

### Test Planner (FT, TE ) for PHASE-1 (2020-21)

Sr. No.	Class	Test Name	Test Date	Test Syllabus
1	XI	FT-01	8-May-20	<p><b>Physics : Physical World, Units &amp; Measurements:</b> Introduction, International system of units, Measurement of length, Mass, Time, Accuracy, Precision of instruments.</p> <p><b>Chemistry : Some Basic Concepts of Chemistry:</b> Importance of chemistry, Nature of matter, Properties of matter and their measurement : Mass and weight, volume, density, temperature, Uncertainty in measurement, Scientific notation, Addition and subtraction, Multiplication and division, Significant figures, Dimensional analysis., Laws of chemical combination : Law of conservation of mass, Law of definite proportions, Law of multiple proportions, Gay lussac's law of gaseous volumes, Avogadro law, Dalton's atomic theory., Atomic and molecular masses : Atomic mass, Average atomic mass, Molecular mass, Formula mass.</p> <p><b>Botany : Cell: The Unit of Life:</b> Introduction, What is a cell?, Cell theory, An overview of cell, Prokaryotic cell-structure, Gram staining, Eukaryotic cell structure, Difference between prokaryotic and eukaryotic cell, difference between plant cell and animal cell, plasma membrane, Cell wall, endomembrane system– Endoplasmic reticulum, Golgi body, Lysosome, Vacuole; Mitochondria, Plastid.</p> <p><b>Zoology : Structural organisation in Animals–Animal Tissues-I: Epithelial Tissue:</b> General features, basement membrane, Types of epithelial tissues-Simple., Compound epithelium, specialized epithelial tissues, glandular epithelium, Types of simple &amp; compound glands, <b>Connective Tissue:</b> Connective tissue proper, Loose connective tissue, Dense connective tissues-characters with examples. Supportive connective tissue: Cartilage, Types of cartilage-Hyaline, Elastic, white fibrocartilage &amp; Calcified <b>cartilage</b>, Supportive Connective Tissue: <b>Bone</b>, its structure &amp; composition, Types of bones: Compact bone, Spongy bone, Differences between cartilage &amp; bone: Dried bone &amp; decalcified bone. Cartilage, Investing bone, Sesamoid bone and Visceral bone</p>
2	XII	FT-01	8-May-20	<p><b>Physics : Electric Charges &amp; Field:</b> Introduction, Electric charges, Conductors and insulators, Charging by induction, Basic properties of electric charges, Coulomb's law, Force between multiple charges, Electric Field, Electric field due to system of charges.</p> <p><b>Chemistry : Solid State:</b> General characteristics of solid-state, Amorphous and crystalline solids. Classification of crystalline solids : Molecular, ionic, metallic and covalent solids, Crystal lattices and unit cells : Primitive and centered unit cells, Number of atoms in simple cubic, body centered and face centered cubic unit cell, Close packed structures in 2D and 3D ccp and hcp arrangements, Formula of a compound and number of voids filled, Locating tetrahedral and octahedral voids,</p> <p><b>Botany : Reproduction in Organisms :</b> Life span, Basic features of reproduction, Asexual reproduction-Features, Methods (Binary fission, Budding, Sporulation), Vegetative propagation - Natural and artificial (cutting), Artificial (Layering &amp; grafting), Sexual reproduction - Features, Phases of life cycle Events i.e. Pre-fertilization, Fertilization and Post-fertilization.</p> <p><b>Zoology : Reproduction in Organisms, Human Reproduction-I :</b> Sex organs, Male reproductive system: Testes, epididymis, Vas deferens, penis, accessory glands of male reproductive system, seminal plasma and semen.</p>

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Sr. No.	Class	Test Name	Test Date	Test Syllabus
3	XI	FT-02	22-May-20	<p><b>Physics : Units &amp; Measurements:</b> Errors in measurements, Significant figures, Dimensions of physical quantities, Dimensional formulae &amp; dimensional equations, Dimensional analysis and its applications.</p> <p><b>Chemistry : Some Basic Concepts of Chemistry:</b> Mole concept, Molar mass, equivalent mass, Percentage composition, Empirical formula, Stoichiometry and Stoichiometric calculations., Calculations regarding limiting reagents.</p> <p><b>Botany : Cell: The Unit of Life (Contd.):</b> Ribosome, Cytoskeleton, Centrosome and centrioles, Cilia and flagella, Nucleus, Chromosomes, Microbodies, <b>Cell Cycle &amp; Cell Division:</b> Introduction, Cell cycle–phases of cell cycle, Mitosis–definition, Karyokinesis, cytokinesis, significance, Meiosis–definition</p> <p><b>Zoology : Structural organisation in Animals–Animal Tissues-II: Muscular Tissue:</b> Types of Muscles: Striated and non-striated/Smooth muscles (Single unit &amp; Multiunit smooth muscles; Cardiac muscle), <b>Nervous Tissue:</b> Structure of neuron and its parts, Different types of neuron; Myelinated &amp; Nonmyelinated neurons, Neuroglia cells-Types of glial cells, <b>Biomolecules-I:</b> Primary and secondary metabolites, Carbohydrates, Monosaccharides, Triose, Pentose, Hexose, Heptose, Derivatives of monosaccharides, Oligosaccharides, Functions of small carbohydrates, Polysaccharides-homopolysaccharides &amp; heteropolysaccharides, storage &amp; structural polysaccharides</p>
4	XII	FT-02	22-May-20	<p><b>Physics : Electric Charges &amp; Field:</b> Electric field lines, Electric Dipole, Dipole in a uniform external field, Electric flux, Continuous charge distribution, Gauss's Law, Application of Gauss's law.</p> <p><b>Chemistry : Solid State:</b> Packing efficiency in simple cubic, hcp/ccp and bcc lattices, Calculation involving unit cell dimensions, Structure of Ionic solids, Imperfections in solids : Types of point defects, electrical and magnetic properties</p> <p><b>Botany : Sexual Reproduction in Flowering Plants :</b> Introduction, Flower - A fascinating organ of angiosperms, Pre-fertilization - structures and events - Stamen, Microsporangium, Microsporogenesis. Pollen grain, Development of male gametophyte, The pistil, Megasporangium (ovule), Types of ovules, Megasporeogenesis, Embryo sac/Female gametophyte development, Pollination : Objective, Kinds - Autogamy, Geitonogamy, Xenogamy, Agents of pollination - Wind, Water, Insects</p> <p><b>Zoology : Human Reproduction-II:</b> Structure of female reproductive system, fallopian tubes, uterus, vagina, female external genitalia and accessory gland of female reproductive system, Structure of mammary glands, spermatogenesis and its hormonal control, structure of mature sperm, Oogenesis and structure of ovum &amp; ovary, Menstrual cycle: Various events and its hormonal control.</p>

