CURRICULUM OF ENGLISH

CLASS

XI

2021-2022

General Objective: To lead the learners to substantiate an understanding of the connection between writing and thinking and

demonstrate effectiveness in using verbal and non verbal language appropriate to the goal.

- Improve communication between student – student and teacher-student.

- To develop academic skills.

- To enhance the students' knowledge of subject content.

- To read literature with an appreciation for inter-relatedness of plot, character, theme and style.

- Form an appreciation for all genres of literature

	JULY **21 Days**	
PROJECTED CONTEN	**METHODOLOGY**	**LEARNING OUTCOMES**
The Portrait of a Lady [Hornbill]	The session would begin with an interactive session wherein the learners would interpret the title of the lesson. The background knowledge of the author and his works would be given. The facilitator would develop the chain of events, with TEXT sequence or discourse/spoken with reference to the educational and personal domains. Difficult words and terms would be discussed. The prose will be explained. All possible questions and answers would be discussed and assigned. Enriching Vocabulary: veritable bedlam of chirruping, frivolous rebukes, serenity, seclusion with resignation, sagging skins of dilapidated drum.	They would develop their optimistic attitude towards life amidst many struggles. Will be able to develop an attitude to become more independent in thought and action, responsible and cooperative, understanding and tolerance, improved working relations respect for identities in relation to other people.
Poetry: **A Photograph [Hornbill]**	Pre-reading activity would be the first step wherein the students would delve deep into the title of the poem and make an interpretation of the title as it indicates the subject and theme.(student- teacher	the students would be able to grasp the theme and meaning of the poem. They would be able to read the poem with proper tone and

	interaction) They would compare the previous lesson The Portrait of a Lady with the title of the poem. The background of the poet would be discussed. The poem would be read aloud with proper intonation rhyme and rhythm. Difficult terms and words would be explained so that the students can predict the atmosphere of the world inside the poem. The poem would be explained covering the phrases, sentences and discourse as well as their structuring. Silent reading of the poem by the students within five minutes and listing the difficult terms. The figures of speech and rhyme scheme would be discussed. WORD JOURNEY: paddling, transient, perennial, labored ease, wry, snapshot.	rhyme and develop an interest in poetry. Their vocabulary would be strengthened. They would be able to draw a comparative study between human life and nature. They would be able to study a photograph
	August **22 Days**	
The Summer of the Beautiful White Horse [Snapshots]	The session would begin with an interactive phase wherein the learners would interpret the title of the story. The background of the author would be given. The story would be read aloud. The theme and underlying meaning would be discussed. Difficult words would be listed and explained. The moral of the story would be discussed. Vocabulary Enrichment: magnificence, wealthiest, pious, stillness, humor, irrigation ditches, crazy streak, enormous, capricious, vagrant.	The learners would be able to apply the literal, interpretative and critical level in analyzing a short story. They would be able to determine the tone of a short story. They would be able to comprehend the irony hidden in the story.
GRAMMAR: Determiners.	The session would be started with an audio-visual song of determiners. Quiz on determiners would be conducted. The learners would be asked to arrive at the rules. (Inductive method)	The learners would be able to identify determiners and use them appropriately The comprehending skills would be improved.

	The purpose and functions of the different types of determiners would be discussed with examples	Sentence construction skills would be strengthened.
WRITING SKILLS: Notice Writing	Warm up session: Learners would share their knowledge on the importance of a notice(Student- Teacher interaction) The Learners would be asked to speak about a notice they received and they remember still. The teacher would explain what a notice is and its purpose. The standard format of notice writing would be shown in the class. The teacher would discuss in detail what a notice should contain. The wide range of themes and objectives covered by notice would be discussed with examples Special note on- 5 W's What Where When Who Whom	Students will be able to analyze any NOTICE shown to them on the basis of the knowledge imparted. They will be able to frame notice about any event. They will be able to identify important information in any given notice. Students will be able to use appropriate style and format to write a NOTICE effectively.
We're Not Afraid to Die [Hornbill]	The session would start with an interactive session wherein the students would interpret the titles of the lessons. The background of the author would be given. The theme and story line would be explained	The learners would be able to enhance their problem solving skills. They would be able to inculcate the values of determination and will power. Their Reading skills would be developed.
The Address [Snapshots]	The teacher would develop the format in sequence or discourse spoken with reference to the ethical/global and personal domains. Vocabulary Enrichment: Honing the seafaring skills, pinpricks in the vast ocean, ominous silence, a tousled head. Forensic reconstruction, scudded across, casket grey, resurrection, funerary treasures, circumvented, computed tomography, eerie detail.	The learners would be able to enhance their problem solving skills. They would be able to inculcate the values of determination and will power. Their Reading skills would be developed.

