Phase- 01 (TYM)

Version 1.0

Test Pattern - Total no. of Qs = 60 MCQs (15 from each subject), Duration - 1 Hr.

Aakash Medical | IIT-JEE | Foundations
(Divisions of Aakash Educational Services Limited)

Two Year Medical : Planner for Fortnightly Test - 2020-2022
April & May - 2020

Test No.	Test Date	Day	Topic			
			Physics	**Chemistry**	**Botany**	**Zoology**
Fortnightly Test-01	19th April	Sunday	**Physical World, Units & Measurements:** Introduction, International system of units, Measurement of length, Mass, Time, Accuracy, Precision of instruments.	**Some Basic Concepts of Chemistry:** 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.	**Cell: The Unit of Life:** 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	**Structural organisation in Animals–Animal Tissues-I: Epithelial Tissue:** General features, basement membrane, Types of epithelial tissues-Simple., Compound epithelium, specialized epithelial tissues, glandular epithelium, Types of simple & compound glands, **Connective Tissue:** Connective tissue proper, Loose connective tissue, Dense connective tissues-characters with examples. Supportive connective tissue: Cartilage, Types of cartilage-Hyaline, Elastic, white fibrocartilage & Calcified **cartilage,** Supportive Connective Tissue: **Bone,** its structure & composition, Types of bones: Compact bone, Spongy bone, Differences between cartilage & bone: Dried bone & decalcified bone. Cartilage, Investing bone, Sesamoid bone and Visceral bone
Fortnightly Test-02	3rd May	Sunday	**Units & Measurements:** Errors in measurements, Significant figures, Dimensions of physical quantities, Dimensional formulae & dimensional equations, Dimensional analysis and its applications.	**Some Basic Concepts of Chemistry:** Mole concept, Molar mass, equivalent mass, Percentage composition, Empirical formula, Stoichiometry and Stoichiometric calculations., Calculations regarding limiting reagents.	**Cell: The Unit of Life (Contd.):** Lysosome, Vacuole; Mitochondria, Plastid. Ribosome, Cytoskeleton, Centrosome and centrioles, Cilia and flagella, Nucleus, Chromosomes, Microbodies, **Cell Cycle & Cell Division:** Introduction, Cell cycle–phases of cell cycle	**Structural organisation in Animals–Animal Tissues-II: Muscular Tissue:** Types of Muscles: Striated and non-striated/Smooth muscles (Single unit & Multiunit smooth muscles; Cardiac muscles), **Nervous Tissue:** Structure of neuron and its parts, Different types of neuron; Myelinated & Nonmyelinated neurons, Neuroglia cells-Types of glial cells, **Biomolecules-I:** Primary and secondary metabolites, Carbohydrates, Monosaccharides, Triose, Pentose, Hexose, Heptose, Derivatives of monosaccharides, Oligosaccharides, Functions of small carbohydrates, Polysaccharides-homopolysaccharides & heteropolysaccharides, storage & structural polysaccharides

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Test No.	Test Date	Day	Topic			
			Physics	Chemistry	Botany	Zoology
Fortnightly Test-03	17th May	Sunday	**Motion in a Straight Line:** Introduction, Position, Path length and displacement, Average velocity & average speed., Differential calculus, Applications of differential calculus, Instantaneous velocity & speed, Acceleration	**Some Basic Concepts of Chemistry:** Reactions in solutions : Mass percentage or weight percentage, Mole-fraction, Molarity, Molality, Normality, **Structure of Atom:** 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.	**Cell Cycle & Cell Division (Contd.):** Mitosis-definition, Karyokinesis, cytokinesis, significance, Meiosis–definition, Meiosis-I, Meiosis-II, significance of meiosis, **The living world:** Introduction, What is living?, Characteristics of living beings, Diversity in the living world, Nomenclature, Need for classification, Classification - taxonomy, Systematics	**Biomolecules-II:** 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, **Enzymes:** Importance, activation energy, chemical nature, active site, Classes of enzymes: Oxidoreductase, Transferase, Hydrolase, Lyase, Isomerase, Ligase; Properties of enzymes, Working of enzymes-Lock & Key model, Induce fit theory
Fortnightly Test-04	31st May	Sunday	**Motion in a Straight Line:** Integral calculus, Applications of Integral calculus, Graphs (slope, area etc.), Kinematic equations for uniformly accelerated motion., Motion under gravity, Relative velocity in one dimension.	**Structure of Atom:** 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, Hunds rule of maximum multiplicity, Electronic configuration of atoms, Causes of Stability of completely filled and half filled sub-shells	The living world(Contd.): Taxonomic categories, Biological concept of species, Taxonomical aids- Herbarium, , Botanical gardens, museum, zoological parks, Key, Flora, Manual, Monographs, Catalogues,	Biomolecules: Enzymes: Factors affecting the enzyme activity: substrate concentration, Km value, Product concentration, Temperature, pH; Enzyme inhibition-competitive, Non competitive, Allosteric enzymes, Isoenzymes and proenzymes