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Sr. No.	Class	Test Name	Test Date	Test Syllabus
5	XI	FT-03	5-Jun-20	<p><b>Physics : Motion in a Straight Line:</b> Introduction, Position, Path length and displacement, Average velocity &amp; average speed., Differential calculus, Applications of differential calculus, Instantaneous velocity &amp; speed, Acceleration</p> <p><b>Chemistry : Some Basic Concepts of Chemistry:</b> Reactions in solutions : Mass percentage or weight percentage, Mole-fraction, Molarity, Molality, Normality, <b>Structure of Atom:</b> Sub-atomic particles : Discovery of electron, Charge to mass ratio of electron, Charge on electron, Discovery of proton and neutron. Thomson model of atom, Rutherford's nuclear model of atom, Atomic and Mass number, Isobars and isotopes., Particle nature of electromagnetic radiation : Plank's quantum theory, Photoelectric effect, Dual behaviour of electromagnetic radiation.</p> <p><b>Botany : Cell Cycle &amp; Cell Division (Contd.):</b> Meiosis-I, Meiosis-II, significance of meiosis, <b>The living world:</b> Introduction, What is living?, Characteristics of living beings, Diversity in the living world, Nomenclature, Need for classification, Classification -taxonomy, Systematics, Taxonomic categories.</p> <p><b>Zoology : Biomolecules-II:</b> Aminoacids: Structure, types, Polar, Non polar, acidic, basic, neutral, alcoholic, aromatic, heterocyclic, functions of amino acids. Peptide bond formation, Structure of protein-Primary, secondary, tertiary, quaternary, Properties of proteins. Types of proteins and their functions, Lipids: Structure and classification of lipids, simple lipids, conjugated lipids, derived lipids, functions of lipids, Nitrogenous bases, nucleosides, nucleotides, higher nucleotides, types of nucleotides, functions of nucleotides, Nucleic acid-DNA, RNA structure, types of it and function, Metabolites-Primary &amp; secondary, Enzymes: Importance, activation energy, chemical nature, active site, Classes of enzymes: Oxidoreductase, Transferase, Hydrolase, Lyase, Isomerase, Ligase; Properties of enzymes, Working of enzymes-Lock &amp; Key model, Induce fit theory, Enzymes: Factors affecting the enzyme activity: substrate concentration, <math>K_m</math> value, Product concentration, Temperature, pH; Enzyme inhibition-competitive, Non competitive, Allosteric enzymes, Isoenzymes and proenzymes</p>
6	XII	FT-03	5-Jun-20	<p><b>Physics : Electrostatic Potential and Capacitance:</b> Introduction, electrostatic potential, potential due to a point charge, potential due to an electric dipole, potential due to a system of charges, Equipotential surfaces, Calculating field from potential, Potential energy of a system of charges, Potential energy in an external field</p> <p><b>Chemistry : Solutions</b></p> <p><b>Botany : Sexual Reproduction in Flowering Plants [Contd.] :</b> Outbreeding devices, Pollen-pistil interaction, Double fertilization, Post-fertilization, structures and events - Endosperm, Embryo development, Post fertilization, structure and events - Seed, Fruit; Apomixis and Polyembryony.</p> <p><b>Zoology : Human Reproduction-III :</b> Capacitation and acrosomal reactions, fertilisation, fast block and slow block to prevent polyspermy, embryonic development : cleavage, morula, blastula and implantation, Gastrulation, fate of three germinal layers, pregnancy and embryonic development, Major features, function and types of placenta, Parturition and lactation.</p>
7	XI	TE-01	12-Jun-20	<p><b>Physics : Physical World, Units &amp; Measurements, Motion in a Straight Line:</b> Introduction, Position, Path length and displacement, Average velocity &amp; average speed., Differential calculus, Applications of differential calculus, Instantaneous velocity &amp; speed, Acceleration</p> <p><b>Chemistry : Some Basic Concepts of Chemistry, Structure of Atom:</b> Sub-atomic particles : Discovery of electron, Charge to mass ratio of electron, Charge on electron, Discovery of proton and neutron. Thomson model of atom, Rutherford's nuclear model of atom, Atomic and Mass number, Isobars and isotopes., Particle nature of electromagnetic radiation : Plank's quantum theory, Photoelectric effect, Dual behaviour of electromagnetic radiation.</p> <p><b>Botany : Cell: The Unit of Life, Cell Cycle &amp; Cell Division, The living world (Upto Taxonomic categories)</b></p> <p><b>Zoology : Structural organisation in Animals–Animal Tissues, Biomolecules</b></p>

