

NEET : 2022 - 2024

Months	Biology	Physics	Chemistry
August	1. Reproduction in organisms	1. Basic Mathematics used in physics & vectors (Physics-1)	1. Mole Concept (Physical)
	1) Reproduction in organisms – I	1) Trigonometry	1) Classification of Universe
	2) Exercise	2) Co-ordinate geometry	2) Dalton's Atomic Theory
	3) Reproduction in organisms – II	3) Differentiation	3) Significant Figure
	4) Exercise	4) Integration	4) The Law of Chemical Combination
	2. Human reproduction	5) Some standard graphs and their equations	5) Percentage Composition and Molecular Formula, Empirical and Molecular Formula, Density, Relation Between Molar Mass & Volume, Limiting Reagent, Stoichiometry Based Concept, Percentage Yield, Average/Mean Atomic Mass, Mean Molar Mass or Molecular Mass, Equivalent Weight, Concentration Terms, Eudiometry or Gas Analysis
	1) Male reproductive system	6) Algebra	6) Exercise -I
	2) Female reproductive system	7) Geometry	7) Exercise - II
	3) Spermatogenesis and sperms		8) Exercise - III
	4) Oogenesis		9) Exercise - IV
	5) Formation of ovarian or graafian follicle and menstrual cycle		10) Exercise - V
	P.T. - 1, 14/ 08/2022, Sunday		
	6) Types of eggs	2. Physical World, Unit And Dimensions & Error In Measurement (Physics-2)	2. Atomic Structure (Physical)
	7) Fertilization	1) Physical world	1) Atomic Models
	8) Cleavage	2) Physical quantities	i- Thomson's Model of Atom
	9) General stages of embryonic development	3) Units of Physical Quantities	ii- Rutherford's α - Scattering Experiment
	10) Extra embryonic membranes and placenta	4) Classification of Units	2) Planck's Quantum Theory
	11) Parturition	5) Dimensions	3) Black Body Radiations
	12) Exercise – I (Conceptual questions)	6) Application of dimensional analysis	4) Quantum Theory of Light
	13) Exercise – II (Previous years questions)		5) Photoelectric Effect (P.E.E.)
	14) Exercise – III (Analytical questions)		6) Bohr's Atomic Model
	15) Exercise – IV (Assertion and reasons)		7) Energy Level Diagram
			8) Spectrum
			9) Hydrogen Spectrum
			10) Sommerfeld Extension of the Bohr Model
			11) 20) Wave Mechanical Model of an Atom
			12) Orbit and Orbitals, Quantum Numbers,

			13) Aufbau Principle, Pauli's Exclusion Principle, Hund's maximum multiplicity, Spin Multiplicity, Electronic Configuration of Elements, Wave Mechanical Model of Atom
			14) Exercise - I
			15) Exercise - II
			16) Exercise - III
			17) Exercise - IV
			18) Exercise - V
P.T. - 2, 28/08/2022, Sunday			
Sept	2. Human reproduction	1. Basic Mathematics used in physics & vectors (Physics-1)	3. Classification of Elements and Periodicity in Properties (Physical)
	16) Reproductive health	8) Types of vectors	1) Modern Periodic law and Long form of periodic table
	17) Exercise – I (Conceptual questions)	9) Addition of two vectors	2) Periodic trends in properties of elements
	18) Exercise – II (Previous years questions)	10) Addition of more than two vectors	i- Atomic Radii
	19) Exercise – III (Analytical questions)	11) Subtraction of two vectors	ii- Ionic Radii
	20) Exercise – IV (Assertion and reasons)	12) Resolution of two vectors	iii- Ionization Enthalpy
	3. Sexual reproduction in flowering plants	13) Multiplication and Division of a Vector by a Scalar	iv- Electron gain enthalpy
	1) Flower structure	14) Scalar products of two vectors	v- Electronegativity
	2) Androecium	15) Vector products of two vectors	vi- Valency
	3) Gynoecium	16) Exercise-I (Conceptual Question)	4) Exercise -I
	4) Pollination	17) Exercise-II (Previous Years Questions)	5) Exercise - II
	5) Fertilization	18) Exercise-III (Analytical Questions)	6) Exercise - III
	6) Development of endosperm		7) Exercise - IV
	7) Development of embryo in dicot		8) Exercise - V
C.T. - 1, 11/09/2022, Sunday			
	8) Asexual reproduction (Apomixis)	2. Physical World, Unit And Dimensions & Error In Measurement (Physics-2)	4. Chemical Bonding(Inorganic)
	9) Parthenocarpy and polyembryony	7) Dimensions of Mathematical Function	1) Cause of Chemical Bonding
	10) Seed	8) Limitation of dimensional analysis	2) Wave Mechanical Concept of Covalent Bonding
	11) Exercise – I (Conceptual questions)	9) Significant Figures	3) Characteristic of covalent bond
	12) Exercise – II (Previous years questions)	10) Rounding off	4) Valence Bond Theory (VBT)
	13) Exercise – III (Analytical questions)	11) Order of Magnitude	5) Hybridization Theory
	14) Exercise – IV (Assertion and reasons)	12) Accuracy and Precision	6) Types of Hybridization, - sp Hybridization, sp^2 Hybridization, sp^3 Hybridization, - sp^3d Hybridization, sp^3d^2 Hybridization, sp^3d^3 Hybridization

	4. Human health and diseases	13) Errors	7) Valence Shell Electron Pair Repulsion Theory(VSEPR)
	1) Introduction: Immunity system	14) Representation of Errors	8) Determination of Hybridization State
	2) Vaccines	15) Propagation of Errors	9) Bond Parameters, Bond Length, Bond Angle, Bond Energy
	3) Grafting	16) Least count	10) Molecular Orbital Theory (MOT)
	4) Immune system disorders	17) Zero error	11) Dipole Moment & Molecular Polarity
		18) Exercise-I (Conceptual Question)	12) Electrovalent or Ionic Bond, Factors Favoring Ionic Bonding
		19) Exercise-II (Previous Years Questions)	13) Factors Affecting Lattice Energy
		20) Exercise-III (Analytical Questions)	14) Factors Affecting Solubility
			15) Transition from Ionic to Covalent Bond - Fajan's Rule
			16) Resonance, Formal Charge, Hydrogen Bond, Van Der Waal's Forces, Metallic Bond, Bond Length & σ - π Bonding
			17) Exercise - I
			18) Exercise - II
			19) Exercise - III
			20) Exercise - IV
			21) Exercise - V
	P.T. - 3, 25/09/2022, Sunday		
Oct	4. Human health and diseases	3. Kinematics (Motion along straight line and motion in a plane) (Physics-1)	5. States of Matter : Gases and Liquids(Physical)
	5) Genetic diseases	1) Frame of Reference	1) Three States of Matter
	6) Common human diseases	2) Motion & Rest	2) Intermolecular Interactions
	7) AIDS	3) Distance & Displacement	3) Role of Gas laws elucidating the concept of the molecule: Boyle's law, Charles's law, Gay Lussac's Law, Avogadro's law, Ideal Behavior of Gases
	8) Cancer	4) Speed & Velocity	4) Empirical derivation of gas equation
	9) Drugs and alcohol abuse	5) Acceleration	5) Avogadro Number
	10) Exercise – I (Conceptual questions)	6) Equation of Motion	6) Ideal Gas Equation, Deviation from Ideal Behavior
	11) Exercise – II (Previous years questions)	7) Graphical Section	7) Kinetic Energy and Molecular Speed
	12) Exercise – III (Analytical questions)	8) Motion Under Gravity (Free Fall)	8) Liquification of Gases, Critical Temperature,
	13) Exercise – IV (Assertion and reasons)	9) Projectile Motion : Introduction	9) Liquid State - Vapor Pressure
	5. Genetics	10) Ground to Ground Projection	10) Viscosity and Surface Tension (Qualitative idea only)
	I. Principles of inheritance and variations	11) Horizontal Projection From Height	12) Exercise -I
	1) Introduction	12) Oblique Projection From Height	13) Exercise - II
	2) Some genetical terms		14) Exercise - III
	3) Mendelism		15) Exercise - IV
	4) Gene interaction		16) Exercise - V
	P.T. - 4, 09/10/2022, Sunday		
	5) Polygenic inheritance	4. Newton's laws of motion & friction (Physics-2)	6. Equilibrium (Physical)

