, reactions of alcohols	Anatomy of Flowering Plants-I Tissues, Tissue system, Anatomy of different parts of flowering plants, secondary growth - Root & Stem	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	Areas and Differential Equation

Lecture 6	02.04.2024 Tuesday	Mechanical Properties of Solids & FluidsI: eleasticity, surface Tension and Viscosity, Mechanical Properties of Fluids-II: Fluid statics and Fludi dynamics	6)Alcohols, Phenols and Ethers-II:Preparation of phenols, Reactions of phenols, Some commercially important alcohols, Ethers, preparation of ethers, reactions of ethers	Photosynthesis in Higher Plants-I Site of Photosynthesis, pigments involved, cyclic and non-cyclic photophosphorylation, chemiosmotic hypothesis, Photorespiration, Comparative account of C3 and C4 pathways, Factors affecting photosynthesis and	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	Tangents and Normals
Lecture 7	03.04.2024 Wednesday	Thermal Properties of Matter: Heat, Thermometry, Thermal expansion, Calorimetry, Heat transfer, Newton's law of cooling, Wien's displacement law, 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	7)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,	Respiration in Plants-I : Cellular respiration-Glycolysis and Fermentation (anaerobic), TCA cycle and ETS (aerobic), Energy relations, Amphibolic pathways, Respiration quotient	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, HydraGeneral characters, Polymorphism, Types of zooids, Polyps, Medusa, Metagenesis, Corals, 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 8	04.04.2024 Thursday	Kinetic Theory: Ideal gas, Gas laws, Pressure of an ideal gas, Degree of freedom, Law of	8)Aldehydes, Ketones and Carboxylic AcidsII:Nomenclature and structure of carboxylic group, Methods of preparation for	Plant Growth and Development Phases of plant growth and growth rate, sequence of developmental process in a plant cell, Comparitive study of	Animal Kingdom-III: Arthropoda: General characters of arthropods, Chitinous exoskeleton, Types of respiration, excretory structures, reproduction, Insects of economic importance, Mollusca: General characters	Maxima & Minima

		equipartion of energy, Mean free path	carboxylic acids, Physical Properties of Carboxylic acids, Chemical properties of carboxylic acids	growth regulators, Seed germination and dormancy, photoperiodism, vernalisation	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, :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 9	05.04.2024 Friday	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. Waves-I: Wave, Speed of wave,	9)Amines (Organic Compound containing Nitrogen)- I: Introduction, Structure of Amines classification, Nomenclature, Preparation of amines, Physical properties, Chemical reactions, Diazonium salts, Cyanides and isocyanides	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, Embryo sac development, Pollination, Outbreeding devices, Pollenpistil interaction, Double fertilization, Post-fertilization structures and events - Endosperm, Embryo	Breathing & Exchange of Gases-I Respiratory system in humans; Mechanism of breathing and its regulation in humans-Exchange of gases, Transport of gases and regulation of respiration Respiratory volumes; Disorders related to respiration-Asthma, Emphysema, Occupational respiratory disorders.	Functions and Relation

		Equation of simple harmonic progressive wave, Sound wave, Characteristics of sound wave, Superposition of waves, Reflection of wave, Standing wave, Beats, Doppler's effect		development, Seed, Fruit, Apomixis and Polyembryony		
Lecture 10	06.04.2024 Saturday	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. Electric Charges & Field-I: Electric charge, Properties of charge, Methods of charging, Coulomb's law, Electic field, Electric field, Electric line of forces,	10)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	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. : Chromosomal theory of inheritance, Linkage and recombination, Sex determination, Mutations - Gene mutation, Mutations - Chromosomal aberrations, Genomatic mutation. Genetic disorders - Pedigree analysis, Genetic disorders - Mendelian and Chromosomal disorders	Body Fluids & Circulation-I Human circulatory system-Structure of human heart and blood vessels; Cardiac cycle, cardiac output, ECG, Double circulation; Regulation of cardiac activity; Disorders of circulatory system-Hypertension, Coronary artery disease, Angina pectoris, Heart failure.	Matrices and Determinants

		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				
	07.04.2024 Sunday	Unit test I				
Lecture 11	08.04.2024 Monday	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. Current Electricity-II: Instruments : Ammeter and voltmeter, Potentiometer, Power in an electrical circuit, Maximum power theorem, Fuse wire..	11)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	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, RNA world, Replication of DNA - The experimental proof, The machinery and enzymes.	Excretory Products and their Elimination-I : Modes of excretion- Ammonotelism, ureotelism, uricotelism; Human excretory system-structure and function; Urine formation, Osmoregulation, 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.	Inverse Trigonometric functions
Lecture 12	09.04.2024 Tuesday	Moving Charges and Magnetism-I: Ampere's ciruital law, Solenoid, Toroid, Magnetic dipole moment of revolving	12)p, d & f block elements	Molecular Basis of Inheritance-III:Transcription - Transcription unit, Types of RNAs and Transcription in prokaryotes, Transcription in Eukaryotes.Genetic code -	Locomotion & Movement-I Types of movement- ciliary, flagellar, muscular; Skeletal muscle- contractile proteins and muscle contraction, Skeletal system and its functions; Joints; Disorders of muscular and skeletal systemMyasthenia gravis, Tetany,	Permutations and Combinations Sequence and Series