WRITING SKILLS: **Article Writing**	The session would start with a pre-writing activity to create an interest towards writing. The teacher would define what an article is and discuss the purpose of article writing. The different styles, subjects, purpose of article writing would be discussed. The teacher would explain the technique of accumulating ideas, focusing on ideas and facts, planning, organizing, evaluating, structuring and editing. They would be taught the importance and way of producing a finished piece of work with examples. The requirements of the content, beginning, body and end would be focused.	The students would develop an interest towards writing. Their planning and organizing techniques would be enhanced. They would be able to research on any subject and derive information from facts and present him in the form of a written piece. Their creative writing would be analyzed. The interpreting and evaluative skills would be strengthened.
GRAMMAR: **Clauses**	The teacher would start with the warm up session asking the students to frame sentences highlighting the difference between the subject and the predicate. The definitions of a phrase and clause would be given with examples. The difference between a phrase and a clause would be established. The dependent and independent clauses and phrases would be explained. Power Point presentations explaining phrases and clauses would be displayed.	The students would be able to identify clauses and phrases and establish the difference between the two. -the creative skills would be enhanced. - Students would develop team spirit and learn the art of coordination and cooperation.
READING SKILLS: **Note Making**	In the beginning of the session, a text would be provided to the students to read and involve in note making to test previous knowledge. The facilitator would train the students to read a text minutely, or listen carefully to select, analyze and summarize the main points. Ways of making notes would be discussed: Annotation, outline notes,	The learners would be able to differentiate between annotation, outline notes, column notes, mind maps and summary notes from a text. They would be able to use the note taking suggestions to develop good notes based on classroom discussions.

	column notes, mind maps and summary notes.	
	September **14 days**	
Discovering Tut **[Hornbill]**	Pre- reading Activity: The session would start with an interaction on the ways you think we could help prevent the extinction of languages and dialects. The title of the prose would be open for class interpretation. The facilitator would develop the format of text in sequence or discourse (spoken with reference to the ethical/global, public and personal domains of social and personal life.	The students would be able to grasp the theme and meaning of the prose. Their critical and creative thinking skills would be enhanced. They would be able to derive the moral values. They will be ready to accept the reality of life. Their vocabulary would be enriched. They would enhance their writing skills.
Ranga's **Marriage [Snapshots]**	The session would begin with an interactive stage wherein the students would discuss on 'the on the role of English in a man's life' on basis of the theme of the story.	The students would be able to effectively provide a synopsis of the story. They will be able to analyze the values and thought process of the story. Positive values and attitudes would be inculcated in the students. They would be able to appreciate the language, content and style of the prose. Vocabulary would be enriched. Their Listening skills would be enhanced.
WRITING **SKILLS** **Report Writing** **Letter to the** **Editor**	The format, rules, technique would be discussed with examples. The usage of language would be taught and students would be assigned written tasks.	The learners would be able to organize their thoughts and express freely. They would develop an interest towards writing thus enhancing their writing skills. Their thinking skills would be enhanced.
GRAMMAR: **Sentence** **Reordering**	The session would begin with few sentences read out by the teacher and written on the	They will be able to participate in the class discussion actively.

	interactive board. (Brain boosters) The teacher would wait for the students' responses to know whether they are able to point the errors. The teacher discusses the errors and comes to the rules. (inductive Learning)	They will be able to identify errors and frame grammatically correct sentences.
	REVISION FOR SA I	
	Term II	
	October **21 Days**	
POETRY: **The Voice of the Rain [Hornbill]**	The teacher would play a snippet of the he sound of rain and the learners would infer ideas and involve in an interactive session. The title of the poem would be open for class interpretation. The knowledge background of the poet would be given. The poem would be read aloud with proper stress and intonation. The teacher would discuss the theme, poetic devices and structure and rhyme. Word Journey.	The students would be able to grasp the theme and meaning of the poem. They would be able to read the poem with proper tone and rhyme and develop an interest in poetry. Their vocabulary would be strengthened. They would be able to draw a comparative study between human life and nature.
Albert Einstein at School [Snapshots]	The teacher shows a video clipping and asks students to recognize and name the personality seen in the clipping. The teacher introduces Albert Einstein and opens the title for class interaction. The prose would be read aloud and discussed. Vocabulary Enrichment.	The students would be able to express their understanding through discussions. They would skim and scan the words according to their meaning. They would enhance their reading as well as writing skills.
	November **20 Days**	
The Ailing Planet-The Green Movement's Role [Hornbill]	The session would begin with a video clipping showing the plight of our planet. The title of the lesson would be related to the video by the students in the class interaction phase. The background knowledge of the author would be given. The prose would be explained. Difficult words would be listed and explained. The moral of the story would be discussed.	The Learners would be able to sensitize themselves towards the earth and environment. They would inculcate the values of Leadership and contribute to make our Earth green.

