MEDHA CARE
Making Future Brighter

2023

NEET (UG)

ACADEMIC CALLENDAR

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MEDHA CARE
Making Future Brighter

Introduction

"Excellence is a continuous process
and not an accident."
- A. P. J. Abdul Kalam

Medha Care is structured on the principle of consistency and hard work and believes in scientific approach based on perfect planning and proper guidance. Student's overall development and splendid success is our prime concern. Genius teaches all subjects under one roof.

Our Mission & Vision

Our mission is to provide quality education to the students and help them to excel in their studies. The motto of our classes "Education for Excellence" inspires us to achieve, create conducive atmosphere for the students to learn their lessons well.

"The motto of our classes inspires us to achieve, create conducive atmosphere for the students to learn their lessons well."

MRIDUL AHAMED
Founder - Medha Care

MEDHA CARE
Making Future Brighter

About Us

MEDHA CARE is one of the fastest growing entrance test prep coaching institute building the conceptual & technology based education system for India's most challenging medical entrance exam NEET for the admission in medical colleges. Along with NEET Classes, we also offer different engineering entrance exams IITJEE, WBJEE, 12th Board Exam, 10th Board Exam, NTSE, Olympiads & KVPY Preparation.

With the motto to unleash the potential of individual, our teaching program is not only preparing them to face the challenges of NEET & JEE but keep developing them to recognize their inner strength & potential.

At MEDHA CARE, the training is being imparted by the industry professional experts with proven NEET & JEE training expertise. The curriculum has been defined in a way that takes care of theoretical aspects including the knowledge of conceptualization processes with the origin of basic ideas.

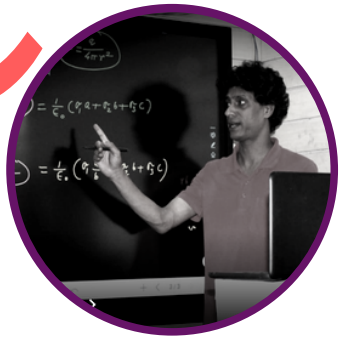
Now-a-days, Technology has a big role & great impact on the education system. So we at MEDHA CARE have introduced digital learning system into the classroom along with online test platform & android app. Our Responsibility is not only limited by teaching in the classroom but to raise the quality & standard of education with the ideology to provide top class learning to the students.

OUR TEACHERS OUR PRIDE

MRIDUL AHAMED
CHEMISTRY

HABIBUR RAHAMAN
PHYSICS

DR. KAZI SAHANI
BIOLOGY



SAHIDUL ISLAM
PHYSICS

PARWEZ ALAM
PHYSICS

SUMIT DUTTA
BIOLOGY

OUR ALUMNI

JOY RAHAMAN
NRS MEDICAL
COLLEGE & HOSPITAL

RAJABABU LASKAR
RAIGANJ GOVT. MEDICAL
COLLRGE & HOSPITAL

SUBHA KOLEY
COLLEGE OF MEDICINE
& SAGOR DUTTA HOSPITAL

WHY WE'RE THE BEST ?