	6) Cytoplasmic inheritance	1) Newton's first laws of motion	1) Equilibrium in physical and chemical processes, Dynamic nature of equilibrium, Law of chemical equilibrium, Equilibrium constant
	7) Chromosomal theory of inheritance	2) Force	2) Factors affecting equilibrium- Le Chatelier's principle
	8) Linkage	3) Inertia	3) Ionic equilibrium - Ionization of acids and bases
	9) Sex linkage	4) Momentum	4) 7) Strong and weak electrolytes, Degree of ionization, Ionization of polybasic acids, Acid strength, Concept of pH,
	10) Sex determination	5) Newton's Second Laws of Motion	5) Hydrolysis of salts
	11) Human genetics	6) Impulse	6) Buffer solutions
	12) Population genetics	7) Rocket Propulsion	7) Henderson equation
	13) Exercise – I (Conceptual questions)	8) Newton's third law of motion	8) Solubility product
	14) Exercise – II (Previous years questions)	9) Free body diagram	9) Common ion effect
	15) Exercise – III (Analytical questions)	10) Normal reaction	10) Exercise - I
	16) Exercise – IV (Assertion and reasons)		11) Exercise - II
			12) Exercise - III
			13) Exercise - IV
			14) Exercise - V
	C.T. - 2, 23/10/2022, Sunday		
Nov	5. Genetics	3. Kinematics (Motion along straight line and motion in a plane) (Physics-1)	7. Redox Reaction and Electrochemistry(Physical)
	II. Molecular basis of inheritance	1) Relative Velocity in One Dimension	1) Concept of Oxidation and Reduction
	17) Nucleic acids	2) Relative Velocity in a plane	2) Oxidation Number
	18) Deoxyribonucleic acid (DNA)	3) Rain- Man Problem	3) Balancing redox reactions in terms of loss and
			4) gain of electron and change in oxidation numbers
	19) Packaging of DNA helix	4) River-Boat(or Man) Problem	5) Conductance in electrolytic solutions, Specific and Molar conductivity, Variation of conductivity with concentration
	20) The search for genetic material	5) Exercise-I (Conceptual Question)	6) Kohlrausch's law
	21) DNA replication	6) Exercise-II (Previous Years Questions)	7) Electrolysis and laws of electrolysis (elementary idea)
	22) Ribonucleic acid (RNA)	7) Exercise-III (Analytical Questions)	8) Dry cell, Electrolytic cells, Galvanic cells
			9) Lead accumulator, EMF of a cell, Standard Electrode Potential, Nernst equation, Relation between Gibbs energy change and EMF of a cell, Corrosion
			10) Exercise - I
			11) Exercise - II
			12) Exercise - III
			13) Exercise - IV
			14) Exercise - V
	P.T. - 5, 06/11/2022, Sunday		

	23) Transcription	4. Newton's laws of motion & friction (Physics-2)	8. s-Block Elements(Inorganic)
	24) Genetic code	1) System of masses tied by strings	1) General Introduction, Electronic Configuration, Occurrence,
	25) Translation	2) Pulley System	2) Anomalous properties of the first element of each
	26) Regulation of genetic expression	3) Spring Force	3) Group, Diagonal relationship, Trends in the variation of properties
	27) Mutation	4) Frame of reference	4) Trends in chemical reactivity with oxygen, water, hydrogen and halogens
	28) DNA finger printing	5) Pseudo Force	5) Uses
	29) Human genome project	6) Mechanical Advantage	6) Preparation and properties of some important Compounds: i- Sodium carbonate, ii- Sodium chloride, iii- Sodium Hydroxide and sodium hydrogen carbonate
	30) Exercise – I (Conceptual questions)	7) Translational Equilibrium	7) Biological importance of sodium and potassium
	31) Exercise – II (Previous years questions)	8) Friction : Introduction	8) Industrial use of lime and limestone
	32) Exercise – III (Analytical questions)	9) Types of Friction	9) Biological importance of Mg and Ca
	33) Exercise – IV (Assertion and reasons)	10) Laws of Limiting Friction	10) Exercise - I
		11) Laws of Kinetic Friction	11) Exercise - II
		12) Two Blocks System In Friction	12) Exercise - III
		13) Methods of reducing friction	13) Exercise - IV
		14) Advantages & Disadvantages of friction	14) Exercise - V
		15) Exercise-I (Conceptual Question)	
		16) Exercise-II (Previous Years Questions)	
		17) Exercise-III (Analytical Questions)	
	P.T. - 6, 20/11/2022, Sunday		
Dec	6. Biotechnology	5. Work, Energy & Power (Physics-1)	9. Organic Chemistry - Some Basic Principles and Techniques
	I. Principles and processes	1) Work	1) General Introduction, Methods of Purification qualitative and quantitative analysis
	1) Introduction	2) Energy	2) Classification and IUPAC nomenclature of Organic Compounds
	2) Principles of biotechnology	3) Conservative force, Non Conservative force and Central force	3) Electronic displacement in Covalent Bond: Inductive Effect, Electromeric Effect, Resonance, Hyper conjugation,
	3) Tools and techniques	4) Potential energy	4) Homolytic and Heterolytic Fission of Covalent Bond: Free Radical, Carbocation, Carbanions
	4) Processes of RDT	5) Laws of conservation of mechanical energy	5) Electrophiles and Nucleophiles, Types of Organic Reactions
	5) Downstream processing	6) Spring potential energy and spring - block system	6) Exercise – I
	6) Applications in agriculture	7) Power	7) Exercise – II
	7) Applications in medicine	8) Exercise-I (Conceptual Question)	8) Exercise – III