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8	XII	TE-01	19-Jun-20	<p><b>Physics : Electric Charges &amp; Field, Electrostatic Potential and Capacitance:</b> Introduction, electrostatic potential, potential due to a point charge, potential due to an electric dipole, potential due to a system of charges, Equipotential surfaces, Calculating field from potential, Potential energy of a system of charges, Potential energy in an external field</p> <p><b>Chemistry : Solid State, Solutions</b></p> <p><b>Botany : Reproduction in Organisms, Sexual Reproduction in Flowering Plants</b></p> <p><b>Zoology : Reproduction in Organisms, Human Reproduction</b></p>
9	XI	FT-04	26-Jun-20	<p><b>Physics : Motion in a Straight Line:</b> Integral calculus, Applications of Integral calculus, Graphs (slope, area etc.), Kinematic equations for uniformly accelerated motion., Motion under gravity, Relative velocity in one dimension.</p> <p><b>Chemistry : Structure of Atom:</b> Emission and absorption spectra, Line spectrum of hydrogen, Bohr's model for hydrogen atom, Explanation of Bohr's model., Dual behaviour of matter, Heisenberg's uncertainty principle, Significance of uncertainty principle, Reason for the failure of the Bohr model., Quantum mechanics, Hydrogen atom and the Schrodinger equation, Orbitals and Quantum numbers, Shapes of atomic orbitals, Energies of atomic orbitals, Filling of orbitals in atom : Aufbau principle, Pauli's exclusion principle, Hund's rule of maximum multiplicity, Electronic configuration of atoms, Causes of Stability of completely filled and half filled sub-shells</p> <p><b>Botany : The living world(Contd.):</b> Biological concept of species, Taxonomical aids- Herbarium, , Botanical gardens, museum, zoological parks, Key, Flora, Manual, Monographs, Catalogues, <b>Biological Classification:</b> Introduction, Kingdom system of classification- two kingdom, three kingdom, four kingdom, five kingdom, Six kingdom, Domains of life, Kingdom Monera- Characters of monera, Shape of bacteria, Bacterial Life process - Respiration, Nutrition, Reproduction- Asexual, Sexual recombination</p> <p><b>Zoology : Digestion &amp; Absorption</b></p>
10	XII	FT-04	3-Jul-20	<p><b>Physics : Electrostatic Potential and Capacitance:</b> Electrostatics of conductors, dielectrics and polarization, Capacitors and capacitance, The parallel plate capacitor, Effect of dielectrics on capacitance, Combination of capacitors, Energy stored in a capacitor, Van de Graaff Generator.</p> <p><b>Chemistry : Electrochemistry</b></p> <p><b>Botany : Principles of Inheritance &amp; Variation:</b> Introduction, Mendel's law of inheritance, inheritance of one gene. Laws of inheritance dominance segregation, explanation of the concept of dominance. Incomplete dominance, co-dominance, multiple alleles, Pleiotropy, Inheritance of two genes, Law of independent assortment</p> <p><b>Zoology : Reproductive Health, Evolution:</b> Theories &amp; Evidences: Origin of universe (Big Bang theory) solar system, theories of origin of life: panspermia theory, abiogenesis theory, theory of biogenesis</p>

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11	XI	FT-05	10-Jul-20	<p><b>Physics : Motion in a Plane:</b> Introduction, Scalars &amp; Vectors, Multiplication of vectors by real numbers, Addition &amp; subtraction of vectors-graphical method., Resolution of vectors, Vector addition-analytical method., Motion in a plane, Motion in a plane with constant acceleration.</p> <p><b>Chemistry : Classification of Elements and Periodicity in Properties, Chemical Bonding and Molecular Structure:</b> Kossel-Lewis approach to chemical bonding, Octet rule, Covalent bond, Lewis representation of simple molecules, Formal charge, Limitations of octet rule : Incomplete octet of the central atom, odd-electron molecule, The expanded octet., Ionic or electrovalent bond, Lattice enthalpy, bond parameters : Bond length, Bond angles, Bond enthalpy, Bond-order, Resonance structures</p> <p><b>Botany : Biological Classification(Contd.):</b> Economic importance of bacteria, Archaeobacteria-methanogens, halophiles, thermoacidophiles, Eubacteria – Cyanobacteria, <i>Mycoplasma</i>, Actinomycetes, Protista-General characters, Chrysophytes, Dinoflagellates, Euglenoids, Slime moulds, Protozoans-major groups with some salient features, Fungi-general characters.</p> <p><b>Zoology : Breathing &amp; Exchange of Gases-I:</b> Respiratory passage, structure of Larynx, sound production, lungs, pleurae, external structure of lungs, Internal structure, alveoli., Mechanism of breathing-Inspiration, expiration, thoracic &amp; abdominal breathing, Respiratory/Pulmonary volumes/Respiratory capacities, Exchange of gases between alveoli &amp; blood; exchange of gases between blood &amp; tissue cells., Transport of oxygen, Bohr's effect; Transport of carbon dioxide, Chloride shift (Hamburger's phenomenon), Haldane effect</p>
12	XII	FT-05	17-Jul-20	<p><b>Physics : Current Electricity:</b> Introduction, Electric current, Electric currents in conductors. Ohm's law, Drift of electrons and the origin of resistivity, Limitations of Ohm's law, Resistivity of various material, Temperature dependence of resistivity, Electrical energy power, Combination of resistors, series and parallel, Cells, emf. Internal resistance, cells in series and in parallel, Kirchoff's laws and its application</p> <p><b>Chemistry : Chemical Kinetics</b></p> <p><b>Botany : Principles of Inheritance &amp; Variation:</b> Complementary genes, Duplicate genes, Epistasis, Polygenic inheritance, Chromosomal theory of inheritance, Linkage and recombination, Sex determination, Mutations - Gene mutation</p> <p><b>Zoology : Evolution: Theories &amp; Evidences:</b> Chemical origin of life, Stanley Miller's experiment, prebiotic system coacervate and microsphere Geological time scale, evidences of evolution-Palaentological, timeline of evolution, evolution of horse, Morphological and anatomical evidences of evolution-Homologous, analogous, vestigial organs, Evidences from connecting links, embryological evidences, biogeographical evidences, adaptive radiation</p>

