



INDIAN SCHOOL SALALAH
ACADEMIC YEAR 2024 – 25
MONTHLY SYLLABUS OF CLASS XI - SCIENCE



MONTH	ENGLISH	PHYSICS	CHEMISTRY	BIOLOGY	IP	CS	MATHEMATICS	PE
APRIL	The Portrait of a Lady A Photograph Note-making	BASIC MATHS UNITS AND MEASUREMENTS, MOTION IN A STRAIGHT LINE, MOTION IN A PLANE	SOME BASIC CONCEPTS OF CHEMISTRY	CHEMICAL COORDINATION AND INTEGRATION/ NEURAL CONTROL AND COORDINATION/ LOCOMOTION AND MOVEMENT	Orientation- Basic Computer Organizations, IPO -> input , output & storage units Hardware, Software, Memory - Primary and Secondary Data representation and Generation of Computers Introduction and benefits of Python Programming, Data types, variables, keywords, identifier	Basic Computer Organisation: Introduction to computer system, hardware,software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB, GB, TB, PB) "Types of software: system software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & interpreter), application software, Operating system (OS): functions of operating system, OS user interface" Introduction to problem solving: Steps for problem solving (analysing the problem, developing an algorithm, coding, testing and debugging). representation of algorithms using flow chart and pseudo code, decomposition	Sets	Meaning & importance of Wellness, Health, and Physical Fitness. Components/Dimensions of Wellness, Health, and Physical Fitness Traditional Sports & Regional Games for promoting wellness Leadership through Physical Activity and Sports Introduction to First Aid – PRICE Concept, Aims & Objectives of Physical Education Development of Physical Education in India – Post Independence
MAY	The Summer of the Beautiful White Horse We're Not Afraid to Die... if We Can ... The Laburnum Top Poster / Reading Comprehension	MOTION IN A PLANE, LAWS OF MOTION	STRUCTURE OF ATOM, CLASSIFICATION OF ELEMENTS AND PERIODICITY IN PROPERTIES	EXCRETORY PRODUCTS AND THEIR ELIMINATION/ BODY FLUIDS AND CIRCULATION/ BREATHING AND EXCHANGE OF GASES	Operators, Assignment statement Revision of Previous topics and Conditional statements Simple programs with conditional statement, Iterative statements FOR LOOP and WHILE LOOP Programs based on iterative statements	Familiarization with the basics of Python programming: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types, Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in)	Relation & Functions Trigonometric Functions Complex Numbers	Changing Trends in Sports- playing surface, wearable gear and sports equipment, technological advancements Career options in Physical Education Khelo-India Program and Fit – India Program Olympism – Concept and Olympics Values (Excellence, Friendship & Respect) Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind Ancient and Modern Olympics Olympics - Symbols, Motto, Flag, Oath, and Anthem Olympic Movement Structure - IOC, NOC, IFS, Other members Meaning and importance of Yoga Introduction to Astanga Yoga Yogic Kriyas (Shat Karma)
JULY	The Address Discovering Tut: the Saga Continues	LAWS OF MOTION	REDOX REACTIONS	PLANT GROWTH AND DEVELOPMENT/ RESPIRATION IN PLANTS	Programs based on iterative statements with conditional statement Lists: list operations - creating, initializing, traversing and manipulating lists	Expressions, statement, type conversion & input/output: precedence of operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control, Conditional statements: if, if-else, if-elif-else, flowcharts,	Complex Numbers	Pranayama and its types. Active Lifestyle and stress management through Yoga Concept of Disability and Disorder Types of Disability, its causes & nature (Intellectual disability, Physical disability).
AUGUST	Speaking Assessment Classified Adv. Mother's Day The Voice of the Rain	WORK, ENERGY AND POWER, SYSTEM OF PARTICLES AND ROTATIONAL MOTION	CHEMICAL BONDING AND MOLECULAR STRUCTURE	RESPIRATION IN PLANTS/ PHOTOSYNTHESIS IN HIGHER PLANTS/ CELL CYCLE AND CELL DIVISION	Built in functions.: len(), list(), append(), extend(), insert(), count(), find(), remove(), pop(),reverse(), sort(), sorted(), LIST continue... Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions: len(), dict(),keys(), values(), items(), get(), update(), clear(), del()	simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number Iterative statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number etc Strings: introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops,	Linear Inequalities Permutations and Combinations Binomial Theorem	Disability Etiquette Aim and objectives of Adaptive Physical Education. Role of various professionals for children with special needs (Counselor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist, and Special Educator Define Test, Measurements and Evaluation. Importance of Test, Measurements and Evaluation in Sports. Calculation of BMI, Waist – Hip Ratio, Skin fold measurement (3-site) Somato Types (Endomorphy, Mesomorphy & Ectomorphy) Measurements of health-related fitness Definition and importance of Anatomy and Physiology in Exercise and Sports. Functions of Skeletal System, Classification of Bones, and Types of Joints. Properties and Functions of Muscles.
SEPTEMBER	Speech REVISION with practice in Grammar	GRAVITATION REVISION TERM-1 EXAM	REVISION TERM-1 EXAM	BIOMOLECULES REVISION TERM-1 EXAM	Revision of LIST and DICTIONARY+Practical Questions Revision of LIST and DICTIONARY+Practical Questions	built-in functions: len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split()	Sequence and Series	4. Structure and Functions of Circulatory System and Heart. Structure and Functions of Respiratory System. REVISION

