

BISHOP SCOTT BOYS' SCHOOL

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COMMON ACADEMIC PLAN-2020-21

SYLLABUS SPLIT-UP

(REVISED AS PER CBSE CIRCULAR AND NCERT ACADEMIC CALENDAR)

BISHOP SCOTT BOYS SCHOOL

COMMON ACADEMIC PLAN-SPLIT UP SYLLABUS 2020-21

CLASS : XI

SUB: ENGLISH

MONTHS	CHAPTERS' NAME	EXAMINATIONS	
JUNE	A photograph, The Portrait of a lady.		
JULY	<ul style="list-style-type: none">• We are not afraid to die.. (Hornbill)• Note making and Summarization• Comprehension format and practice on unseen passage.• The summer of the Beautiful White horse (Snapshots)• Grammar-Tenses (Different aspect and its Application through Practice)• Writing – Notice /Poster		
AUGUST	<ul style="list-style-type: none">• The Address (Snapshots)• Letter writing -Business letter• The voice of the rain- Poem (Hornbill)• Discovering Tut: the saga continues (Hornbill)• The Laburnum Top: Poem (Hornbill)		
SEPTEMBER	<ul style="list-style-type: none">• Determiners -Grammar• Landscape of the soul (Hornbill)	TERM-1 Chapters taught till August	

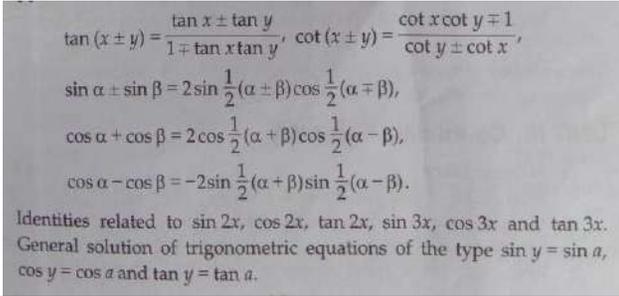
	<ul style="list-style-type: none"> • Ranga's Marriage (Snapshots) • A. S. L • Childhood -Poem (Hornbill) 		
OCTOBER	<ul style="list-style-type: none"> • Debate/Speech writing - Practice • The Ailing Planet... (Hornbill) • Albert Einstein at School (Snapshots) • A. S. L (Conduction) 		
NOVEMBER	<ul style="list-style-type: none"> • The Browning Version (Hornbill) • Mother's Day (Snapshots) • Comprehension Practice 		
DECEMBER	<ul style="list-style-type: none"> • Birth (Snapshots) • Determiners • Silk Road (Hornbill) • Reordering of sentences, Transformation of sentences 		
JANUARY	<ul style="list-style-type: none"> • Review of the taught chapter in grammar • Letter Writing -Placing order • Revision of the topics of Hornbill 		
FEBRUARY	<ul style="list-style-type: none"> • Revision of the taught chapters from snapshots • Discussion on question types 		

	<ul style="list-style-type: none">• Practice on different sections of grammar• Practice on different writing compositions.		
MARCH		TERM-2 (Full Syllabus)	

BISHOP SCOTT BOYS' SCHOOL

COMMON ACADEMIC PLAN-SYLLABUS SPLIT UP (2020-21) XI (MATHS)

Month	Split up syllabus as per CBSE allotted periods		PORTION FOR PT/ MT/AE/
JUNE	Ch 1. Sets (14) Sets and their representations. Empty set. Finite and Infinite sets. Equal sets. Subsets. Subsets of a set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets.	<p>To find the number of subsets of a given set and verify that if a set has n number of elements, then the total number of subsets is 2^n.</p> <p>To represent set theoretic operations using Venn diagrams.</p>	
JULY	Ch 2. Relations And Functions (15) Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself ($R \times R$ only). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Ch 3. Trigonometric Function (14) Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2\theta + \cos^2\theta = 1$, for all x . Signs of	<p>To identify a relation and a function</p> <p>To verify the relation between the degree measure and the radian measure of an angle.</p> <p>To find the values of sine and cosine functions in second, third and fourth</p>	PT1 Portion 1. Sets 2. Relations and functions