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13	XI	FT-06	24-Jul-20	<p><b>Physics : Motion in a Plane(Contd.):</b> Relative velocity in two dimensions., Projectile motion – Equation of path of a projectile. Time of flight, Maximum height, Horizontal range, Uniform circular motion.</p> <p><b>Chemistry : Chemical Bonding and Molecular Structure:</b> Polarity of bonds, Dipole moment and molecular structures, Percentage ionic character, The valence shell electron pair repulsion theory., Valence bond theory : Orbital overlap concept, Directional properties of bonds, Overlapping of atomic orbitals, Types of overlapping and nature of covalent bonds. Strength of <math>\sigma</math> &amp; <math>\pi</math>-bonds., Hybridisation : Features and conditions, Types of hybridisation : <math>sp</math>, <math>sp^2</math>, <math>sp^3</math>, <math>dsp^2</math>, <math>sp^3d</math>, <math>sp^3d^2</math>, <math>sp^3d^3</math>, Molecular orbital theory : Features, Linear combination of atomic orbitals, Conditions for the combination of atomic orbitals, Types of molecular orbitals., Energy level diagram for molecular orbitals, Electronic configuration and molecular behaviour, Bonding in some homonuclear diatomic molecules, Hydrogen bonding..</p> <p><b>Botany : Biological Classification(Contd.):</b> Reproduction in fungi, Characters of different classes of fungi - Phycomycetes, Ascomycetes, Basidiomycetes, Salient features of <i>Agaricus</i> &amp; <i>Puccinia</i>, Deuteromycetes, Virus–introduction, discovery, structural components, Structure of some viruses (TMV, bacteriophages),</p> <p><b>Zoology : Breathing &amp; Exchange of Gases-II:</b> Regulation of respiration: Neural regulation, chemical regulation, Respiratory disorders, Bronchitis, Asthma, Emphysema, Occupational respiratory disorder, <b>Body Fluids &amp; Circulation-I:</b> Fluid connective tissue–Blood &amp; composition of blood-blood cells &amp; plasma, blood coagulation, clotting factors, lymph, Circulatory pathways, Human circulatory system-external structure of heart, Internal structure-Atria, Ventricle, Valves, Histology of heart wall, working of heart, Cardiac cycle, Heart sounds, conducting system of heart, ECG-Normal ECG &amp; changes as indication of heart diseases</p>

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14	XI	TE-02	31-Jul-20	<p><b>Physics : Physical World, Units &amp; Measurements, Motion in a Straight Line:</b> Introduction, Position, Path length and displacement, Average velocity &amp; average speed., Differential calculus, Applications of differential calculus, Instantaneous velocity &amp; speed, Acceleration  <i>[For 9 Questions out of 45]</i></p> <p><b>Motion in a Straight Line:</b> Integral calculus, Applications of Integral calculus. Graphs (slope, area etc.), Kinematic equations for uniformly accelerated motion., Motion under gravity, Relative velocity in one dimension, <b>Motion in a Plane</b>  <i>[For 36 Questions out of 45]</i></p> <p><b>Chemistry : Some Basic Concepts of Chemistry, Structure of Atom: Sub-atomic particles :</b> Discovery of electron, Charge to mass ratio of electron, Charge on electron, Discovery of proton and neutron. Thomson model of atom, Rutherford's nuclear model of atom, Atomic and Mass number, Isobars and isotopes., Particle nature of electromagnetic radiation : Plank's quantum theory, Photoelectric effect, Dual behaviour of electromagnetic radiation.  <i>[For 9 Questions out of 45]</i></p> <p><b>Structure of Atom:</b> Emission and absorption spectra, Line spectrum of hydrogen, Bohr's model for hydrogen atom, Explanation of Bohr's model., Dual behaviour of matter, Heisenberg's uncertainty principle, Significance of uncertainty principle, Reason for the failure of the Bohr model., Quantum mechanics, Hydrogen atom and the Schrodinger equation, Orbitals and Quantum numbers, Shapes of atomic orbitals, Energies of atomic orbitals, Filling of orbitals in atom : Aufbau principle, Pauli's exclusion principle, Hund's rule of maximum multiplicity, Electronic configuration of atoms, Causes of stability of completely filled and half filled sub-shells., <b>Classification of Elements and Periodicity in Properties, Chemical Bonding and Molecular Structure.</b>  <i>[For 36 Questions out of 45]</i></p> <p><b>Botany : Cell: The Unit of Life, Cell Cycle &amp; Cell Division, The living world</b> (Upto Taxonomic categories)  <i>[For 9 Questions out of 45]</i></p> <p><b>The living world:</b> Biological concept of species onwards, <b>Biological Classification:</b> Upto Structure of some viruses (TMV, bacteriophages)  <i>[For 36 Questions out of 45]</i></p> <p><b>Zoology : Structural organisation in Animals–Animal Tissues, Biomolecules</b>  <i>[For 9 Questions out of 45]</i></p> <p><b>Digestion &amp; Absorption, Breathing &amp; Exchange of Gases, Body Fluids &amp; Circulation-I:</b> Fluid connective tissue–Blood &amp; composition of blood-blood cells &amp; plasma, blood coagulation, clotting factors, lymph, Circulatory pathways, Human circulatory system-external structure of heart, Internal structure-Atria, Ventricle, Valves, Histology of heart wall, working of heart, Cardiac cycle, Heart sounds, conducting system of heart, ECG-Normal ECG &amp; changes as indication of heart diseases.  <i>[For 36 Questions out of 45]</i></p>