8) Transgenic animals	9) Exercise-II (Previous Years Questions)	9) Exercise - IV
9) Ethical issues	10) Exercise-III (Analytical Questions)	10) Exercise - V
C.T. - 3, 04/12/2022, Sunday		
10) Exercise – I (Conceptual questions)	6. Circular motion (Physics-2)	10. Hydrocarbons (Organic)
11) Exercise – II (Previous years questions)	1) Kinematics of Circular motion	1) Alkanes: Nomenclature, Isomerism, Conformations, Physical Properties, - Chemical Reactions Including free radical 2) mechanism of Halogenation, Combustion and Pyrolysis
12) Exercise – III (Analytical questions)	2) Uniform circular motion and Non-uniform circular motion	3) Alkenes: Nomenclature, Structure of Double Bond, Geometrical Isomerism, Geometrical Isomerism, Methods of Preparation, Chemical Reactions, Addition of Hydrogen, halogen, water, hydrogenhalide (Markonikov`s addition and Peroxide effect), Ozonolysis, Oxidation, Mechanism of Electrophilic addition.
13) Exercise – IV (Assertion and reasons)	3) Dynamics of circular motion (Circular turning on roads, conical pendulum, death wall or Rotor)	4) Alkynes: Nomenclature, Structure of Triple Bond, Physical Properties, Methods of Preparation, Chemical Reactions: Acidic Character of Alkynes, - Addition reaction of hydrogen, halogen, hydrogen halide and water
7. Biology in human welfare	4) Vertical Circular Motion	5) Aromatic Hydrocarbons: Introduction, IUPAC Nomenclature, Benzene, Resonance, Aromaticity, Chemical Properties, Mechanism of Electrophilic Substitution -Nitration and Sulphonation, Halogenation, Friedel Craft`s Alkylation and acylation, Directive Influence of Functional Group in Mono substituted Benzene, Carcinogenicity and Toxicity
I. Microbes in human welfare	5) Exercise-I (Conceptual Question)	6) Exercise -I
1) Microbes in household products	6) Exercise-II (Previous Years Questions)	7) Exercise - II
2) Microbes in industrial products	7) Exercise-III (Analytical Questions)	8) Exercise - III
3) Microbes in bio control agents		9) Exercise - IV
4) Microbes as bio fertilizers		10) Exercise - V
5) Microbes in production of biogas		
6) Exercise – I (Conceptual questions)		
7) Exercise – II (Previous years questions)		
8) Exercise – III (Assertion and reasons)		
II. Strategies for enhancement in food production		
9) Plant breeding		
10) Applications of plant breeding		
11) Plant tissue culture		
12) Exercise – I (Conceptual questions)		

	13) Exercise – II (Previous years questions)		
	14) Exercise – III (Assertion and reasons)		
	P.T. – 7, 18/12/2022, Sunday		
Jan	8. Biomolecules	7. Centre of mass & Collisions (Physics-1)	11. Environmental Chemistry
	1) Introduction	1) Centre of mass	1) Environmental pollution : Air, water and soil pollution
	2) How to analyse chemical composition	2) Motion of Centre of Mass	2) Chemical reactions in atmosphere
	3) Primary and secondary metabolites	3) Application of methods of impulse and momentum to a system of particles	3) Smog
	4) Carbohydrates (Mono – saccharides and Oligosaccharides)	4) Collision	4) Major atmospheric pollutants: i- Acid rain, ii - Ozone and its reactions, iii- Effects of depletion of ozone layer, iv- Greenhouse effect and global warming
	5) Polysaccharides	5) Exercise-I (Conceptual Question)	5) Pollution due to industrial wastes
	6) Lipids	6) Exercise-II (Previous Years Questions)	6) Green chemistry as an alternating tool for reducing pollution
	7) Proteins	7) Exercise-III (Analytical Questions)	7) Strategy for control of environmental pollution
	8) Exercise – I (Conceptual questions)		8) Exercise - I
	9) Exercise – II (Previous years questions)		9) Exercise - II
	10) Exercise – III (Analytical questions)		10) Exercise - III
	11) Exercise – IV (Assertion and reasons)		11) Exercise - IV
			12) Exercise - V
	P.T. – 8, 08/01/2023, Sunday		
	9. Organism and environment (Ecology) and Demography	8. Rotational motion (Physics-2)	12. Solid State
	1) Organism and environment	1) Rigid body	1) Classification of solids based on different binding forces
	2) Environmental issues	2) Rotational motion of rigid body	2) Amorphous and crystalline solids
	3) Biodiversity and conservation	3) Kinematics of rotational motion	3) Unit cell in two dimensional lattices, Unit cell in three dimensional lattices
	4) Exercise – I (Conceptual questions)	4) Moment of inertia	4) Calculation of density of unit cell, Packing in solids, Packing efficiency, Number of atoms in a cubic unit cell, Voids
	5) Exercise – II (Previous years questions)	5) Radius of gyration	5) Point defects
	6) Exercise – III (Analytical questions)	6) Theorems of moment of inertia moment of inertia of some regular bodies	6) Electrical and magnetic properties
	7) Exercise – IV (Assertion and reasons)	7) Torque	7) Band theory of metals: i- Conductors, ii- Semiconductors, iii- Insulators
	8) Demography	8) Rotational equilibrium	8) Exercise - I
	9) Exercise – I (Conceptual questions)	9) Bending of cyclist on a horizontal turn	9) Exercise - II
	10) Exercise – II (Previous years questions)	10) Angular momentum	10) Exercise - III
		11) Conservation of angular momentum	11) Exercise - IV