MEDHA CARE'S FEATURES

Competitive Atmoshphere

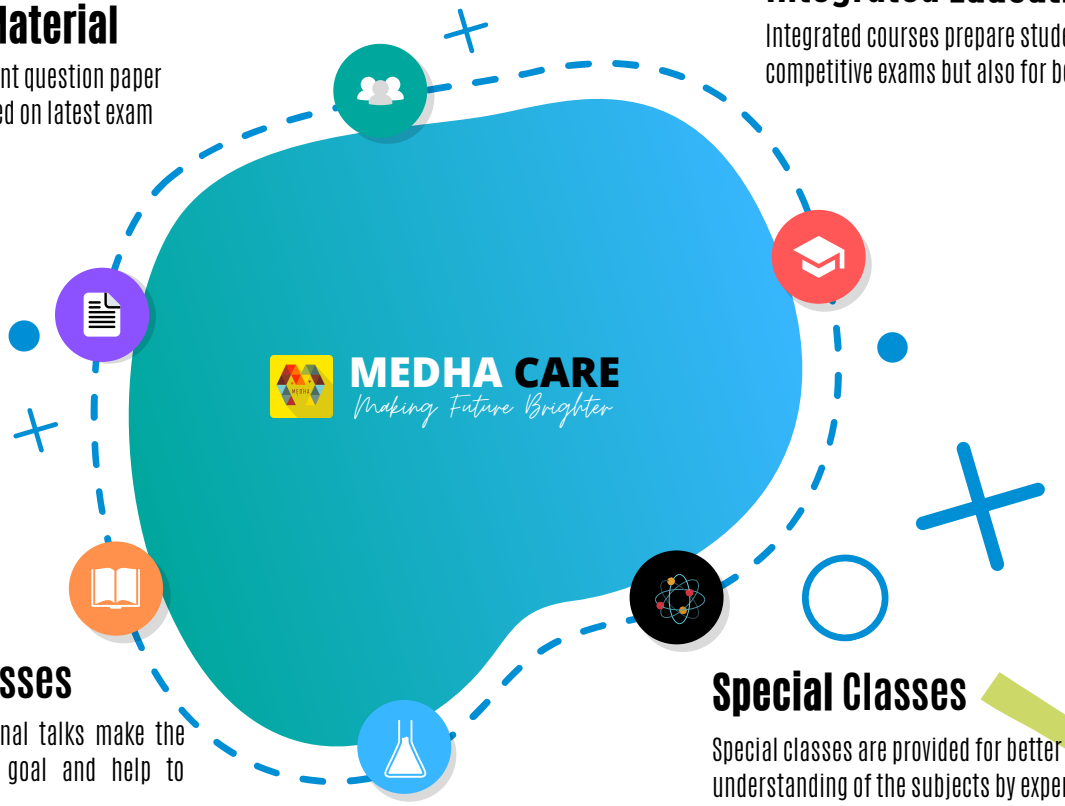
Competitive environment and focused learning at MEDHA CARE provide the necessary edge & exposure to students .

Integrated Education

Integrated courses prepare students not only for competitive exams but also for board exams.

Innovative Study Material

Advanced study material & relevant question paper designed by expert faculties based on latest exam pattern.



Motivational Classes

Inspiring mind by motivational talks make the students focused to their goal and help to become a winner.

Special Classes

Special classes are provided for better understanding of the subjects by expert guest lecturer.

Doubt Clearance

Doubt clearing classes are provided from time to time to clear the doubts of students.

PHYSICS
NEET (UG) 2023

Remember that weaknesses don't matter if you find solutions.

MT - 01

UNIT I: Units and dimensions(XI) 6 Hours

Physics: Scope and excitement: nature of physical laws; Physics, technology and society. Need for measurement: Units of measurement: systems of units; SI units, fundamental and derived units. Length, mass and time measurements: accuracy and precision of measuring instruments: errors in measurement: significant figures. Dimensions of physical quantities, dimensional analysis and itsapplications.

UNIT II: Kinematics(XI) 14 hours

Frame of reference, Motion in a straight line: Position-time graph, speed and velocity. Uniform and non-uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity-time and position-time graphs, for uniformly accelerated motion (graphical treatment). Elementary concepts of differentiation and integration for describing motion. Scalar and vector quantities: Position and displacement vectors, general vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity. Unit vectors. Resolution of a vector in plane-rectangular components. Scalar and Vector products of Vectors. Motion ina plane. Cases of uniform velocity and uniform acceleration- projectile motion. Uniform circular motion.

Unit VII: Properties of Bulk Matter(XI) 6 Hours

Pressure due to a fluid column: Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure. Surface energy and surface tension, angle of contact, excess of pressure, application of surface tension ideas to drops, bubbles and capillary rise

MT - 02

Unit III: Laws of Motion(XI) 8 Hours

Intuitive concept of force. Inertia, Newton's first law of motion: momentum and Newton's second law of motion: impulse: Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces. Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on bankedroad)

Unit IV: Work, Energy and Power(XI) 6 Hours

Work done by a constant force and a variable force: kinetic energy, work-energy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic and potential energies): non-conservative forces: motion in a vertical circle, elastic and inelastic collisions in one and two dimensions.

Unit VIII: Atoms and Nuclei(XII) 8 Hours

Alpha - particle scattering experiment: Rutherford's model of atom: Bohr model, energy levels, hydrogen spectrum. Composition and size of nucleus, atomic masses, isotopes, isobars: isotones. Radioactivity - alpha, beta and gamma particles/rays and their properties: radioactive decay law. Mass-energy relation, mass defect: binding energy per nucleon and its variation with mass number: nuclear fission and fusion.

MT - 03

Unit II: Current Electricity(XII) 10 Hours

Electric current, flow of electric charges in a metallic conductor, drift velocity and mobility, and their relation with electric current: Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity. Carbon resistors, colour code for carbon resistors: series and parallel combinations of resistors: temperature dependence of resistance. Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff 's laws and simple applications. Wheatstone bridge, metre bridge. Potentiometer - principle and applications to measure potential difference, and for comparing emf of two cells: measurement of internal resistance of a cell.