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15	XII	FT-06	31-Jul-20	<p><b>Physics : Current Electricity:</b> Wheatstone bridge, Meter Bridge, Potentiometer, <b>Moving Charges and Magnetism:</b> Introduction, Magnetic force, Motion in a magnetic field, Motion in combined Electric and Magnetic fields.</p> <p><b>Chemistry : Surface Chemistry</b></p> <p><b>General Principles and Processes of Isolation of Elements :</b> Concentration of an ore, Hydraulic washing, Magnetic separation, Froth floatation process</p> <p><b>Botany : Principles of Inheritance &amp; Variation:</b> Mutations - Chromosomal aberrations, Genomatic mutation, Genetic disorders- pedigree analysis, Mendelian disorder Chromosomal disorder, cytoplasmic inheritance.</p> <p><b>Molecular Basis of Inheritance:</b> Introduction, The DNA-structure of polynucleotide chain, Derivation of DNA structure, DNA packaging in prokaryotes</p> <p><b>Zoology : Evolution: Theories &amp; Evidences:</b> Lamarck's theory, Darwin's theory-Darwin Novelty, Mutation theory, Hardy-Weinberg principle: Gene flow, gene migration, genetic drift, mutation, genetic recombination, natural selection, Speciation: Allopatric and sympatric, Brief account of evolution: Evolution of plant forms, evolutionary history of vertebrates through geological period, Human evolution, prior to ape man, Ape man to prehistoric man, prehistoric to modern man</p>



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16	XI	FT-07	14-Aug-20	<p><b>Physics : Laws of Motion:</b> Introduction, Aristotle's fallacy, The law of inertia, Newton's first law of motion, Momentum, Conservation of momentum, Newton's 2nd law of motion, Newton's third laws of motion, Equilibrium of a particle</p> <p><b>Chemistry : States of Matter</b></p> <p><b>Botany : Biological Classification(Contd.):</b> Reproduction in virus, Diseases, Sub-viral agents – Viroids, Virusoids, Prions; Lichens, Mycorrhiza, <b>Morphology of Flowering Plants:</b> Introduction, Root–types, function, regions, modifications, Introduction of stem, bud, function of stem, modification of stem, Leaf–introduction, parts, venation, types (simple and compound leaf), Leaf-Phyllotaxy, Modifications, Inflorescence – racemose and cymose, Flowers-terminology, symmetry.</p> <p><b>Zoology : Body Fluids &amp; Circulation-II:</b> Double circulation, heart beat, regulation of heart beat- Neural regulation, hormonal regulation, Blood Vessels-Aorta, Arteries, Arterioles, Capillaries, Venules, Veins, Vena Cava, Lymphatic system, Disorders of circulatory system- Hypertension, Coronary artery diseases, Angina, Heart failure, <b>Excretory Products &amp; their Elimination</b></p>
17	XII	TE-02	14-Aug-20	<p><b>Physics : Electric Charges &amp; Field, Electrostatic Potential and Capacitance:</b> Introduction, electrostatic potential, potential due to a point charge, potential due to an electric dipole, potential due to a system of charges, Equipotential surfaces, Calculating field from potential, Potential energy of a system of charges, Potential energy in an external field <i>[for 9 Questions out of 45 Questions]</i></p> <p><b>Electrostatic Potential and Capacitance:</b> Electrostatics of conductors, dielectrics and polarization, Capacitors and capacitance, The parallel plate capacitor, Effect of dielectrics on capacitance, Combination of capacitors, Energy stored in a capacitor, Van de Graaff Generator, <b>Current Electricity, Moving Charges and Magnetism:</b> Introduction, Magnetic force, Motion in a magnetic field, Motion in combined Electric and Magnetic fields. <i>[For 36 Questions out of 45]</i></p> <p><b>Chemistry : Solid State, Solutions</b> <i>[for 9 Questions out of 45 Questions]</i></p> <p><b>Electrochemistry, Chemical Kinetics, Surface Chemistry</b> <i>[For 36 Questions out of 45]</i></p> <p><b>Botany : Reproduction in Organisms, Sexual Reproduction in Flowering Plants</b> <i>[for 9 Questions out of 45 Questions]</i></p> <p><b>Principles of Inheritance &amp; Variation, Molecular Basis of Inheritance</b> (upto DNA packaging in prokaryotes) <i>[For 36 Questions out of 45]</i></p> <p><b>Zoology : Reproduction in Organisms, Human Reproduction</b> <i>[for 9 Questions out of 45 Questions]</i></p> <p><b>Reproductive Health, Evolution: Theories &amp; Evidences:</b> <i>[for 36 Questions out of 45 Questions]</i></p>

