

SHIV CHHATRAPATI SHIKSHAN SANSTHA, LATUR
SCREENING TEST - 2021 (PRELIM EXAM)

PHYSICS	
1	Current Electricity
	Electric Current
	Electric Potential Difference
	Resistance
	Ohm'S Law ($V=Ir$)
	Resistances In Series And Parallel
	Resistivity (Specific Resistance)
	Conductivity
	Heating Effect And Electric Current (Joules Law)
	Electric Power And Its Units
2	Magnetic Effect Of Electric Current
	Magnetic Field And Field Lines
	Magnetic Field Due To Current Carrying Straight Conductor Direction Of Magnetic Field
	Magnetic Field Due to Current through A Circular Loop
	Magnetic Field Due to Current In A Solenoid
	Force On A Current Carrying Conductor In A Magnetic Field
	Electric Motor
	Electric Induction (Fareday's Law)
	Flemings Right Hand Rule
	Electric Generator
	Ac And Dc
	Domestic Electric Circuits
3	Light And Optical Instrument
	Reflection Of Light
	Laws Of Reflection Of Light
	Refraction of Light
	Laws Of Refraction
	Refractive Index (Snell'S Law)
	Twinkling Of Stars
	Apparent Position Of Stars
	Dispersion Of Light
	Partial And Total Internal Reflection
	Lenses And Spherical Mirrors
	Types Of Lenses
	Ray Diagram Of Sign Convention
	Images Formed By Convex Lenses
	Images Formed By Concave Lenses
	Lens Formula
	Magnification
	Power Of A Lens
	Combination Of Lens
	Human Eye And Working Of Its Lens
	Defects Of Vision And their Corrections
	Uses Of Concave And Convex Lenses
4	Heat
	Latent Heat
	Reglation
	Anamalous Behavior Of Water
	Units Of Heat
	Specific Heat Capacity
	Calorimetry

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PHYSICS	
5	Gravitation
	Newton'S Law Of Gravitation
	Kepler'S Laws Of Planetary Motion
	Earth'S Gravitational Force And Acceleration
	Mass And Acceleration
	Mass And Weight
	Free Fall
	Gravitational Potential Energy
	Escape Velocity

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CHEMISTRY	
1	Periodic Classification Of Elements
	Elements And Their Classification
	Dobereiners Triads
	Newlands Law Of Octaves
	Mendeleev'S Periodic Table
	Modern Periodic Table
	Position Of Elements In Modern Periodic Table
	Trends In Modern Periodic Table
2	Chemical Reactions And Equations
	Chemical Reactions And Writing Chemical Equations
	Balancing A Chemical Equation
	Rules Of Writing Chemical Reaction
	Type Of Chemical Reaction
	Rancidity
	Corrosion
3	Metallurgy (Metals And Nonmetals)
	Physical And Chemical Properties Of Metals
	Physical And Chemical Properties Of Nonmetals
	Various Concepts Of Metallurgy
	Reactivity Series Of Metals
	Ionic Compounds
	Properties Of Ionic Compound
	Extraction Of Metals In Activity Series
	Refining Of Metals
	Corrosion And Prevention Of Corrosion
4	Carbon Compounds
	Bonds In Carbon Compounds
	Allotropes Of Carbons
	Saturated And Unsaturated Carbon Compounds
	Hydrocarbons, Functional Groups & Homologous Series
	Chemical Properties Of Carbon Compounds
	Carbon - A Versatile Element
	Nomenclature Of Carbon Compounds
	Macromolecules & Polymers
	Important Carbon Compounds : Ethanol And Ethanoic Acid