Unit VII: Properties of Bulk Matter(XI) 10 Hours

Viscosity, Stokes' law, terminal velocity, Reynold's number, streamline and turbulent flow. Critical velocity, Bernoulli's theorem and its applications. Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity, poisson's ratio: elastic energy. Heat transfer - conduction and thermal conductivity, convection and radiation. Qualitative ideas of Black Body Radiation, Wein's displacement law, and Green House effect. Newton's law of cooling and Stefan's law.

Unit I: Electrostatics(XII) 4 Hours

Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor, Van de Graaffgenerator.

PHYSICS
NEET (UG) 2023

Learn from success as well as from failure.

MT - 04 + MT - 01 Syllabi

Unit VII: Properties of Bulk Matter(XI) 4 Hours

Heat, temperature, thermal expansion: thermal expansion of solids, liquids, and gases. Anomalous expansion. Specific heat capacity: Cp, Cv - calorimetry; change of state - latent heat.

Unit VII: Dual Nature of Matter and Radiation(XII) 4 Hours

Photoelectric, effect, Hertz and Lenard's observations; Einstein's photoelectric equation - particle nature oflight. Matter waves - wave nature of particles, de Broglie relation. Davisson-Germer experiment (experimental details should be omitted; only conclusion should be explained.)

Unit IX: Behavior of Perfect Gas and Kinetic Theory(XI) 2 Hours

Equation of state of a perfect gas, work done on compressing a gas. Kinetic theory of gases: Assumptions, concept of pressure. Kinetic energy and temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number

Unit IX: Electronic Devices(XII) 8 Hours

Energy bands in solids (qualitative ideas only), conductors, insulators and semiconductors; semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR). Transistor as a switch.)

Unit VIII: Thermodynamics(XI) 6 Hours

Thermal equilibrium and definition of temperature (zeroth law of Thermodynamics). Heat, work and internal energy. First law of thermodynamics. Isothermal and adiabatic processes. Second law of thermodynamics: Reversible and irreversible processes. Heat engines and refrigerators.

MT - 05 + MT - 02 Syllabi

Unit VI: Optics(XII) 16 Hours

Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula. Magnification, power of a lens, combination of thin lenses in contact combination of a lens and a mirror. Refraction and dispersion of light through a prism. Scattering of light - blue colour of the sky and reddish appearance of the sun at sunrise and sunset. Optical instruments: Human eye, image formation and accommodation, correction of eye defects (myopia and hypermetropia) using lenses. Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.Wave optics: Wavefront and Huygens' principle, reflection and refraction of plane wave at a plane surface using wavefronts. Proof of laws of reflection and refraction using Huygens' principle. Interference, Young's double hole experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescopes. Polarisation, plane polarised light: Brewster's law, uses of plane polarised light and Polaroids.

UnitIV:ElectromagneticInductionandAlternatingCurrents(XII) 8 Hours

Electromagnetic induction: Faraday's law, induced emf and current: Lenz's Law, Eddy currents. Self and mutual inductance. Alternating currents, peak and rms value of alternating current/voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits, wattles current. AC generator and transformer.

PHYSICS
NEET (UG) 2023

Be weak and stong at the same time.

MT - 06 + MT - 03 Syllabi

Unit I: Electrostatics(XII) 8 Hours

Electric charges and their conservation. Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines; electric dipole, electric field due to a dipole; torque on a dipole in a uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside). Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipoles in an electrostaticfield.

Unit III: Magnetic Effects of Current and Magnetism(XII) 10 Hours:

Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids. Force on a moving charge in uniform magnetic and electric fields. Cyclotron. Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel currentcarrying conductors - definition of ampere. Torque experienced by a current loop in a magnetic field; moving coil galvanometer - its current sensitivity and conversion to ammeter and voltmeter. Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements. Para-, dia- and ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanentmagnets.

Unit VI: Gravitation(XI) 6 Hours

Kepler's laws of planetary motion. The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy; gravitational potential. Escape velocity, orbital velocity of a satellite. Geostationary satellites.