		12) Kinetic energy of rotation	12) Exercise - V
	C.T. -4, 22/01/2023, Sunday		
Feb	10. Origin and evolution of life	9. Gravitation (Physics-1)	13. Chemical Kinetics(Physical)
	1) Origin of life	1) Gravitational field and its intensity	1) Rate of reaction (Average and Instantaneous)
	2) Evidences of organic evolution	2) Acceleration due to gravity	2) Factors affecting rate of reaction: i- Concentration, ii- Temperature, iii- Catalyst
	3) Theories of organic evolution	3) Gravitational potential energy	3) Order and Molecularity of a reaction
	4) Human evolution	4) Gravitational potential	4) Rate law and specific rate constant
	5) Exercise – I (Conceptual questions)	5) Escape velocity and escape energy	5) Integrated rate equation
	6) Exercise – II (Previous years questions)	6) Kepler's laws of planetary motion	6) Half-life of zero and first order reactions
	7) Exercise – III (Analytical questions)	7) Satellite motion	7) Concepts of collision theory
	8) Exercise – IV (Assertion and reasons)	8) Geo-stationary satellite & polar satellite	8) Activation energy
	9) Geological time scale	9) Weightlessness	9) Arrhenius equation
		10) Exercise-I (Conceptual Question)	10) Exercise - I
		11) Exercise-II (Previous Years Questions)	11) Exercise - II
		12) Exercise-III (Analytical Questions)	12) Exercise - III
		8. Rotational motion (Physics-2)	13) Exercise - IV
		13) Rolling motion	14) Exercise - V
	P.T. - 9, 05/02/2023, Sunday		
	11. Strategies for enhancement in food production	14) Rolling motion on inclined plane	14. p - Block Elements(Inorganic)
	1) Animal husbandry	15) Exercise-I (Conceptual Question)	1) General Introduction
	2) Dairy farm management	16) Exercise-II (Previous Years Questions)	2) Group 13 elements: General introduction, i- Electronic configuration, ii- Occurrence, iii- Variation of properties, iv- Oxidation state, v- Trends in chemical reactivity, vi- Anomalous behavior of first element of the Group.
	3) Breeds of cows	17) Exercise-III (Analytical Questions)	3) Group.
	4) Breeds of buffaloes	10. Properties of matter & Fluid mechanics (Physics-2)	4) Some important compounds: borax, boric acid,
	5) Breeds of sheep	1) Elasticity	5) boron hydrides
	6) Breeds of goat	2) Hydro-statics	6) Aluminum: uses, reaction with acids and alkalis
	7) Breeds of pig	3) Hydro-dynamics	7) Group 14 elements: i- Electronic configuration, ii- Occurrence, iii- Variation of properties, iv- Oxidation state, v- Trends in chemical reactivity, vi- Anomalous behavior of first element of the Group. viii- Carbon : allotropic forms, ix- Physical and chemical properties, x- Uses of some important compounds : Oxides
			8) Group.
			9) Important compounds of silicon and uses: i- Silicon tetrachloride, silicones, silicates and
			10) Zeolite, ii- Uses
			11) Group 15 elements: i- Electronic configuration, ii- Occurrence, iii- Variation of properties, iv- Oxidation state, v- Trends in

			chemical reactivity, vi- Anomalous behavior of first element of the, vii - Preparation and properties of ammonia and nitric acid, viii - Oxides of nitrogen, ix - Phosphorous; allotropic forms
		4) Viscosity	12) Compounds of phosphorous: preparation and properties of phosphine
			13) Halides (PCl_3 , PCl_5) and oxoacids
P.T. - 10, 19/02/2023, Sunday			
March	11. Strategies for enhancement in food production	11. Thermal physics (Physics-1)	14. p - Block Elements(Inorganic)
	9) Animal breeding	1) Temperature and thermal expansion	14) Group 16 elements: General introduction, i- Electronic configuration, ii- Occurrence, iii- Variation of properties, iv- Oxidation state, v- Trends in chemical reactivity, vi- Anomalous behavior of first element of the Group.
	10) Poultry	i. temperature and thermal expansion	15) Dioxygen : preparation, properties and uses
	11) Apiculture/Bee Keeping	ii. Thermal expansion	16) Classification of oxides; ozone
	12) Fisheries	2) Heat	
	13) Sericulture	i. specific heat (S or C)	
	14) Lac culture	ii. Latent heat	
	15) Main infectious diseases of domestic animals	iii. Change of state	
	16) Additional information	iv. Phase of substance and phase diagram	
C.T. - 5, 05/03/2023, Sunday			
	17) Exercise – I (Conceptual questions)	10. Properties of matter & Fluid mechanics (Physics-2)	17) Sulphur - allotropic forms
	18) Exercise – II (Previous years questions)	3) Surface tension	18) Compounds of Sulphur: preparation, properties and uses of Sulphur dioxide
	19) Exercise – III (Analytical questions)	4) Exercise-I (Conceptual Question)	19) Sulphuric acid: industrial process of manufacture, properties and uses
	20) Exercise – IV (Assertion and reasons)	5) Exercise-II (Previous Years Questions)	20) Oxoacids of Sulphur
	12. Diversity in the living world	6) Exercise-III (Analytical Questions)	21) Exercise – I
	1) Taxonomy	12. Oscillation (Physics-2)	22) Exercise – II
	2) History of taxonomy	1) Periodic motion and its characteristics and types of SHM	23) Exercise – III
	3) Kingdom Monera	2) Simple harmonic motion(SHM) and its equation; Velocity, Acceleration and Phase	24) Exercise – IV
	4) Kingdom Protista	3) Energy in SHM - Potential and K.E.	25) Exercise – V
	5) Kingdom Fungi	4) Oscillation of spring block system	
P.T. - 11, 19/03/2023, Sunday			
April	12. Diversity in the living world	11. Thermal physics (Physics-1)	15. d and f Block elements(Inorganic)
	6) Plant Kingdom	v. Heating curve 3) Laws of mixtures	1) General introduction: Electronic Configuration, Characteristics of transition metals, General trends in properties of first row transition Metals

A. Algae	26) Mode of heat transfer	2) Metallic character
B. Bryophyta	i. Thermal conduction	3) Ionization enthalpy, Oxidation state, Ionic radii, color, Catalytic property, magnetic property
C. Pteridophyta	ii. Convection	4) Interstitial compounds
D. Gymnosperms	iii. Thermal radiation	5) Alloy formation
7) Exercise – I (Conceptual questions)	iv. Kirchhoff's law	6) Preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$
P.T. - 12, 02/04/2023, Sunday		
8) Exercise – II (Previous years questions)	v. Stefan's law	8) Lanthanides - Electronic configuration, 9) oxidation state, Chemical reactivity, Lanthanide contraction and its consequences
9) Exercise – III (Analytical questions)	vi. Newton's law of cooling	10) Actinides - Electronic configuration, oxidation state and comparison with lanthanides
10) Exercise – IV (Assertion and reasons)	vii. Wien's displacement law	11) Exercise - I
11) Virus		12) Exercise - II
12) Lichen		13) Exercise - III
13) Mycorrhiza		14) Exercise - IV
14) The living world		15) Exercise - V
C.T. - 6, 16/04/2023, Sunday		
13. Morphology of flowering plants	12. Oscillation (Physics-2)	14. p - Block Elements(Inorganic)
1) Root	27) Simple pendulum	26) Group 17 elements: General introduction, i- Electronic configuration, ii- Occurrence, iii- Variation of properties, iv- Oxidation state, v- Trends in chemical reactivity, vi- Anomalous behavior of first element of the Group.
2) Stem	28) Different types of oscillations (Free, Damped, Forced Oscillation & Resonance)	27) Compounds of halogens: i- Preparation, properties and uses of chlorine and hydrochloric acid, ii- Interhalogen compounds, iii- Oxoacids of halogen
3) Leaf	29) Exercise-I (Conceptual Question)	28) Group 18 elements: General introduction, i- Electronic configuration, ii- Occurrence, iii- Variation of properties, iv- Oxidation state, v- Trends in chemical reactivity, vi - Compounds of Xenon
4) Inflorescence	30) Exercise-II (Previous Years Questions)	29) Exercise - I
5) Flower	31) Exercise-III (Analytical Questions)	30) Exercise - II
6) Placentation	13. Wave motion & Doppler's Effect (Physics-2)	31) Exercise - III
7) Fruit	1) Wave and its characteristics	32) Exercise - IV
8) Families of angiosperms	2) Progressive wave on string	33) Exercise - V
9) Exercise – I (Conceptual questions)	3) Sound Waves & its characteristics	
10) Exercise – II (Previous years questions)	4) Principle of superposition of waves	
11) Exercise – III (Analytical questions)		