OCT.	Childhood The Adventure Reading Comprehension/Gr ammar Birth	MECHANICAL PROPERTIES OF SOLIDS, MECHANICAL PROPERTIES OF FLUIDS, THERMAL PROPERTIES OF MATTER	ORGANIC CHEMISTRY: SOME BASIC PRINCIPLES AND TECHNIQUES	CELL: THE UNIT OF LIFE/ STRUCTURAL ORGANISATION IN ANIMALS/ ANATOMY OF FLOWERING PLANTS	Data Management: RDBMS, relations, attributes and tuples, keys, degree, cardinality DDL commands-CREATE, DROP DDL commands-ALTER (Add and Remove primary key, attribute). DML commands-INSERT, UPDATE, DELETE.	Lists: introduction, indexing, list operations (concatenation, repetition, membership & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists,suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership & slicing), built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple, suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple	Straight Lines Conic Sections	Definition and Importance of Kinesiology and Biomechanics in Sports. Principles of Biomechanics Kinetics and Kinematics in Sports Types of Body Movements - Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation Axis and Planes – Concept and its application in body movements Definition & Importance of Psychology in Physical Education & Sports Developmental Characteristics at Different Stages of Development Adolescent Problems & their Management Team Cohesion and Sports Introduction to Psychological Attributes: Attention, Resilience, Mental Toughness
NOV.	Debate Silk Road Father to Son	THERMAL PROPERTIES OF MATTER, THERMODYNAMICS	HYDROCARBONS	MORPHOLOGY OF FLOWERING PLANTS/ ANIMAL KINGDOM	Data Query Commands-SELECT-FROM- WHERE, LIKE, between Data Query Commands-SELECT-FROM- BETWEEN, IN, NULL and NOT NULL PRACTICE OF -SELECT-FROM- WHERE, LIKE, BETWEEN, IN, ORDER BY	Dictionary: introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(), del(), clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy(); suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them Introduction to Python modules: Importing module using 'import ' and using from statement, Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median,mode	Conic Sections Three-dimensional Geometry Statistics	Concept and Principles of Sports Training Training Load : Over Load, Adaptation, and Recovery Warming-up & Limbering Down – Types, Method & Importance Concept of Skill, Technique, Tactics & Strategies Concept of Doping and its disadvantages REVISION
DEC.	The Tale of Melon City Note-making Practice Writing Tasks/Grammar Practice	KINETIC THEORY, OSCILLATIONS	EQUILIBRIUM	ANIMAL KINGDOM/ PLANT KINGDOM/ BIOLOGICAL CLASSIFICATION	Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive, Artificial Intelligence, experience (AR, VR) Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.	Digital Footprints, Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes, Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache), Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying. Safely accessing web sites: malware, viruses, trojans, adware, E-waste management: proper disposal of used electronic gadgets, Indian Information Technology Act (IT Act) Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth table, De Morgan's laws and logic circuits, Number system: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems., Encoding schemes: ASCII, ISCI and UNICODE (UTF8, UTF32)	Statistics Probability	REVISION
JANUARY	Revision	OSCILLATIONS, WAVES	THERMODYNAMICS	THE LIVING WORLD	Revision, record book, Practicals	Revision	Probability,Limits and Derivatives	REVISION
FEBRUARY	SECOND TERM EXAM	SECOND TERM EXAM	SECOND TERM EXAM	SECOND TERM EXAM	SECOND TERM EXAM	SECOND TERM EXAM	SECOND TERM EXAM	SECOND TERM EXAM
MARCH								