MT - 07 + MT - 04 Syllabi

Unit V: Motion of System of Particles and Rigid Body(XI) 8 Hours:

Centreof massof a two-particle system, momentum conservation and centre of mass motion. Centre of mass of a rigid body; centre of mass of uniform rod. Moment of a force, torque, angular momentum, conservation of angular momentum with someexamples. Equilibrium of rigid bodies, rigid body rotation and equation of rotational motion, comparison of linear and rotational motions; moment of inertia, radius of gyration. Values of M.I. for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications

Unit X: Oscillations(XI) 6 Hours

Periodic motion - period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (SHM) and its equation; phase; oscillations of a spring - restoring force and force constant; energy in SHM - kinetic and potential energies; simple pendulum - derivation of expression for its time period; free, forced and damped oscillations (qualitative ideas only),resonance.

Unit V: Electromagnetic Waves(XII) 2 Hours

Need for displacement current.Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves. Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays, gamma rays) including elementary facts about their uses.

Unit X:Waves(XI) 8 Hours

Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves standing waves in strings and organ pipes, fundamental mode and harmonics. Beats. Doppler effect.

CHEMISTRY
NEET (UG) 2023

Recognise that change is difficult.

MT - 01

Unit I: Some Basic Concepts of Chemistry: 6 Hours

Mole concept Stoichiometric Calculation, Concept of Limiting Reagent, Empirical Formula & Molecular Formula ; % Yield, Sequential reactions,

Unit II: Structure of Atom(XI) 8 Hours

Discovery of electron, proton and neutron; atomic number, isotopes and isobars. Thompson's model and its limitations, Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

Unit VIII: Redox Reactions(XI) 3 Hours

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions in terms of loss and gain of electron and change in oxidation numbers, applications of redox reactions.

Unit III: Classification of Elements and Periodicity in Properties(XI) 4 Hours

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii, ionization enthalpy, electron gain enthalpy, electronegativity, valence. Nomenclature of elements with atomic number greater than 100.

Unit IX: Hydrogen(XI) 2 Hours

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses ofhydrogen; hydrides - ionic, covalent and interstitial; physical and chemical properties of water, heavy water; hydrogen peroxide-preparation, reactions, use and structure; hydrogen as a fuel.

MT - 02

Unit XII: Organic Chemistry - Some Basic Principles and Techniques(XI) 8 Hours

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions; electrophiles and nucleophiles, types of organic reactions. Elimination, Substitution

Unit IV: Chemical Bonding and Molecular Structure (XI) 10 Hours

Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only). Hydrogen bond.

Unit I: Solid State (XII) 6 Hours

Classification of solids based on different binding forces :molecular, ionic covalent and metallic solids, amorphous and crystalline solids(elementary idea),unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids ,number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties, Band theory of metals ,conductors, semiconductors and insulators and n and p type semiconductors .

CHEMISTRY

NEET (UG) 2023

MT - 03

Don't feel bad about your mistakes & those of others.

Unit XII: Organic Chemistry - Some Basic Principles and Techniques(XI) 8 Hours

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions; electrophiles and nucleophiles, types of organic reactions.Elimination, Substitution

Unit X: s-Block Elements (Alkali and Alkaline earth metals) (XI) 4 Hours

Group 1 and Group 2 elements: General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens; uses. Preparation and Properties of Some Important Compounds: Sodium carbonate, sodium chloride, sodium hydroxide and sodium hydrogencarbonate, biological importance of sodium and potassium. CaO, CaCO3, and industrial use of lime and limestone, biological importance of Mg and Ca.

Unit II: Solutions (XII) 4 Hours

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties - relative lowering of vapour pressure, Raoult's law , elevation 8 of B.P., depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Vant Hoff factor.

Unit III: Electrochemistry (XII) 8 Hours

Redox reactions: conductance in electrolytic solutions, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea), dry cell - electrolytic cells and Galvanic cells; lead accumulator, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells. Relation between Gibbs energy change and EMF of a cell, fuel cells; corrosion.

MT - 04 + MT - 01 Syllabi

Unit XII: Organic Chemistry - Some Basic Principles and Techniques(XI) 4 Hours

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions; electrophiles and nucleophiles, types of organic reactions.Elimination, Substitution

Unit XIII: Hydrocarbons (XI) 4 Hours

Classification of Hydrocarbons. Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformations (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.

Unit V: States of Matter: Gases and Liquids (XI) 6 Hours

Three states of matter, intermolecular interactions, types of bonding, melting and boiling points,role of gas laws in elucidating the concept of the molecule, Boyle's law, Charle's law, Gay Lussac's law, Avogadro's law, ideal behaviour, empirical derivation of gas equation, Avogadro number, ideal gas equation. Kinetic energy and molecular speeds (elementary idea), deviation from ideal behaviour, liquefaction of gases, critical temperature. Liquid State - Vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations).