	12) Exercise – IV (Assertion and reasons)		
	P.T. – 13, 30/04/2023, Sunday		
May	14. Anatomy of flowering plants	11. Thermal physics (Physics-1)	16. Thermodynamics(Physical)
	1) Meristem	5) Kinetic theory of gases	1) First law of thermodynamics: i- Internal energy, ii- Enthalpy, iii- Heat capacity and specific heat, iv- Measurement of ΔU and ΔH , v- Hess's law of constant heat summation
	2) Permanent tissues	i. Ideal gas concept	2) Enthalpy of: bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution
	3) Tissue system	ii. Gas law	3) introduction of entropy as state function
	4) Internal structure of root, stem and leaf	iii. Different speeds of gas molecules	
	5) Secondary growth	iv. Expression for pressure of an ideal gas	
	6) Special tissues	v. Degree of freedom (f)	
	7) Stele	vi. Maxwell's law of equipartition energy	
	8) Exercise – I (Conceptual questions)	vii. Mean free path	
	P.T. – 14, 14/05/2023, Sunday		
	9) Exercise – II (Previous years questions)	13. Wave motion & Doppler's Effect (Physics-2)	4) Second law of thermodynamics
	10) Exercise – III (Analytical questions)	6) Reflection of waves, standing waves in strings	5) Gibbs energy change for spontaneous and non -spontaneous process
	11) Exercise – IV (Assertion and reasons)	7) Stationary waves in organ pipe	6) Criteria for equilibrium and spontaneity
	15. Animal kingdom	8) Doppler effect in sound waves and light waves	7) Third law of thermodynamics
	1) Basis of classification	9) Exercise-I (Conceptual Question)	8) Exercise - I
June	2) Phylum Protozoa	10) Exercise-II (Previous Years Questions)	9) Exercise - II
	3) Phylum Porifera	11) Exercise-III (Analytical Questions)	10) Exercise - III
	4) Phylum Cnidaria	12) Thermodynamics	11) Exercise - IV
	5) Ctenophora		12) Exercise - V
	6) Phylum Platyhelminthes		
	7) Phylum Aschelminthes		
	8) Phylum Annelida		
	9) Phylum Arthropoda		
	10) Phylum Mollusca		
	11) Phylum Echinodermata		
	12) Phylum Hemichordata		
	C.T.- 7, 28/05/2023, Sunday		
	15. Animal kingdom	11. Thermal physics (Physics-1)	17. Polymers
	13) Chordata	i. Thermodynamic system and internal energy	1) Classification - Natural and Synthetic
	14) Protochordata	ii. Work done by thermodynamic system	2) Methods of polymerization
	15) Cyclostomata	iii. First law of thermodynamics	3) Copolymerization
	16) Super class Pisces	iv. Different processes	4) Some important polymers

	17) Class Amphibia	v. Relation between degree of freedom and specific heat of gas	5) i- Natural and Synthetic like Polyesters, Bakelite, ii- Rubber
	18) Class Reptilia	vi. Second law of thermodynamics	6) Biodegradable and non - biodegradable polymers
	19) Class Aves	vii. Carnot cycle	7) Exercise - I
	20) Class Mammalia	13) Exercise-I (Conceptual Question)	8) Exercise - II
	21) Exercise – I (Conceptual questions)	14) Exercise-II (Previous Years Questions)	9) Exercise - III
	22) Exercise – II (Previous years questions)	15) Exercise-III (Analytical Questions)	10)Exercise - IV
	23) Exercise – III (Analytical questions)		11)Exercise - V
	24) Exercise – IV (Assertion and reasons)		
	P.T. – 15, 04/06/2023, Sunday		
	16. Animal tissue	14. Electrostatics (Physics-2)	18. Haloalkanes and Haloarenes (Organic)
	1) Introduction	1) Electric charge	1) Haloalkanes : Nomenclature, Nature of C-X bond, Physical and chemical properties, Mechanism of substitution reactions, Optical rotation
	2) Epithelial tissue	2) Coulomb's law	2) Haloarenes: Nature of C-X bond, Substitution reactions
	3) Glands	3) Electric field	3) Environment effect of - Dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT
	4) Connective tissue	4) Electric field lines & electric flux	4) Exercise - I
	5) Exercise – I (Conceptual questions)		5) Exercise - II
	6) Exercise – II (Previous years questions)		6) Exercise - III
	7) Exercise – III (Analytical questions)		7) Exercise - IV
	8) Exercise – IV (Assertion and reasons)		8) Exercise - V
	P.T. – 16, 18/06/2023, Sunday		
July	C.T. – 8, 02/07/2023, Sunday		
	17. Periplaneta (Cockroach)	15. Current Electricity (Physics-1)	19. Biomolecules
	1) Head	1) Electric current & drift velocity	1) Carbohydrate
	2) Thorax	2) Ohm's law & Electric resistance	2) Classification: Monosaccharides, polysaccharides, oligosaccharides, D.L. Configuration, Oligosaccharides
	3) Abdomen	3) Combination of resistors	3) Proteins: Elementary idea of amino acids, peptide bonds, polypeptides, proteins, Primary structure, secondary structure, tertiary structure and quaternary structure, Denaturation of proteins, Enzymes
	4) Digestive system	4) Kirchhoff's laws	4) Hormones
	5) Respiration		5) Vitamins : Classification and functions
	6) Blood vascular system		6) Nucleic acids : DNA and RNA
	7) Excretory system		7) Exercise - I
	8) Nervous system		8) Exercise - II
			9) Exercise - III
			10) Exercise - IV
			11) Exercise - V