	<p>trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x, \sin y, \cos x$ & $\cos y$ and their simple applications. Deducing identities like the following:</p> 	<p>quadrants using their given values in first quadrant.</p>	
<p>AUGUST</p>	<p>Ch 5. Complex Numbers and Quadratic Equations(10) Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane. Statement of Fundamental Theorem of Algebra, solution of quadratic equations (with real coefficients) in the complex number system.</p> <p>Ch 6. Linear Inequality (15) Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables..</p>	<p>To interpret geometrically the meaning of $i = \sqrt{-1}$ and its integral powers.</p> <p>To obtain a quadratic function with the help of linear functions graphically</p>	

SEPTEMBER	<p>Ch 7. Permutation and combination (08) Fundamental principle of counting. Factorial n. $(n!)$ Permutations and combinations, formulae for ${}^n P_r$ and ${}^n C_r$, simple applications.</p>	To find the number of ways in which three cards can be selected from given five cards.	<p>MID TERM: Ch.- 1- Sets Ch.- 2- Relations And Functions Ch.- 3- Trigonometric Function Ch.- 5- Complex Number and Quadra Ch.- 6- Linear Inequality</p>
OCTOBER	<p>Ch 9. Sequence and Series (08) Sequence and Series. Arithmetic Progression (A. P.). Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of first n terms of a G.P., infinite G.P. and its sum, Geometric mean (G.M.), relation between A.M. and G.M.</p> <p>Ch 10. Straight line (08) Brief recall of two dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form, two-point form, intercept form and normal form. General equation of a line. Distance of a point from a line.</p>	<p>To obtain formula for the sum of squares of first n-natural numbers.</p> <p>To demonstrate that the Arithmetic mean of two different positive numbers is always greater than the Geometric mean</p> <p>To verify that the equation of a line passing through the point of intersection of two lines $a_1 x + b_1 y + c_1 = 0$ and $a_2 x + b_2 y + c_2 = 0$ is of the form $(a_1 x + b_1 y + c_1) + \lambda (a_2 x + b_2 y + c_2) = 0$.</p>	
NOVEMBER	<p>Ch 11. Conic Section (15) Sections of a cone: circles, ellipse, parabola, hyperbola. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation</p>	To construct a parabola.	

	<p>of a circle.</p> <p>.</p> <p>Ch 12. Introduction to Three-dimensional Geometry (10) Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula.</p>		
DECEMBER	<p>Ch 13. Limits and derivative (30) Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions .Definition of derivative relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.</p>		<p>PT2 portion 1 Straight lines 2 conic sections</p>
JANUARY	<p>.</p> <p>Ch 16. Statistics (11) Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped /grouped data.</p> <p>Ch 17. Probability (10) Random experiments; outcomes, sample spaces (set representation). Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Probability of an event, probability of 'not', 'and' and 'or' events.</p>	<p>To write the sample space, when a die is rolled once ,twice thrice etc.</p>	<p>Annual Exam: Ch.- 1 to 17</p>