Unit VI: Thermodynamics (XI) 8 Hours

Concepts of system, types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics - internal energy and enthalpy, heat capacity and specific heat, measurement of ⊗U and ⊗H, Hess's law of constant heat summation, enthalpy of : bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Introduction of entropy as a state function, Second law of thermodynamics, Gibbs energy change for spontaneous and non-spontaneous process, criteria for equilibrium. Third law of thermodynamics -Brief introduction.

CHEMISTRY

NEET (UG) 2023

A great organisation have great people and great culture.

MT - 05 + MT - 02 Syllabi

Unit XIII: Hydrocarbons (XI) 8 Hours

Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation; chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water. Aromatic hydrocarbons - Introduction, IUPAC nomenclature; Benzene: resonance, aromaticity; chemical properties: mechanism of electrophilic substitution - nitration sulphonation, halogenation, Friedel Craft's alkylation and acylation; directive influence of functional group in mono-substituted benzene; carcinogenicity and toxicity

Unit XI: Some p-Block Elements (XI) 2 Hours

Group 14 elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first element. Carbon - catenation, allotropic forms, physical and chemical properties; uses of some important compounds: oxides. Important compounds of silicon and a few uses: silicon tetrachloride, silicones, silicates and zeolites, their uses.

Unit V: Surface Chemistry (XII) 4 Hours

Adsorption - physisorption and chemisorption; factors affecting adsorption of gases on solids; catalysis :homogenous and heterogeneous, activity and selectivity: enzyme catalysis; colloidal state: distinction between true solutions, colloids and suspensions; lyophillic, lyophobic multimolecular and macromolecular colloids;properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsions - types of emulsions

Unit VII: p-Block Elements (XII) 2 Hours

Group 15 elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties: nitrogen - preparation, properties and uses; compounds of nitrogen: preparation and properties of ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous- allotropic forms; compounds of phosphorous: preparation and properties of phosphine, halides (PCl3, PCl5) and oxoacids (elementary idea only).

Unit VII: Equilibrium (XI) 8 Hours

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle; Ionic equilibrium - Ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of polybasic acids, acid strength, concept of pH., Hydrolysis of salts (elementary idea), , buffer solutions, Henderson equation, solubility product, common ion effect (with illustrative examples).

MT - 06 + MT - 03 Syllabi

Unit X: Haloalkanes and Haloarenes (XII) 4 Hours

Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions. Optical rotation. Haloarenes: Nature of C-X bond, substitution reactions (directive influence of halogen for monosubstituted compounds only). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, Iodoform, freons, DDT.

Unit IX: Coordination Compounds (XII) 6 Hours

Coordination compounds : Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds, bonding, Werner's theory VBT,CFT; isomerism (structural and stereo)importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems).

Unit XI: Alcohols, Phenols and Ethers (XII) 4 Hours

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses, with special reference to methanol and ethanol. Phenols : Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols. Ethers : Nomenclature, methods of preparation, physical and chemical properties, uses.

Unit VI: General Principles and Processes of Isolation of Elements (XII) 2 Hours

Principles and methods of extraction - concentration, oxidation, reduction electrolytic method and refining; occurrence and principles of extraction of aluminium, copper, zinc and iron.

Unit IV: Chemical Kinetics (XII) 4 Hours

Rate of a reaction (average and instantaneous), factors affecting rates of reaction: concentration, temperature, catalyst; order and molecularity of a reaction; rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions); concept of collision theory (elementary idea, no mathematical treatment).Activation energy, Arrhenious equation.

Unit VII: p-Block Elements (XII) 6 Hours

Group 16 elements:General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties: dioxygen: preparation, properties and uses; classification of oxides; ozone. Sulphur - allotropic forms; compounds of sulphur: preparation, properties and uses of sulphur dioxide; sulphuric acid: industrial process of manufacture, properties and uses, oxoacids of sulphur(structures only). Group 17 elements:General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens: preparation, properties and uses of chlorine and hydrochloric acid, Interhalogen compounds, oxoacids of halogens (structures only). Group 18 elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

CHEMISTRY

NEET (UG) 2023

MT - 07 + MT - 04 Syllabi

See things from the higher level.

Unit XII: Aldehydes, Ketones and Carboxylic Acids (XII) 10 Hours

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, and mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes: uses. Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties: uses.