P.T. - 17, 16/07/2023, Sunday			
	9) Compound eyes	14. Electrostatics (Physics-2)	20. Alcohols, Phenols and Ethers
	10) Reproductive system	5) Electrostatics potential energy & electric potential	1) Alcohols: Nomenclature, Methods of preparation, Physical and chemical properties, Identification of primary, secondary and tertiary alcohol Mechanism of dehydration, Uses with special reference to methanol and ethanol
	11) Exercise – I (Conceptual questions)	6) Electric dipole	2) Phenols : Nomenclature, , Physical and chemical properties, Acidic nature of phenols, Electrophilic substitution reactions, Uses of phenols
	12) Exercise – II (Previous years questions)	7) Motion of charged particle in uniform electric field	3) Ethers : Nomenclature, Nature of carbonyl group, Methods of preparation, Physical and chemical properties, Uses
	13) Exercise – III (Analytical questions)	8) Conductor & its properties	4) Exercise - I
	14) Exercise – IV (Assertion and reasons)	9) Exercise-I (Conceptual Question)	5) Exercise - II
	18. Plasmodium and frog	10) Exercise-II (Previous Years Questions)	6) Exercise - III
	1) Exercise – I (Conceptual questions)	11) Exercise-III (Analytical Questions)	7) Exercise - IV
	2) Exercise – II (Assertion and reasons)		8) Exercise - V
P.T. - 18, 30/07/2023, Sunday			
August	19.Plant physiology	15. Current Electricity (Physics-1)	21. Aldehyde, Ketones and Carboxylic Acids
	Transport in plants	12) Cells, combinations of cells, electrical heating and power	1) Aldehydes and Ketones : Nomenclature, Nature of carbonyl group, Methods of preparation, Physical and chemical properties, Mechanism of nucleophilic addition, Reactivity of alpha hydrogen in aldehyde, Uses
	1) Introduction	13) Measuring Devices	2) Exercise - I
	2) Means of transport	14) Potentiometer	3) Exercise - II
	3) Plant water relations	15) Applications of Potentiometer	4) Exercise - III
	4) Membrane permeability and types of solutions	16) Exercise-I (Conceptual Question)	5) Exercise - IV
	5) Osmosis	17) Exercise-II (Previous Years Questions)	6) Exercise - V
	6) Osmotic pressure	18) Exercise-III (Analytical Questions)	
C.T. - 9, 13/08/2023, Sunday			
	7) Turgor pressure	16. Capacitor (Physics-2)	22. Organic compound containing Nitrogen
	8) Plasmolysis	1) Capacitance	1) Amines: Nomenclature, Classification, Structure, methods of preparation, Physical and chemical properties, Identification of primary, secondary and tertiary 2) Amines, Uses
	9) Diffusion pressure deficit(DPD)	2) Energy stored in capacitor	3) organic chemistry
	10) Water potential (Ψ_w)	3) Capacitance of spherical conductor	4) Exercise - I
	11) Imbibition	4) Parallel plate capacitor	5) Exercise - II
	12) Transpiration	5) Effect of dielectric	6) Exercise - III

	13) Long distance transport	6) Dielectric slab inside a parallel plate capacitor	7) Exercise - IV
	14) How do plants absorb water	7) Electrostatic pressure	8) Exercise - V
	15) Water movement up a plant (ascent of sap)	8) Combination of capacitor	
	16) Transpirational pull	9) Sharing of charges	
	17) Root pressure	10) Charging and discharging of condenser	
	18) Guttation and exudation/bleeding	11) Van De graph Generator	
	19) Phloem transport	12) Exercise-I (Conceptual Question)	
	20) Girdling experiment	13) Exercise-II (Previous Years Questions)	
	21) Exercise – I (Conceptual questions)	14) Exercise-III (Analytical Questions)	
	22) Exercise – II (Previous years questions)		
	23) Exercise – III (Analytical questions)		
	24) Exercise – IV (Assertion and reasons)		
	Mineral nutrition		
	25) Introduction		
	26) Methods to study the mineral requirements of plants		
	27) Essential mineral elements		
	28) Deficiency symptoms of essential elements		
	29) Role of macro and micro nutrients		
	30) Toxicity of micronutrients		
	31) Uptake and transport of mineral nutrients		
	32) Methods of mineral absorption		
	33) Soil as reservoir of essential elements		
	34) Metabolism of nitrogen		
	35) Biological nitrogen fixation		
	36) Fate of ammonia		
	37) Ammonification and nitrification		
	38) Denitrification		
	39) Exercise – I (Conceptual questions)		
	40) Exercise – II (Previous years questions)		
	41) Exercise – III (Analytical questions)		
	42) Exercise – IV (Assertion and reasons)		
	P.T. - 19, 27/08/2023, Sunday		
Sept	19.Plant physiology	17. Magnetic effect of current and magnetism (Physics-1)	23. Surface Chemistry
	Photosynthesis in higher plants	1) Oersted's Discovery and Biot - savart Law	1) Adsorption - Physisorption and chemisorption
	43) Introduction	2) Special Thumb rules	2) Factors affecting adsorption of gases on solids
	44) What do we know	3) Application of Biot - savart law	3) Catalysis: Homogeneous, Heterogeneous

	45) Early experiments	4) Ampere's circuital law and its applications (Infinitely long straight wire, solenoid and toroid)	4) Activity and selectivity : enzyme catalysis
	46) Where does photosynthesis take place	5) Motion of charge in magnetic field	5) Colloidal State: distinction between true
	47) Alignment of chloroplasts		6) solutions
	48) How many pigments are involved in photosynthesis		7) Colloids and suspensions
	49) Absorption spectrum		8) Properties of colloids: Tyndall effect
	50) What is light reaction		i- Brownian movement
	51) Emerson effect and red drop		ii- Electrophoresis
	52) Photophosphorylation		iii- Coagulation
	53) Chemiosmosis hypothesis		9) Emulsions - types of emulsions
	54) Where are the ATP and NADP used		10) Exercise - I
	55) Calvin cycle		11) Exercise - II
	56) Hatch and Slack cycle		12) Exercise - III
	57) CAM pathway		13) Exercise - IV
			14) Exercise - V
	P.T. - 20, 10/09/2023, Sunday		
	58) Photorespiration	18. Electromagnetic Induction (EMI) (Physics-2)	24. General Principles and Process of Isolation of Elements
	59) Factors affecting photosynthesis	1) Magnetic flux	1) Principles and methods of extraction
	60) Exercise – I (Conceptual questions)	2) Electromagnetic induction	i- Concentration
	61) Exercise – II (Previous years questions)	3) Faraday's law	ii- Oxidation
	62) Exercise – III (Analytical questions)	4) Lenz's law	iii- Reduction electrolytic method and refining
	63) Exercise – IV (Assertion and reasons)	5) Induced parameters	2) Occurrence and principles of extraction of Al, Cu, Zn and Fe
	Respiration in plants	6) Types of EMI	
	64) Introduction	7) Self-induction	
	65) Do plants breathe?	8) L- R circuit	
	66) Type of respiration	9) Energy stored in inductor	
	67) Aerobic respiration	10) Mutual induction	
		11) Dynamic emf (motion EMF)	
		12) Periodic EMI	
		13) Main Applications of EMI	
		14) Exercise-I (Conceptual Question)	
		15) Exercise-II (Previous Years Questions)	
		16) Exercise-III (Analytical Questions)	
	C.T. - 10, 24/09/2023, Sunday		
Oct	19.Plant physiology	17. Magnetic effect of current and magnetism (Physics-1)	3) Exercise – I
	68) Glycolysis/EMP pathway	6) Magnetic dipole moment	4) Exercise – II
	70) Krebs cycle/TCA cycle	7) Magnetic dipole in magnetic moment	5) Exercise – III
	71) ETS and oxidative phosphorylation	8) Atomic magnetism	6) Exercise – IV
	72) Chemiosmotic theory/ coupling theory	9) Geomagnetism	7) Exercise – v
	73) The respiratory balance sheet	10) Application of geomagnetism	
	74) Amphibolic pathway	11) (tangent galvanometer, vibration magnetometer & neutral point)	