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18	XI	FT-08	28-Aug-20	<p><b>Physics : Laws of Motion(Contd.):</b> Common forces in mechanics, Friction, Circular motion., Solving problems in mechanics.</p> <p><b>Chemistry : Thermodynamics</b></p> <p><b>Botany : Morphology of Flowering Plants (Contd.):</b> Position of floral parts on thalamus, parts of flower (calyx and corolla), aestivation, Androecium- adhesion, cohesion; Gynoecium, Placentation, Fruits-parts, types, edible parts, Structure of dicotyledonous and monocotyledonous seed, Families- brassicaceae, fabaceae, solanaceae, liliaceae.</p> <p><b>Zoology : Locomotion &amp; Movement-I:</b> Types of movements: Ciliary, protoplasmic streaming, flagellar, muscular; Types of muscles and their structures. Muscle contraction-structure of contractile proteins-actin, myosin, troponin and tropomyosin. Mechanism of muscle contraction-Sliding filament theory, role of calcium and regulatory proteins, power stroke, role of ATP, various stages in cross bridge formation &amp; break down., Properties of muscle contraction: All or none principle, single muscle twitch, energy source of muscle contraction, Cori's cycle, Rigor mortis, red and white muscle fibres, Isometric and isotonic contraction. Treppe or staircase phenomenon, disorders of muscles-Myasthenia gravis, muscular dystrophy, tetany, Axial skeleton: Skull-cranial bones, facial bones, Hyoid, Ear ossicles malleus, incus, stapes, Vertebral column-cervical, thoracic, lumbar, sacral, coccyx vertebrae, curves of the vertebral column. Ribs-vertebrosternal/True ribs, vertebrachondral/False ribs, Vertebral/Floating ribs, rib cage, sternum.</p>
19	XII	FT-07	28-Aug-20	<p><b>Physics : Moving Charges and Magnetism:</b> Biot-savart's law, Magnetic field on the axis of a circular current loop, Cyclotron, Magnetic field due to a current element, Ampere' Circuital Law, The solenoid and the toroid ,Force between two parallel currents, the ampere, Torque on current loop, Magnetic dipole, Moving coil Galvanometer,</p> <p><b>Magnetism and Matter:</b> The bar magnet, Magnetism and Gauss's Law, The Earth's magnetism.</p> <p><b>Chemistry : General Principles and Processes of Isolation of Elements:</b> Leaching, Thermodynamic aspects of Metallurgy (Ellingham diagram), Refining of metals, uses of Al, Cu, Zn and Fe,</p> <p><b>p-Block Elements:</b> (Group-15 to 17)</p> <p><b>Botany : Molecular Basis of Inheritance:</b> DNA Packaging in eukaryotes, The search for genetic material, Transforming principle, Evidence from experiments with bacteriophage, Properties of genetic material RNA world, Replication of DNA - The experimental proof, The machinery and enzymes., Transcription - Transcription unit, Types of RNAs, Process of Transcription in prokaryotes and Eukaryotes</p> <p><b>Zoology : Human Health &amp; Disease:</b> Health-Variou types of diseases in humans-bacterial, viral etc., Fungal: Ringworms, Helminthic: ascariasis, elephantiasis, Protozoan: Life cycle of <i>Plasmodium vivax</i> and <i>Entamoeba histolytica</i> , Types of Immunity-Innate and acquired, active &amp; passive Immunity, humoral mediated immunity</p>

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Sr. No.	Class	Test Name	Test Date	Test Syllabus
20	XII	FT-08	11-Sep-20	<p><b>Physics : Magnetism and Matter:</b> Tangent Law and its applications, Magnetization and magnetic intensity, Magnetic properties of materials, Permanent magnets and electromagnets, <b>Electromagnetic induction</b></p> <p><b>Chemistry : p-Block Elements:</b> (Group-18) <b>d &amp; f-Block Elements</b></p> <p><b>Botany : Molecular Basis of Inheritance:</b> Genetic code - Salient features, t-RNA - The adapter molecule, Translation. Regulation of gene expression, Operon concept Human genome project - Goals, Methodologies, Salient features, Applications and Future challenges, DNA fingerprinting.</p> <p><b>Zoology : Human Health &amp; Disease:</b> Cell Mediated Immunity, vaccination and immunisation Allergies, auto immunity, immune system of the body, lymphoid organs: primary and secondary, AIDS–Causes, detection, symptoms and prevention, Cancer–Causes, detection, diagnosis and treatment</p>
21	XII	FT-09	25-Sep-20	<p><b>Physics : Alternating Current, Electromagnetic Waves</b></p> <p><b>Chemistry : Coordination Compounds</b></p> <p><b>Botany : Strategies for Enhancement in Food Production:</b> Introduction, Plant breeding – Definition, Main steps Green revolution, Plant breeding for disease resistance, Plant breeding for resistance to insect pests, Improved food quality, Anti nutritional factors, Single cell protein, Green manure, Energy crops, Petroleum plants, Tissue culture – Definition, Environmental conditions, Types, Applications</p> <p><b>Microbes in Human Welfare:</b> Introduction, Microbes in household products, Industrial products.</p> <p><b>Zoology : Human Health &amp; Disease:</b> Drugs and alcohol abuse-Opioids, Cannabinoids, Sedatives and tranquilisers, Hallucinogens, Stimulants, Tobacco adiction. Adolescence, addiction &amp; dependence, effects of drugs &amp; alcohol abuse, prevention &amp; control</p> <p><b>Animal Husbandry:</b> Live stocks, animal Breeding, inbreeding, outbreeding, out crossing, cross breeding, Interspecific hybridisation, MOET, artificial insemination Dairy farm management, poultry farm management, indigenous &amp; exotic breeds, bacterial, viral &amp; fungal disease</p>