Unit VIII: d and f Block Elements (XII) 4 Hours

General introduction ,electronic configuration, occurrence and characteristics of transition metals,general trends in properties of the first row transition metals - metallic character, ionization enthalpy,oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloyformation. Preparation and properties of K2Cr207 and KMn04. Lanthanoids - electronic configuration, oxidation states, chemical reactivity and lanthanoid contractionand its consequences. Actinoids - Electronic configuration, oxidation states and comparison with lanthenoids .

Unit XIII: Organic Compounds Containing Nitrogen (XII) 6 Hours

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary secondary and tertiary amines. Cyanides and Isocyanides - will be mentioned at relevant places in context. Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

Unit XIV: Biomolecules (XII) 4 Hours

Carbohydrates - Classification (aldoses and ketoses), monosaccharide (glucose and fructose), D-Lconfiguration, oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen):importance. Proteins - Elementary idea of a - amino acids, peptide bond, polypeptides, proteins, primary structure, secondary structure, tertiary structure and quaternary structure (qualitative idea only), denaturation ofproteins: enzymes. Hormones - Elementary idea (excluding structure). Vitamins - Classification and functions. Nucleic Acids: DNA and RNA

Unit XVI: Chemistry in Everyday Life (XII)

1. Chemicals in medicines - analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines. 2. Chemicals in food - preservatives, artificial sweetening agents, elementary idea of antioxidants. 3. Cleansing agents - soaps and detergents, cleansing action.

Unit XIV: Environmental Chemistry (XI)2 Hours

Environmental pollution - Air, water and soil pollution, chemical reactions in atmosphere, smogs,major atmospheric pollutants: acid rain, ozone and its reactions, effects of depletion of ozone layer,greenhouse effect and global warming - pollution due to industrial wastes; green chemistry as an alternativetool for reducing pollution, strategy for control of environmental pollution.

Unit XV: Polymers (XII)

Classification - Natural and synthetic, methods of polymerization (addition and condensation),copolymerization. Some important polymers: natural and synthetic like polythene, nylon, polyesters, bakelite,rubber. Biodegradable and non-biodegradable polymers.

BIOLOGY
NEET (UG) 2023

Don't leave important conflicts unresolved.

MT - 01

Diversity in Living World:6 Hours

Biodiversity, Concept of life: Taxonomoy, Need for classification, Three domains, systematics, concepts of species, taxonomic hierarchy, tools of taxonomy, binomial nomenclature, Tools of taxonomy, Biological classification, I. Monera, Protista.
Fungi, Lichen, Virus, Virusoids
Plant Kingdom 1: Algae, Bryophyta

Animal Kingdom:8 Hours

Porifera, Cnidaria, Ctenophora, Platyhelminthes Nemathelminthes, Annelida, Arthopoda. Mollusca, Echinodermata.
Hemi Chordata, Urochordata, Cephalochordata, Vertebrata and its classes.
Cell structure and its functions 1, Types of cell, Cell Theory, Prokaryotic Cell, Eukaryotic Cell, Cell Wall.

StructuralOrganisation in Animals 1 : 4 Hour

Animal tissues: Epithelial, glands, Connective tissue Muscular and Nerve tissue (Neuron, Nerve, Neuroglia)

Human Physiology 1:4 Hours

Digestion and Absorption: Alimentary Canal, Digestive glands, Role of digestive enzymes.
Digestion of food, mechanism of absorption of carbohydrates, protein and lipids.

MT - 02

Diversity in Living World 2:8 Hours

Plant kingdom 2: Pteridophyta, Gymnosperm, angiosperm
Structural Organization in plants: Meristematic tissue, Simple permanent tissue
Complex permanent, epidermal, Vascular bundle, Ground tissue system
Analytical feature of root, stem, leaf, secondary growth

Cell structure and functions 2:6 Hours

Cell membrane, functions, mitochondria, plastids
Ribosome, microtubules, cilia, flagella, cytoskeleton, centriole, vacuole
Golgi, ER, Lysosome,Nucleus, Biomolecules and Enzyme

Breathing and Respiration:8 Hours

Respiratory organs in animals, respiratory system in human, Mechanism of breathing, Regulation of breathing.
Respiratory volumes, Exchange of gases, Transport of Oxygen and CO2, Disorders related to breathing
Body fluid and Circulation1: Blood - its composition Functions of blood, Blood coagulation.