		electron, Force on a current carrying conductor, Current carrying loop in magnetic field, Moving coil Galvanometer, 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. 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		Salient features, t-RNA - The adapter molecule, Translation. Molecular Basis of Inheritance-IV:Regulation of gene expression, Operon concept, Human genome project - Goals, Methodologies, Salient features, Applications and Future challenges, DNA fingerprinting	Muscular dystrophy, Arthritis, Osteoporosis, Gout.	
Lecture 13	10.04.2024 Wednesday	Electromagnetic induction-I: Magnetic flux, Faraday's law of induction, Lenz law, Methos of inducing emf. Electromagnetic induction-II: Motional	13)"Redox Reaction Oxidation Number and n-factors of oxidizing & reducing agent, Balancing of equations" .	Principles and process of Biotechnology-I: Biotechnology - Principles, Tools of recombinant DNA technology, Restriction enzymes, Ligases, Polymerases, Cloning vectors, Essential features and details of	Neural Control & Coordination-I Neuron and nerves; Nervous system in humans (central nervous system), Peripheral nervous system and visceral nervous system; Generation and conduction of nerve impulse; Reflex action	

		emf, Induced electric field, Self inductance, Mutual inductance, Combination of inductors		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		
Lecture 14	11.04.2024 Thursday	Alternating Current-I AC series LCR circuits, resonance, power consumption, wattless current, LC oscillations, Transformer, Semiconductor-I: P-N junction, Types of diode, Application of junction diode as a rectifier, Juiction transistor, transistor as Amplifier and Oscillators, Semiconductor-II: Logic gates Communication Systems.	14)coordination compounds-I Synergic bonding, Werner's Theory, macrocyclic effect, facial, meridional isomer	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	Chemical Coordination and Integration-I Endocrine glands and hormones; Human endocrine system Hypothalamus, Pituitary, Pineal, Thyroid, Parathyroid, Adrenal, Pancreas, 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)	Straight Lines Complex numbers and quadratic equations
Lecture 15	12.04.2024 Friday	Electromagnetic Waves Displacement current, EM waves & their characteristics, Electomagnetic spectrum	15)coordination compounds-II Organometallic compounds, Magnetic properties and colour of compounds, Environmental Chemistry Acid	Microbes in Human Welfare-I Microbes in household food processing and industrial production, sewage treatment plant, biogas plant, Biocontrol agents and biofertilizers	Human Reproduction-I Male and female reproductive systems; Microscopic anatomy of testis and ovary, Gametogenesis-spermatogenesis & oogenesis; Menstrual cycle, Fertilisation, embryo development upto blastocyst formation, mplantation;	Conics

			rain, effect of depletion of ozone layer, green chemistry		Pregnancy and placenta formation (Elementary idea); Parturition (Elementary idea); Lactation (Elementary idea)	
Lecture 16	13.04.2024 Saturday	Ray Optics and Optical Instruments-I Reflection, Spherical Mirrors, Ray Optics and Optical Instruments-II Refraction, Lenses & Optical Instruments, Wave Optics-I Huygen's principle, Interference, Wave Optics-II Diffraction, Polarization, Resolving Power	16)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	Organisms and Population-I: Introduction, Levels of organisation, Major biomes, Abiotic factors, Temperature, Abiotic Factors–Light, Water, Soil, Response to abiotic factors, Adaptations, Population characteristics and growth Population interactions	Reproductive Health-I Need for reproductive health and prevention of sexually transmitted diseases (STD); Birth controlNeed and Methods, Contraception and Medical Termination of Pregnancy (MTP); Amniocentesis; Infertility and assisted reproductive technologies – IVF, ZIFT, GIFT	Vector Algebra
	14.04.2024 Sunday	Unit test II				
Lecture 17	15.04.2024 Monday	Dual Nature of Radiation and Matter Photoelectric effect, Matter waves, Atoms & Nucle	17)Some Basic Concepts of Chemistry-I Significant figures, Laws of chemical combination, Average atomic mass, Mole concept, Concentration terms, Equivalent concept, Percentage composition. Some Basic Concepts of Chemistry-II Empirical and molecular formula, Chemical stoichiometry	Ecosystem-I: Introduction, Types of ecosystem, Components of ecosystem, Ecosystem structure, Productivity and decomposition, Energy flow, Ecological pyramids, Nutrient cycling, Ecological succession, Ecosystem services.	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, 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	Probability
	16.04.2024	**GRAND TEST 1**				
	17.04.2024	**GRAND TEST 2**				