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MATHEMATICS	
1	Linear Equations
	One Variable, Two variable and its solutions
2	Co-ordinate Geometry
	Distance formula, Section formula, Area of triangle, ETC
3	Mensuration
	Areas, Surface Areas, Volume
4	Trigonometry
	Trigonometric ratios and Identities, Heights and Distance
5	Geometry
	Triangles, Circles
6	Quadratic Equations
	Nature of Roots, Solutions By Factorisation (Or) By formula
	Relation Between Roots and Coefficients (Cubic Equations Also)
7	Probability
	Basic level problems on Dice, Coin, Playing Cards and General problems
8	Statistics
	Mean, Median, Mode
9	Number Theory
	HCF, LCM

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BIOLOGY	
1	Reproduction
	Asexual and sexual reproduction in plants
	Asexual Reproduction
	Binary fission
	Multiple fission
	Budding
	Fragmentation
	Regeneration
	Vegetative propagation
	Spore formation
	Sexual Reproduction
	Gamete formation
	Fertilisation
	Sexual reproduction in plants
2	Sexual Reproduction in Human Being
	Male and Female reproductive system
	Menstrual cycle
	Gamete formation
	Fertilisation
	Development and Birth
	Reproduction and Modern Technology
	:- In Vitro Fertilisation (IVF)
	:- Sperm Bank
	:- Twins
	Reproductive Health
3	Heredity and Variation
	Inheritance
	:- Heredity, Hereditary changes
	:- Inheritance of traits and expression of traits
	:- Chromosomes, types of chromosome
	DNA - Gene, Transcription, Translation, Translocation
	RNA and Mutation (Brief)
	Mendel's principles of Heredity
	:- Mnohybrid cross
	:- Dihybrid cross
	Genetic Disorder
	:- Chromosomal abnormalities
	:- Monogenic disorder
	:- Mitochondrial disorder
	:- Polygenic disorder
	:- Sex dtermination

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BIOLOGY	
4	Introduction of Biotechnology
	Biotechnology - Main areas and Benefits
	Commerical application
	Important stages in Agricultural Development
	Green, White and Blue revolution
	Fertilisers (Insecticides, Organic forming)
	Cultivation of medicinal plants
	Fruit processing
	Tissue culture
	Changes in Agriculture Management due to Biotechnology
	Application of Biotechnology in Horticulture Nurseries and forestry,
	Agro complement occupation
	Animal Husbandary, Poultry forming, Apiculture, Sericulture
5	Cell cycle and cell Division
	Cell cycle phases in brief
	Mitosis and its phases
	Meiosis and its phases
	Significance
6	Life Process in Living Organisms
	i) Respiration in Plants
	Glycolysis, TCA cycle
	Aerobic and anaerobic respiration
	ii) Photosynthesis
	iii) Co-ordination in Human–Nervous Control
	Types of Neurons
	Human Nervous System
	CNS, PNS, ANS, Reflex action
	Chemical control
7	Classification of Plants
	Kingdom plants
	Basis of classification
	Thallophyta, Bryophyta, Pteridophyta, Phanerogems
8	Animal Classification
	Histry of animal classification
	Traditional method of animal classification
	New method of animal classification
	Criteria
	Grade of organisation
	Body symmetry
	Germ layers
	Body cavity
	Body segmentation
	Kingdom animalia
	From phylum porifera to chordata
	(Non-chordates upto phylum level and chordates upto class level)

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BIOLOGY	
9	Cell Biology
	Cytology
	Stem cell
	What is cell made up ?
	Structure and Difference between animal and plant cell
	Cell theory
10	Evolution
	Theory of evolution
	Evidence of evolution
	Darwin's theory of Natural selection
	Lamarckism
	Speciation
	Human evolution
11	Ecosystem
	Food chain and food web
	Energy pyramid
	Energy flow and its importance
	Producer consumers and decomposer
	Biogeochemical cycle - (Carbon, oxygen and nitrogen cycle)
12	Environmental Management
	Environmental conservation and its need and our social responsibility
	Acts related to conservation
	Biodiversity – Hot spots and biodiversity
	Classification of threatened species
	Solid waste Management
	Biodegradable waste
	Non biodegradable waste
	Necessity of solid waste management