FEBRUARY	REVISION		

COMMON ACADEMIC PLAN-SPLIT UP SYLLABUS SESSION :2020-21

Subject : Physics

Class XI

Month	Name of the Chapter with serial no	Sub Topic	No. of Periods	Activities/ Practicals as per the Chapter	Motion For PT/MT/ AE
June	Chapter -1 : Physical World	physics Scope and excitement, Laws of nature	1		
	Chapter -2 : Unit and Measurements	Units and system of units , Error and approximation , Significant figure , Dimensions and it's applications	10	Section :- A : Experiment No -1 , 2 ,3 , 4 , 5	
	Chapter -3 : Motion in a straight line	Acceleration v- t graph and equation of motion	4		
July	Chapter -4 : Motion on a Plane	Scalar and Vector quantities , Laws of Vector addition, Scalar and Vector product of two vectors , Rectangular Components of a vector.otion in a plane and projectile motion	14	Section :- A :Experiment No - 6 , 10	
	Chapter -5: Laws of Motion	Friction and laws of friction. Circular motion , Centripital acceleration and force	12	Section :- A : Experiment No - 9	
	Chapter - 6 : Work , Energy and Power	Concept of work , Energy and Power , work - Energy theorem , Conservation of Mechanical Energy , Potential energy of spring , Elastic and inelastic collision in	8		
August	Chapter -7: System.of particles and Rotational Motion	Centre of Mass , Centre of Gravity , Centre of mass of rigid body , Moment of force torque , angular momentum, law of conservation of angular momentum and it's applications , equilibrium of rigid body. moment of Inertia , Radius of gyration	10		Term -1 : Practical Exam :- Last week of August
September	Chapter -8: Gravitation	Universal law of Gravitation , Gravitational potential and potential energy , Escape velocity and orbital velocity of a satellite	12		Term-1 Exam :- Chapter :- 1 to 7
October	Chapter -9: Mechanical properties of Solids	Elasticity , Stress and strain and their types, Stress- Strain relation , Hooke's Law	6	Section :- B : Experiment No - 1 and 2	
	Chapter -10 : Mechanical properties of Fluids	Pressure due to fluid column , Pascal's Law and it's applications , Viscosity , Stoke's law , Terminal Velocity , Stream line flow turbulent flow , Critical Velocity, Bernoulli's theorem and it's applications	8	Section :- B : Experiment No - 4 and 5	
November	Chapter -11 :Thermal properties of Matter	Thermal expansion , Specific heat and latent heat , Mayer's formula , Thermal conductivity	10	Section :- B : Experiment No - 3, 6 and 7	
	Chapter-12: Thermodynamics	Thermal equilibrium, Heat , Work and Internal Energy , Zeroth Law , First Law and Second Law of thermodynamics , Thermodynamical processes , Isothermal and Adiabatic work done	12		
December	Chapter -13 : Kinetic Theory	Postulates of kinetic Theory of gases , Kinetic interpretation of Temperature , mean free path and rms speed of gas , Degree of freedom , Law of equipartition of energy	8		Periodic Test :- II
	Chapter -14 : Oscillation	Periodic Motion and Periodic Function , Simple Harmonic Motion (SHM) it's equation and applications , Energy in SHM , Free , Forced and Damped Oscillation , Resonance	13	Section :- A : Experiment No - 7 and 8	
January	Chapter -15: Waves	Wave motion and it's types , progressive wave and it's displacement relation , Superposition principle , Reflection of wave , Standing wave instring and Organ pipes , Beats and Doppler Effect	14	Section:- B : Experiment No - 8 , 9 and 10	
February		Revision			Term -2 : Exam(Chapter 1to 15)
March					

BISHOP SCOTT BOYS' SCHOOL**SPLIT UP SYLLABUS FOR THE ACADEMIC SESSION – 20-21****CLASS-XI****SUBJECT-CHEMISTRY**

S.No	MONTH	CHAPTERS (THEORY) TO BE COMPLETED	Expected No. of Days	PORTION FOR P.T./M.T./A.E.
1	JUNE	UNIT I: SOME BASIC CONCEPTS OF CHEMISTRY	07	
2	JULY	UNIT II: STRUCTURE OF ATOM AND PERIODICITY OF PROPERTIES	11	
		UNIT III: CLASSIFICATION OF ELEMENTS	6	
3	AUGUST	UNIT IV: CHEMICAL BONDING AND MOLECULAR STRUCTURE	13	
4	SEPTEMBER	UNIT V: STATES OF MATTER UNIT VI: THERMODYNAMICS	22	
	OCTOBER	UNIT VII: EQUILIBRIUM	12	
5		UNIT VIII: REDOX REACTIONS	7	
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6	NOVEMBER	UNIT XII: ORGANIC CHEMISTRY SOME BASIC PRINCIPLES AND TECHNIQUES	11	
7	DECEMBER	UNIT XII: ORGANIC CHEMISTRY- SOME BASIC PRINCIPLES AND TECHNIQUES CONTINUED... UNIT XIII: HYDROCARBONS	18	
8	JANUARY	UNIT IX: HYDROGEN UNIT X: THE s-BLOCK ELEMENTS UNIT XI: THE p-BLOCK ELEMENTS	21	
	FEBRUARY	REVISION FOR SESSION ENDING EXAMINATION		

REFERENCES-NCERT Publication,balaji publication,pradeep publication

Some Basic Concepts of Chemistry:

General Introduction: Importance and scope of chemistry.Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements,atoms and molecules.Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.

I Structure of Atom :

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's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

I Classification of Elements and Periodicity in Properties :

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,valency. Nomenclature of elements with atomic number greater than 100.

IV Chemical Bonding and Molecular structure :

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.

States of Matter: Gases and Liquids 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, Charles law, Gay Lussac's law, Avogadro's law, ideal behaviour, empirical derivation of gas equation, Avogadro's number, ideal gas equation. Deviation from ideal behaviour, liquefaction of gases, critical temperature, kinetic energy and molecular speeds (elementary idea), Liquid State- vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations)

Chemical Thermodynamics

Concepts of System and 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. Second law of Thermodynamics (brief introduction) Introduction of entropy as a state function, Gibb's energy change for spontaneous and nonspontaneous processes, criteria for equilibrium. Third law of thermodynamics (brief introduction).