	75) Anaerobic respiration/fermentation	12) Magnetic materials	
	76) Respiratory quotient (RQ)	13) Exercise-I (Conceptual Question)	
	77) Dynamic state or body constituents	14) Exercise-II (Previous Years Questions)	
	Enzymes	15) Exercise-III (Analytical Questions)	
	P.T. - 21, 08/10/2023, Sunday		
	78) History of enzymes	18. Alternating Current (AC) (Physics-2)	25. Chemistry in Everyday Life
	79) Characteristics of enzyme	1) Alternating current and voltage	1) Chemicals in medicines
	80) Nature of enzyme action	2) Different type of AC Circuits	i- Analgesics
	81) Co-factors	3) Inductance, Capacitance and Resistance in series	ii- Tranquilizers
	82) Classification and nomenclature	4) Power in AC Circuits	iii- Antiseptic, disinfectants, antimicrobials,
	83) Factors affecting enzyme activity	5) LC Oscillation	iv- Antifertility drugs, antibiotics, antacids, antihistamines
	84) Exercise – I (Conceptual questions)	6) Exercise-I (Conceptual Question)	2) Chemicals in food
	85) Exercise – II (Previous years questions)	7) Exercise-II (Previous Years Questions)	i- Preservative, artificial sweetening agents
	86) Exercise – III (Analytical questions)	8) Exercise-III (Analytical Questions)	ii- Elementary idea of antioxidants
	87) Exercise – IV (Assertion and reasons)		3) Exercise
	Plant growth and development		4) Cleansing agents
	88) Growth		i- Soaps and detergents, cleansing agents
	89) Characteristics of plant growth		
	90) Growth is measurable		
	91) Phases of growth		
	92) Growth rates		
	93) Conditions for growth		
	94) Differentiation, dedifferentiation and redifferentiation		
	95) Development		
	96) Plant growth regulators		
	97) Auxin		
	98) Gibberellins		
	99) Cytokinin		
	100) Ethylene		
	101) Absciscic acid (ABA)		
	102) Photoperiodism		
	103) Vernalisation		
	104) Seed dormancy		
	105) Exercise – I (Conceptual questions)		
	106) Exercise – II (Previous years questions)		
	107)Exercise – III (Analytical questions)		
	108) Exercise – IV (Assertion and reasons)		
	109) Important experiments of plant physiology		
	P.T. - 22, 22/10/2023, Sunday		
Nov	20. Cell biology	19. Electromagnetic Waves (EMW) (Physics-1)	5) Exercise - I
	1) What is cell and cell theory?	1) Concept of displacement current	6) Exercise - II

2) Cell membrane	2) Maxwell's equations	7) Exercise- III
3) Cell wall	3) Hertz experiment	8) Exercise - IV
4) Endomembranous system i) Endoplasmic reticulum ii) Golgi apparatus iii) Lysosome iv) Vacuole	4) Properties of EMW	9) Exercise - V
5) Mitochondria	5) Transverse nature of EMW	
6) Plastid	6) Parts of electromagnetic spectrum	
7) Ribosome	7) Exercise-I (Conceptual Question)	
8) Cytoskeleton i) Microtubules ii) Microfilaments iii) Intermediate filament	8) Exercise-II (Previous Years Questions)	
9) Cilia and flagella	9) Exercise-III (Analytical Questions)	
C.T. - 11, 05/11/2023, Sunday		
10) Centrosome and centriole	20. Ray Optics and Optical Instruments (Physics-2)	
11) Microbodies	1) Reflection of light	
12) Nucleus	2) Reflection from plane mirror	
13) Chromosome	3) Spherical mirror	
14) Exercise – I (Conceptual questions)	4) Refraction of Light	
15) Exercise – II (Previous years questions)	5) Total internal reflection	
16) Exercise – III (Analytical questions)	6) Refraction at curved surfaces	
17) Exercise – IV (Assertion and reasons)	7) Lens	
18) Cell cycle, mitosis	8) Combination of Lens & mirrors	
19) Meiosis	9) Chromatic aberration	
20) Exercise – I (Conceptual questions)	10) Prism	
21) Exercise – II (Previous years questions)	11) Dispersion of Light	
22) Exercise – III (Analytical questions)		
23) Exercise – IV (Assertion and reasons)		
21. Digestion and absorption		
1) Introduction		
2) Mouth and buccopharyngeal cavity		
3) Teeth		
4) Histology of alimentary canal		
5) Oesophagus and stomach		
6) Intestine		
7) Accessory digestive glands		
8) Physiology of digestion		
9) Assimilation		
10) Disorders of digestive system		
11) Vitamins		
12) Exercise – I (Conceptual questions)		
13) Exercise – II (Previous years questions)		
14) Exercise – III (Analytical questions)		

	15) Exercise – IV (Assertion and reasons)		
P.T. – 23, 19/11/2023, Sunday			
Dec	22. Breathing and exchange of gases	22. Modern Physics - I (Photo Electric Effect and Matter Waves) (Physics-1)	21. Aldehyde, Ketones and Carboxylic Acids
	1) Introduction	1) Photo Electric Effect	1) Carboxylic acids : Nomenclature, Acidic nature, Methods of preparation, Physical and chemical properties, Uses
	2) Respiratory organs	2) Quantum Theory	2) Exercise – I
	3) Human respiratory system	3) Experimental study of P.E.E. by Lenard	3) Exercise – II
	4) Mechanism of breathing	4) Failure of wave theory of light	
	5) Respiratory volumes and capacities	5) Explanation by Einstein	
	6) Exchange of gases	6) Photo Cell	
	7) Transport of oxygen	7) Matter Wave	
	8) Oxyhaemoglobin dissociation curve	8) Dual nature of Light	
	9) Transport of CO ₂	9) De - Broglie Hypothesis	
	10) Regulation of respiration	10) Davisson Germer Experiment	
P.T. – 24, 03/12/2023, Sunday			
	11) Respiratory disorders	20. Ray Optics and Optical Instruments (Physics-2)	
	12) Exercise – I (Conceptual questions)	12) Optical Instruments [Simple microscope, Compound microscope, Telescope, Lens - Camera]	
	13) Exercise – II (Previous years questions)	13) Defects of Vision	
	14) Exercise – III (Analytical questions)	14) Some natural phenomenon of sunlight	
	15) Exercise – IV (Assertion and reasons)	15) Exercise - I (Conceptual Questions)	
	23. Body fluids and circulation	16) Exercise - II (Previous Years Question)	
	1) Vascular connective tissue i) Blood ii) Blood plasma iii) RBC iv) WBC v) Blood platelets vi) Blood clotting vii) Blood groups viii) Rh factor	17) Exercise - III (Analytical Questions)	
	2) Circulatory pathways		
	3) Structure of heart		
	4) Heart beat		
C.T. – 12, 17/12/2023, Sunday			
Jan	23. Body fluids and circulation	22. Modern Physics - I (Photo Electric Effect and Matter Waves) (Physics-1)	22. Organic compound containing Nitrogen
	5) Conducting system of heart	11) Explanation of Bohr Quantization Condition	8) Cyanides and isocyanides
	6) Regulation of heart beat	12) Exercise - I (Conceptual Questions)	9) Diazonium salts: Preparation, Chemical reactions and importance in synthetic organic chemistry
	7) Cardiac cycle	13) Exercise - II (Previous Years Questions)	
	8) Heart sound	14) Exercise - III (Analytical Questions)	
	9) Blood pressure	21. Wave Optics (Physics-2)	
	10) Disorders of circulatory system	1) Interference of Light	
	11) Blood vessels	2) Nature of light	
	12) Portal system	3) Interference of light	