**Test Planner (FT, TE ) for PHASE-1 (2020-21)**

Sr. No.	Class	Test Name	Test Date	Test Syllabus
22	XII	TE-03	9-Oct-20	<p><b>Physics : Electrostatic Potential and Capacitance:</b> Electrostatics of conductors, dielectrics and polarization, Capacitors and capacitance, The parallel plate capacitor, Effect of dielectrics on capacitance, Combination of capacitors, Energy stored in a capacitor, Van de Graaff Generator, <b>Current Electricity, Moving Charges and Magnetism:</b> Introduction, Magnetic force, Motion in a magnetic field, Motion in combined Electric and Magnetic fields <i>[For 9 Questions out of 45]</i></p> <p><b>Moving Charges and Magnetism:</b> Biot-savart's law, Magnetic field on the axis of a circular current loop, Cyclotron, Magnetic field due to a current element, Ampere' Circuital Law, The solenoid and the toroid ,Force between two parallel currents, the ampere, Torque on current loop, Magnetic dipole, Moving coil Galvanometer, <b>Magnetism and Matter, Electromagnetic induction, Alternating Current, Electromagnetic Waves</b> <i>[For 36 Questions out of 45]</i></p> <p><b>Chemistry : Electrochemistry, Chemical Kinetics, Surface Chemistry</b> <i>[For 9 Questions out of 45]</i></p> <p><b>General Principles and Processes of Isolation of Elements, p-Block Elements, d &amp; f-Block Elements, Coordination Compounds</b> <i>[For 36 Questions out of 45]</i></p> <p><b>Botany : Principles of Inheritance &amp; Variation, Molecular Basis of Inheritance</b> (upto DNA packaging in prokaryotes) <i>[For 9 Questions out of 45]</i></p> <p><b>Molecular Basis of Inheritance</b> (from DNA Packaging in eukaryotes), <b>Strategies for Enhancement in Food Production</b></p> <p><b>Microbes in Human Welfare (Upto Industrial products)</b> <i>[For 36 Questions out of 45]</i></p> <p><b>Zoology : Reproductive Health, Evolution: Theories &amp; Evidences:</b> <i>[for 9 Questions out of 45 Questions]</i></p> <p><b>Human Health &amp; Disease,</b></p> <p><b>Animal Husbandry:</b> Live stocks, animal Breeding, inbreeding, outbreeding, out crossing, cross breeding, Interspecific hybridisation, MOET, artificial insemination Dairy farm management, poultry farm management, indigenous &amp; exotic breeds, bacterial, viral &amp; fungal disease <i>[for 36 Questions out of 45 Questions]</i></p>

**Test Planner (FT, TE ) for PHASE-1 (2020-21)**

Sr. No.	Class	Test Name	Test Date	Test Syllabus
23	XI	FT-09	16-Oct-20	<p><b>Physics : Work, Energy &amp; Power</b></p> <p><b>Chemistry : Equilibrium:</b> Chemical equilibrium : Liquid-vapour, Solid-liquid and solid-vapour equilibria, General characteristics of equilibria involving physical and chemical process, Law of chemical equilibrium and equilibrium constant, Homogeneous and heterogeneous equilibria, Application of equilibrium constants. Predicting the extent and the direction of reactions. Calculating equilibrium concentrations., Relationship between equilibrium constant, Reaction quotient and Gibb's energy, Factors affecting equilibria: Change in concentration, pressure, temperature and effect of catalyst and effect of addition of inert gas., Acids bases : Arrhenius, Bronsted-Lowry and Lewis concepts, Ionisation of acids and bases, Ionisation constant of water and its ionic product.,</p> <p><b>Botany : Anatomy of Flowering Plants</b></p> <p><b>Zoology : Locomotion &amp; Movement-II:</b> Appendicular skeleton: Pectoral girdle, bones of upper limb (Humerus, radius, ulna, carpals, metacarpals and phalanges), pelvic girdle, bones of lower limb (femur, patella, tibia, fibula, tarsals, metatarsals, phalanges). Joints- fibrous, cartilaginous and synovial (Ball and socket, hinge, pivot, gliding and saddle joint), Bone &amp; Joint disorders-Arthritis, Osteoporosis, Gout etc., <b>Neural Control &amp; Coordination-I:</b> Human neural system: Central and peripheral neural system, neuron as structural and functional unit of neural system, different types of neurons and their location, Nerve impulse, generation and its transmission-Resting membrane potential, spike potential, action potential, depolarization, repolarisation, hyperpolarisation, Synapses: Electrical and Chemical, synaptic transmission, mechanism of transmission of nerve impulse through electrical and chemical synapse. Neurotransmitters: excitatory and inhibitory, Structure of Brain: Forebrain, cerebrum, thalamus, hypothalamus, limbic system and their functions, mid brain (corpora quadrigemina and crura cerebri), hind brain (cerebellum, pons, medulla) ventricles of brain and cerebrospinal fluid.</p>
24	XII	FT-10	23-Oct-20	<p><b>Physics : Ray Optics &amp; Optical Instruments,</b></p> <p><b>Chemistry : Haloalkanes and Haloarenes</b></p> <p><b>Botany : Microbes in Human Welfare:</b> Microbes in sewage treatment, Biogas production, Biocontrol agents, Biofertilizers.</p> <p><b>Organisms and Populations:</b> Introduction, Levels of organisation, Major biomes. Abiotic Factors - Temperature, Light, Water, Soil</p> <p><b>Zoology : Animal Husbandry:</b> Bee keeping, Sericulture, Aqua culture (Fisheries)</p> <p><b>Biotechnology-Principles and Processes:</b> Principles of Biotechnology, tools of recombinant DNA technology</p>
25	XII	FT-11	6-Nov-20	<p><b>Physics : Wave Optics, Dual Nature of Radiation and Matter</b></p> <p><b>Chemistry : Alcohols, Phenols and Ethers</b></p> <p><b>Botany : Organisms and Populations:</b> Response to abiotic factors, Adaptations, Population – characteristics, growth, growth models, Population Interaction</p> <p><b>Ecosystem</b></p> <p><b>Zoology : Biotechnology-Principles and Processes:</b> Separation and isolation of DNA fragments, cloning vectors, competent host, Processes of recombinant DNA technology</p>