Equilibrium :

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 poly basic acids, acid strength, concept of pH, Henderson Equation, hydrolysis of salts (elementary idea), buffer solution, solubility product, common ion effect (with illustrative examples).

I Redox Reactions :

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

Hydrogen :

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

S-Block Elements (Alkali and Alkaline Earth Metals) : 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.

Calcium Oxide and Calcium Carbonate and their industrial uses, biological importance of Magnesium and Calcium.

I Some p -Block Elements :General Introduction to p -Block Elements Group

13 Elements: General introduction, electronic configuration, occurrence, variation of

properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group, Boron - physical and chemical properties, some important compounds, Borax, Boric acid, Boron Hydrides,

Aluminium: Reactions with acids and alkalies, uses. Group 14 Elements:

General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous

behaviour of first elements. 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.

I Organic Chemistry -Some Basic Principles and Technique .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.

I Hydrocarbons :

Classification of Hydrocarbons Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markownikov'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 monosubstituted benzene. Carcinogenicity and toxicity.



Month	Name of the Chapter with Serial No	Sub-Topics	No. of Periods	Activities as per the Chapter	Portion for PT/MT/AE	Assignments if required
July	1. Basic Computer Organisation	<ul style="list-style-type: none"> • Basic computer organization: Computer system – I/O Devices, CPU, memory, hard disk, battery, power, transition from a calculator to a computer and further to smart devices. • Trouble shooting with parts of computer and basic operations of operating system 				<p>Project A complete solution of a problem stating the problem, objective, source code, output Students in group of 2-3 are required to work collaboratively to develop a project using Programming Skills learnt during the course. (Sample Examples can be a combination of few problems illustrated above)</p>
	2. Data Representation- Basic Concept	<ul style="list-style-type: none"> • Basic concept of Data representation: Binary, ASCII, Unicode 		Solving question based on Number System Binary Octal Decimal Hexadecimal	Half-yearly Ch-1,2,3,4,5,6	
	3. Getting Started with Python	<ul style="list-style-type: none"> • Familiarization with the basic of Python programming: a simple "hello world" program, process of writing a program, running it, and print statements; 				
August	4. Python Fundamentals	<ul style="list-style-type: none"> • Simple data-types: integer, float, string. Introduce the notion of variable, and methods to 		Creating a list of program <ul style="list-style-type: none"> • To find average and grade for given marks, • To find amount for 		



September	7. Text Handling 8. List Manipulation 9. Dictionaries	<p>(example from GST/Income Tax).</p> <ul style="list-style-type: none">• List and dictionary: finding the maximum, minimum, mean; linear search on a list of numbers, and counting the frequency of elements in a list using a dictionary.• Text handling: compare, concat, and substring operations (without using string module).• Introduction to Python modules: importing math (sqrt, ceil, floor, pow, fabs), random (random, randint, randrange), statistics (mean, median) modules.		<ul style="list-style-type: none">• To find average and grade for given marks,• To find amount for given cost-qty-discount,• To calculate cost perimeter-wise/ area-		
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October	10. Relational Databases	<ul style="list-style-type: none"> • Relational databases: Concept of a database, relations, attributes and tuples, keys - candidate key, primary key, alternate key, foreign key; Degree and 		<p>wise,</p> <ul style="list-style-type: none"> • To calculate interest (Simple and Compound) • To calculate profit-loss for given Cost and Sell Price • To calculate EMI for Amount, Period and Interest, • To calculate tax (examples from GST/Income Tax) • To find the largest and smallest numbers in a list. • To find the third largest number in a list. • To find the sum of squares of the first 100 natural numbers. • To find whether a string is a palindrome or not. • To compute x^n, for given two integers x and n, • To compute the greatest common divisor and the least common multiple of two integers. • To test if a number is equal to the sum of the cubes of its digits. Find the smallest and largest such numbers in the range of 100 to 1000. • To create a database 	Final Examination: Ch- 7,8,9,10,11, 12,13,14,15	
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November	11. Simple Queries in SQL	<p>Cardinality of a table.</p> <ul style="list-style-type: none"> • Use SQL - DDL/DML commands to CREATE TABLE, INSERT INTO TABLE <p>foreign keys; to view content of a table: SELECT-FROM-WHERE-ORDER BY</p> <p>alongwith BETWEEN, IN, LIKE. (Queries only on single table)</p>	<ul style="list-style-type: none"> • To create student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key. • To insert the details of at least 10 student in the above table. • To delete the details of a particular student in the above table. • To increase marks by 5% for those students, who have Rno more than 20 • To display the entire content of table on screen • To display Rno, Name and Marks of those students, who are scoring marks more than 50. • To find the average of marks from the student table • To find the number of students, who are from section 'A' • To add a new column email of appropriate data type • To find the minimum and maximum marks obtained by students • To modify email for each student.
December	12. Table Creation and Data Manipulation Commands	<ul style="list-style-type: none"> • Aggregate Functions : MIN , MAX, AVG, COUNT, SUM 	