MT - 03

Structural Organization in plants 2:6 Hours

Leaf and inflorescence(cymose and racemose)
Flower
Fruit, seeds

Cell Division: 6 Hours

Cell cycle, Amitosis and mitosis
Meiosis and significance
Cockroach- different systems and morphology

Reproductive health: 2 Hours

Need for reproductive health, Prevention of STD, Birth control, Needs and methods, Contraception and MTP, Amniocentesis, Infertility and Assisted reproductive technologies: IVF, ZIFT, GIFT(in brief)

Body fluid and Circulation 2:6 Hours

Blood group, blood vessels, Human heart, special junctional tissues
Cardiac cycle, heart sound, ECG
Regulation of cardiac activity, Blood pressure, Cardiac Output, Disorder of Circulatory system

BIOLOGY
NEET (UG) 2023

Be crystal clear of what the deal is.

MT - 04 + MT - 01 Syllabi

Plant Physiology 1: 6 Hours

Transport in plants: Cell to cell transport, plant water relations
Long distance transport of water.
Transpiration, factors, guttation, phloem transport,
Mineral nutrition

Locomotion and movement: 2 Hours

Skeletal System, Mechanism of muscle contraction, joints, disorders

Evolution: 4 Hours

Origin of species, Theories and evidences of evolution
Mechanism of evolution, Human Evolution

Biology in Human Welfare 1:2 Hours

Health and Disease (Malaria, Filariasis)

Reproduction in Organisms: 2 Hours

Asexual and Sexual reproduction of o organisms

Excretory Products and Elimination: 6 Hours

Mode of Excretion, Human Excretory System-Structure and Function, Nephron, Structure function,
JG apparatus, EFP, Urine formation, regulation of kidney, RAAS
ANF, ADH, Diabetes insipidus, Role of other organs in excretion, Disorders

MT - 05 + MT - 02 Syllabi

Plant Physiology 2: 6 Hours

Photosynthesis: Site, Pigments, Light dependent phase, PS1, PS 2
Light independent phase, cyclic, non-cyclic photophosphorylation, Z scheme, absorption and action spectrum
Chemi Osmotic hypothesis, C3 and C4 photosynthesis, C2 cycle

Improvement of Food production: 2 Hours

Plant breeding, SCP, Microbes in human welfare

Neural Control and Coordination: 8 Hours

Human nervous system- CNS, PNS, ANS
Nature, Origin, Distribution, Functions of Cranial nerves
Generation and conduction of Nerve impulse, reflex action
Elementary structures of sense organs- Eye and Ear

Heredity and Variation: 8 Hours

vMandelian inheritance
Deviations of Mendalism: Incomplete dominance, co dominance, multiple allele, pleiotropy, polygenic inheritance
Two genes interaction, Linkage, Linkage group, Crossing over, Sex determination
Mendelian Disorder, Human genetics, Pedigree analysis, Chromosomal aberration, Mutation

BIOLOGY
NEET (UG) 2023

Recognize when to ride the wave.

MT - 06 + MT - 03 Syllabi

Plant physiology 3: 6 Hours

Cellular respiration: Glycolysis
Oxidative decarboxylation, TCA cycle
Energy relations, ATP synthesis, RQ

Plant Growth and Development:2 Hours

Phases, Conditions, differentiation, de differentiation, re differentiation, Growth regulators, Photoperiodism, vernalisation

Molecular basis of inheritance:10 Hours

DNA as genetic material, structure of DNA RNA
DNA packaging, DNA replication
Transcription, Central Dogma
Translation, Operon concept
DNA fingerprinting and Human genome project

Chemical coordination and regulation: 6 Hours

Endocrine glands, Hormones, hypothalamus, mechanismof hormone action
Pituitary , Pineal body, Thyroid, Para thyroid, thymus
Adrenal, pancreas, gonads, GI hormones, hypo and hyper activity and related disorders

MT - 07 + MT - 04 Syllabi

Sexual Reproduction in flowering plants: 4 Hours

Development of male and female gametophytes, pollination, outbreeding device
Fertilisation, post fertilisation events, Development of endosperm, embryo, fruits, special modes

Human Reproduction: 4 Hours

Reproductive system, Histology, Gametogenesis, Menstrual cycle
Fertilization, Embryonic development, implantation, placenta formation, parturition(in brief), lactation, (elementary idea)

Ecology and environment:8 Hours

Organism and population, habitat, niche, characteristics of population, ecological adaptation, population interactions, population attributes
Ecosystem, Components, productivity, decomposition, Energy flow, Nutrient cycling
Ecological succession, Biodiversity and its conservation: Concept , pattern, importance, conservation strategy, red data book, hotspot, biosphere reserve, national parks, sanctuary
Environmental issues: Air and Water pollution and their control measures, Agro chemicals and their effects, Solid waste and radioactive waste Management, Green House effect, Global warming, Ozone depletion, Montreal and Kyoto Protocol, Case studies as success stories addressing environmental issues.