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Sr. No.	Class	Test Name	Test Date	Test Syllabus
26	XI	FT-10	20-Nov-20	<p><b>Physics : System of Particles &amp; Rotational Motion</b></p> <p><b>Chemistry : Equilibrium:</b> The pH scale, ionisation constants of weak acids and weak bases, Relation between <math>K_a</math> and <math>K_b</math>. Di and Polybasic acid and bases, Factors affecting acid and bases - Strength, Common ion effect in the ionisation of acids and bases, Buffer solution, Salt hydrolysis and solubility product, <b>Redox Reactions</b></p> <p><b>Botany : Plant Kingdom, Transport in Plants:</b> Introduction, Means of transport, Plant water relations–water potential, osmosis, DPD, TP, Plasmolysis, imbibition, Long distance transport of water – absorption of water (apoplast pathway, symplast pathway).</p> <p><b>Zoology : Neural Control &amp; Coordination-II: Spinal cord &amp; Peripheral nervous system:</b> Cranial nerves (name, origin, distribution, nature and their functions), Spinal nerves-their branches and plexuses in detail. <b>Autonomic nervous system</b>-sympathetic and parasympathetic nervous system and their functions., <b>Reflex action:</b> Reflex arc, characteristics, types of reflexes and their examples. Detail of knee jerk reflex, importance of reflex action., <b>Sensory perception and processing: Human eye:</b> Detailed structure &amp; function, <b>Nose:</b> Olfactory receptors, its structure and mechanism/working. <b>Tongue:</b> Different types of papillae &amp; taste buds, its structure and working. <b>Different types of receptors in skin</b>-Tangoreceptor, algesireceptor, thermoreceptor, <b>Ear:</b> Detailed structure &amp; function, <b>Chemical Coordination &amp; Integration, Animal Kingdom-General Account &amp; Non chordates-I:</b> Basis of classification, Levels of organisation, Symmetry, Body-plan, Protostomous, Deuterostomous, Coelom-its types, Open/closed vascular system, Segmentation, Notochord, Broad classification of Kingdom Animalia based on common fundamental features, <b>Porifera, Cnidaria, Ctenophora, Platyhelminthes.</b></p>
27	XII	FT-12	20-Nov-20	<p><b>Physics : Atoms &amp; Nuclei</b></p> <p><b>Chemistry : Aldehydes, Ketones and Carboxylic Acids</b></p> <p><b>Botany : Biodiversity and Conservation, Environmental Issues</b></p> <p><b>Zoology : Biotechnology and its Applications</b></p>
28	XII	FT-13	11-Dec-20	<p><b>Physics : Semiconductor, Communication System</b></p> <p><b>Chemistry : Amines, Biomolecules, Polymers, Chemistry in Everyday Life</b></p> <p><b>Botany : Complete Syllabus of Class XII</b></p> <p><b>Zoology : Complete Syllabus of Class XII</b></p>
29	XI	FT-11	18-Dec-20	<p><b>Physics : Gravitation, Mechanical Properties of Solids</b></p> <p><b>Chemistry : Hydrogen, The s-Block Elements, The p-Block Elements (Group 13 &amp; 14)</b></p> <p><b>Botany : Transport in Plants(Contd.):</b> Mechanism of absorption, Ascent of sap– root pressure (including guttation), Transpiration pull , Transpiration – structure of stomata, mechanism of opening and closing of stomata, factors affecting transpiration, significance, Transpiration and photosynthesis – a compromise, Uptake and transport of mineral, Nutrients, Phloem transport–pressure flow or mass flow hypothesis, Demonstration of translocation of food by phloem by girdling experiment, <b>Mineral Nutrition</b></p> <p><b>Zoology : Animal Kingdom-General Accounts &amp; Non-chordates-II: Aschelminthes / Nematode, Annelida, Arthropoda, Mollusca, Echinodermata, Hemichordata.</b></p>

**Test Planner (FT, TE ) for PHASE-1 (2020-21)**

Sr. No.	Class	Test Name	Test Date	Test Syllabus
30	XI	FT-12	15-Jan-21	<p><b>Physics : Mechanical Properties of Fluids, Thermal Properties of Matter</b></p> <p><b>Chemistry : Organic Chemistry : Some Basic Principles &amp; Techniques:</b> Tetravalency of carbon, Structure of organic compounds, Classification of organic compounds, Nomenclature of organic compounds (excluding functional group)., IUPAC nomenclature of organic compounds including mono and bi functional groups., Isomerism : Structural isomerism including tautomerism, Stereoisomerism (Definition)., Fundamental concepts in organic reaction, Mechanism : Bond fission, Nucleophile and electrophile, Inductive and electromeric effect, Resonance effect., Hyperconjugation</p> <p><b>Botany : Photosynthesis in Higher Plants</b></p> <p><b>Zoology : Animal Kingdom-Chordates</b></p>
31	XI	FT-13	5-Feb-21	<p><b>Physics : Thermodynamics, Kinetic Theory, Oscillations, Waves</b></p> <p><b>Chemistry : Organic Chemistry : Some Basic Principles &amp; Techniques(Contd.):</b> Reaction intermediates : Carbocation, Carbanion, Carbon free radicals, Carbene, Types of organic reactions and mechanism : Substitution reactions, Addition, Elimination and rearrangement reactions, Purification of organic compounds, Qualitative analysis, Quantitative analysis, <b>Hydrocarbons, Environmental Chemistry.</b></p> <p><b>Botany : Respiration in Plants, Plant Growth and Development</b></p> <p><b>Zoology : Structural Organisation in Animals– Animal Morphology</b></p>