	Computer Security					
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COMMON ACADEMIC PLAN- SPLIT UP SYLLABUS SESSION :20-21

Subject : BIOLOGY

Class - XI

Month	Name of the Chapter with serial no	Sub Topic	Activities/ Practicals as per the Chapter	Portion For PT/MT/ AE
	Unit- I- Diversity of living organisms			
JUNE	Ch.- 1 The living world	What is living? Biodiversity; Need for classification; three domains of life; concept of species and taxonomical hierarchy; binomial nomenclature.	Parts of a compound microscope	
JUNE	Ch-2. Biological Classification	Five kingdom classification; Salient features and classification of Monera, Protista and Fungi to major groups; Lichens, Viruses and Viroids.	Specimens/slides/models and identification with reasons - Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast,	
JUNE	Ch 3 - Plant Kingdom	Salient features and classification of plants into major groups - Algae, Bryophyta, Pteridophyta and Gymnospermae. (salient and distinguishing features and a few examples of each category).	Specimens/slides/models and identification with reasons - Spirogyra, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.	
JULY	Ch 4- Animal Kingdom	Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level (salient features and distinguishing features of a few examples of each category)	Virtual specimens/slides/models and identifying features of - Amoeba, Hydra, liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.	PT- 1 ; Ch: 1-4
JULY	Unit- II - Structural organisation in Plants & Animals. Ch- 5 Morphology of flowering plants	Morphology of inflorescence and flower, Description of 01 family: Solanaceae or Liliaceae	Study and describe a locally available common flowering plant, from any one family: Solanaceae or Liliaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams).	
JULY	Ch- 7 Structural organisation in Animals	Animal tissues.		
AUGUST	Unit III Cell; Structure & functions Ch 8- Cell - The unit of Life	Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system, endoplasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus.		
AUGUST	Ch 9 - Biomolecules	Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids; Enzymes- types, properties, enzyme action.		
AUGUST	Ch 10- Cell cycle & Cell division	Cell cycle, mitosis, meiosis and their significance		Midterm ; Ch : 1-5,7,8,9,10

SEPTEMBER		MIDTERM		
	Unit IV - Plant Physiology			
OCTOBER	Ch 13- Photosynthesis in Higher Plants	Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C3 and C4 pathways; factors affecting photosynthesis	Separation of plant pigments through paper chromatography	
October	Ch 14- Respiration in Plants	Exchange of gases; Cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle & electron transport - system(aerobic), energy relations - numbers of ATP molecules generated amphibiotic pathways; respiratory quotient.	Study of distribution of stomata in the upper and lower surfaces of leaves; Study of the rate of respiration in flower buds/leaf tissue and germinating seeds	
NOVEMBER	Ch 15- Plant - growth and Development	Growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA.		
	Unit V- Human Physiology			

NOVEMBER	Ch 17- Breathing and Exchange of gases	Respiratory organs in animals (recall only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration - asthma, emphysema, occupational respiratory disorders		PT-2 ; Ch - 13,14,15,17,18
DECEMBER	Ch 18- Body fluids and Circulation	Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure.		
DECEMBER	Ch 19- Excretory Products and their Elimination	Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system - structure and function; urine formation, osmoregulation; regulation of kidney function - renin-angiotensin, atrial natriuretic factor, ADH and diabetes insipidus; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant	Test for presence of sugar in urine. Test for presence of albumin in urine	
JANUARY	Ch 20- Locomotion and Movement	Skeletal muscle, contractile proteins and muscle contraction		
JANUARY	Ch 21- Neural control and Coordination	Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse.		
JANUARY	Ch 22- Chemical coordination and integration	Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo- and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease.		Final term ; all chapters