P.T. - 25, 24/12/2023, Sunday		
13) Lymphatic system	4) Young's double slit experiment	10) Exercise – I
14) Exercise – I (Conceptual questions)	5) Effect of thin films	11) Exercise – II
15) Exercise – II (Previous years questions)	6) Diffraction of light	12) Exercise – III
16) Exercise – III (Analytical questions)	7) Fraunhofer diffraction due to single slit	13) Exercise – IV
17) Exercise – IV (Assertion and reasons)	8) Rayleigh's criterion for Resolution & Resolving power	14) Exercise – V
24. Excretory products and their elimination	9) Polarization	
1) Introduction	10) Methods of obtaining plane polarized light	
2) Excretion	11) Exercise - I (Conceptual Questions)	
3) Modes of excretion	12) Exercise - II (Previous Years Questions)	
4) Ornithine cycle	13) Exercise - III (Analytical Questions)	
5) Excretory organs in animals		
6) Human excretory system		
7) Location and structure of kidneys		
8) Post renal urinary tract		
9) Structure of nephron		
10)Types of nephron		
11) Juxtaglomerular apparatus		
12) Blood vessels of kidney		
13) Mechanism of urine formation		
14) Mechanism of concentration of the filtrate		
15) Regulation of kidney functions		
16) Role of other organs in excretion		
17) Disorders of the excretory system		
18) Autoregulation of GFR		
19) Golden key points		
20) Exercise – I (Conceptual questions)		
21) Exercise – II (Previous years questions)		
22)Exercise – III (Analytical questions)		
23) Exercise – IV (Assertion and reasons)		
25. Neural control and coordination (Nervous system)		
1) Neural system and neural tissues		
i) Introduction		
ii) Neuron		
iii) Myelinogenesis		
iv) Types of neuron		
v) Neuroglial cells		
2) Nerve impulse conduction		
i) Resting phase (polarization)		
ii) Exciting stage (depolarization)		
iii) Repolarisation		
iv) Saltatory conduction		
v) Synapse		
3) Structure and function of brain		

	i) Development of CNS		
	ii) Human brain, meninges, C.S.F.		
	iii) Forebrain, Cerebrum, Diencephalon, Olfactory lobes		
	iv) Midbrain		
	v) Hind brain, Pons, Cerebellum Medulla oblongata		
	4) Spinal cord, P.N.S. , A.N.S.		
	i) Spinal cord (detailed structure)		
	ii) Cranial nerves		
	iii) Spinal nerves		
	iv) Difference between sympathetic and parasympathetic nervous system		
	5) Reflex action		
	i) Introduction		
	ii) Classification of reflex action		
	6) Exercise – I (Conceptual questions)		
	7) Exercise – II (Previous years questions)		
	8) Exercise – III (Analytical questions)		
	9) Exercise – IV (Assertion and reasons)		
	P.T - 26, 21/01/2024, Sunday		
Feb	26. Chemical coordination and integration (endocrine system)	23. Semiconductor and Digital Electronics (Physics-1)	
	1) Introduction and mechanism of hormone action	1) Energy band theory	
	i) Hormone, chemical nature and specialties	2) Properties of semiconductor	
	ii) Action of water soluble hormones	3) P - N Junction	
	iii) Action of lipid soluble hormones	4) Application of junction Diode	
	2) Pituitary and hypothalamus	5) Rectifier	
	i) Structure of pituitary	6) Zener diode	
	ii) Adenohypophysis	7) Optoelectric junction devices(LED, Photodiode, Solar cell)	
	iii) Neurohypophysis	8) Transistor	
	3) Thyroid, parathyroid and adrenal glands	9) Application of Transistor	
	i) Structure	10) Transistor as a switch	
	ii) Production of hormone	11) Transistor as an amplifier	
	iii) Function of thyroxine	12) Transistor as an Oscillator	
	iv) Thyroid disorder	13) Integrated Circuit	
	v) Structure and function of parathyroid	14) Logic gates	
	vi) Parathyroid disorders	15) Exercise - I (Conceptual Questions)	
	vii) Structure of adrenal	16) Exercise - II (Previous Years Questions)	
	viii) Adrenal cortex	17) Exercise - III (Analytical Questions)	
	ix) Adrenal medulla	21. Wave Optics (Physics-2)	
	x) Disorders due to abnormal adrenal secretion	14) Polarization	
	4) Thymus, pineal and pancreas	15) Methods of obtaining plane polarized light	
	i) Structure, hormones and functions of thymus and pineal gland	16) Exercise - I (Conceptual Questions)	

ii) Pancreas (structure and hormones) Insulin, Glucagon	17) Exercise - II (Previous Years Questions)	
27. Sensory organs	18) Exercise - III (Analytical Questions)	
1) Eye(photoreceptors)		
i) Internal structure		
ii) Working of eyes		
iii) Mechanism of vision		
iv) Defects of eye		
2) Ear (Stato-acoustic organ)		
i) External ear		
ii) Middle year		
iii) Internal year		
iv) Internal structure of vestibular and cochlear apparatus		
v) Working of year		
vii) Mechanism of hearing		
3) Special points (eye and ear)		
4) Exercise – I (Conceptual questions)		
5) Exercise – II (Previous years questions)		
6) Exercise – III (Assertion and reasons)		
28. Locomotion and movement		
1) Chart of human skeleton		
2) Chart of joints		
3) Introduction		
4) Skull bones		
5) Vertebral column		
6) Sternum		
7) Ribs		
8)Fore limb bones		
9) Hind limb bones		
10) Girdles		
11) Joints		
12) Disorders of bones		
13) Special points (eye and ear)		
14) Exercise – I (Conceptual questions)		
15) Exercise – II (Previous years questions)		
16) Exercise – III (Analytical questions)		
17) Exercise – Iv (Assertion and reasons)		
Limb muscles		
1)Voluntary muscles		
2) Involuntary muscles		
3) Cardiac muscles		

	4) Properties of muscles		
	5) Exercise – I (Conceptual questions)		
	6) Exercise – II (Previous years questions)		
	7) Exercise – III (Analytical questions)		
	8) Exercise – Iv (Assertion and reasons)		
	B.P.T – 1, 04/02/2024, Sunday		
	B.P.T – 2, 18/02/2024, Sunday		
	B.P.T – 3, 03/03/2024, Sunday		
	B.P.T – 4, 10/03/2024, Sunday		

SHRI G.P.M. DEGREE COLLEGE