Biology and Human welfare: 8 Hours

Health & disease: Ascariasis, Typhoid, Pneumonia, Common cold, Amoeabiasis, Ringworm, Hepatitis B, AIDS, Drug Abuse, Immunology
Principles of biotechnology
Application of biotechnology
Improvement of Food production: Animal Husbandry

MEDHA CARE

Making Future Brighter

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REGISTRATION FORM

Date : D D M M Y Y Y Y

scan QR code to pay application fee ₹500

Chairman / Managing Director

Branch

Dear Sir / Madam,

I/We are applying to register with MEDHA CARE. My/our detailed information are given bellow. (Use ALL CAP)

Student's Name *

Admission Type *

Fresh Renewal

Permanent ID (If Admission Type is Renewal)

PERSONAL INFORMATION

Father's Name * :

Mother's Name * :

Date of Birth * : D D M M Y Y Y Y

Gender * : Male Female

Address * :

City * :

Country * :

Postal Code * :

Fax :

Email :

Phone * :

Category :

Religion :

Aadhar Number :

Blood Group :

Whether Person with Disability (PH) ? : Yes No

Disability Type :

Belongs to Minority Group ? : Yes No

Group Name :

Annual Family Income * :

Total Family Members :

Income Certificate No. :

Cetificate Issued By :

Signature of the Student

Signature of Guardian/Parent

TERMS & CONDITIONS

- Admission form must be filled in with due care by the parents/guardian. Any change in residential address, mobile numbers, etc. should be informed to the school in writing duly signed by parents/guardian (changes would not be accepted over the phone, SMS).
- Original transfer certificate from the previous school and proof of education of the child (photocopy of mark sheet/report card) should be submitted before the academic year begins. Note: In case of inter-state transfer, TC must be produced duly countersigned by the Inspecting Officer/DEO with respect to schools affiliated to state boards and by the Regional Officer in case of schools affiliated to CBSE.
- MEDHA CARE would provide IIT/NEET Foundation classes for students of classes VII to X which is optional and on payment of additional fee.
- Additional charges will be collected for Study-Materials, ID cards, Bag and entry fee during field trips.
- Any misbehavior/misconduct by the student/parent/guardian will lead to rustication of the student without any prior notice.
- On leaving the school, our child shall return any school property they might have borrowed during their time of study in the school.
- We agree that MEDHA CARE reserves the right of refunding/not refunding the tuition fee (or any such fee which is paid at the time of admission), in case the child leaves/gets transferred during the course of the Academic Year.

DECLARATION

- We acknowledge that this application does not automatically admit our child to MEDHA CARE.
- MEDHA CARE reserves the right to make a final decision with respect to admission.
- We acknowledge that, should this application be accepted, our child and we (her/his parents or guardians) undertake to abide by the policies and regulations of MEDHA CARE and we understand that in serious instances of breach like, damage to school property, bodily harm to another student/teacher, our child may be asked to leave the school.
- We acknowledge that upon acceptance of this application we agree to pay the total fee as applicable and abide by the billing options outlined in the fee schedule as informed by the school from time to time.
- We acknowledge that the school will take reasonable care and exercise due diligence within its premises and during school activities, it will bear no responsibility should the applicant exercise any reckless and/or careless behavior that may endanger her/his safety and others around and as such cause harm or injury to herself/himself and others.
- We declare that all previous medical and psychological histories are correctly reported on the admission form.

DOCUMENTS CHECKLIST

Caste Certificate of the child seeking admission (if any) ☐

Photocopy of Birth Certificate (Attested) ☐

Latest passport size photographs of student ☐

Transfer Certificate (Original) ☐

Photocopy of Marksheet/Progress Card (of the previous academic year) ☐

FOR OFFICE USE ONLY

I ..... father of / mother of / guardian of ..... have applied for admission of my ward into class ..... I have read and accepted the Terms & Conditions / Declaration of the institution.

Signature of Father

Signature of Mother

Signature of Guardian

Signature of a Local Personality

Acknowledgements

We would like to express our special thanks of gratitude to our well-wishers who gave us with invaluable advice and helped us in difficult periods. Their motivation and help contributed tremendously to MEDHA CARE.

CHAPAL BANERJEE
P. ALAM
RAJ MONDAL
SAHIDUL ISLAM
M. R. AHAMED
M. ISLAM
I. H. BISWAS

We thank you for your continued support in our efforts to contribute to MEDHA CARE.

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Contact

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