Mother's Day [Snapshots]	The session would begin with an interaction on my mother's daily lessons. The title of the lesson would be open for class interpretation. The background of the author would be given. The lesson would be read aloud and discussed. Difficult words would be listed out and discussed.	The learners would be able to develop their basic skills of language. They would develop their reading skills and listening skills They would be able to comprehend the role of a mother and inculcate values of respect and obedience.
Poster Making	The teacher will acquire and display several different posters from various sources. Some examples may include: Movie posters, Community events, Advertisements Campaign signs, Billboard pictures, Full-page newspaper ads. Learners will brainstorm the purpose of posters. (Student- Teacher Interaction) Some responses may include: To get people's attention To get people to do something To give people information. The teacher would discuss and demonstrate the presentation stage, consolidation stage and the closing stage.	Comprehend an effective Poster making as a tool of Visual Communication. Focus on the message to be delivered. Keep the sequence well ordered. Use graphs and images effectively. Plan and organize a poster presentation. Use spacing, margins, colors, and layout to maximize effectiveness and list information about their invention.
	December **25 Days**	
The Browning Version [Hornbill]	The session would start with an interaction on the title of the lesson. The title of the lesson would be open for class interpretation. The background of the author would be given. The lesson would be read aloud and discussed. Difficult words would be listed out and discussed. The synopsis would be shown with the help of a PPT.	The learners will be able to stimulate language development and increase the students' ability to write spontaneously. They would be able to respond to a personal dilemma. Their vocabulary would be enriched. The analytical skills would be enhanced.
Childhood [Hornbill]	The session would start with	The learners will be

	an interaction on the title of the lesson. The title of the lesson would be open for class interpretation. The background of the author would be given. The lesson would be read aloud and discussed. Difficult words would be listed out and discussed. The synopsis would be shown with the help of a PPT.	able to stimulate language development and increase the students' ability to write spontaneously. They would be able to respond to a personal dilemma. Their vocabulary would be enriched. The analytical skills would be enhanced.
	2022 **January** **16 Days**	
Father to Son [Hornbill]	The session would start with an interaction on interpreting the title of the prose and the poem. The title of the topic would be open for class interpretation. The background of the author would be given. The lesson would be read aloud and discussed. Difficult words would be listed out and discussed. The synopsis would be shown with the help of a PPT.	To facilitate making connections between similar situations in different storylines/life experiences. To help learners distinguish different perspectives; analyzing them; drawing conclusion/s. The learners would unfold their logical thinking skills.
Birth [Snapshots]	The session would start with an interaction on interpreting the title of the prose and the poem. The title of the topic would be open for class interpretation. The background of the author would be given. The lesson would be read aloud and discussed. Difficult words would be listed out and discussed. The synopsis would be shown with the help of a PPT.	To facilitate making connections between similar situations in different storylines/life experiences. To help learners distinguish different perspectives; analyzing them; drawing conclusion/s. The learners would unfold their logical thinking skills.
GRAMMAR **Active/Passive Voice**	Warm-up: The teacher writes two sentences on the board: 1. People speak Japanese in Japan. 2. Shakespeare wrote Romeo and Juliet. The students are asked to present another way to say the two sentences.	The students would be able to identify and comprehend the use of active and passive voice. They would be able to convert active voice into passive and passive to active. The analyzing skills would be improved.

	The rules are derived (Inductive Method) The session would continue with a play delivering dialogues wherein the students would be asked to speak about the dialogues and the characters using passive voice (to test prior knowledge). The rules of usage and conversion would be explained with examples. The purpose of using active and passive voice would be discussed. Written and oral practice would follow. The usage of Passive voice in writing newspaper report, headlines and notices would be discussed.	They would be able to express themselves and deliver information in a grammatically and mechanically correct form.
	February	
The Tale of Melon City [Snapshots]	The title of the poem would be open for class interaction. The knowledge background of the poet would be given. The poem would be read aloud with proper intonation rhyme and rhythm. Difficult terms and words would be explained so that the students can predict the atmosphere of the world inside the poem. The poem would be explained covering the phrases, sentences and discourse as well as their structuring. Silent reading of the poem by the students within five minutes and listing the difficult terms. The figure of speech and rhyme scheme would be discussed. Questions and answers would be discussed.	The students would be able to grasp the theme and meaning of the poem. They would be able to read the poem with proper tone and rhyme and develop an interest in poetry. They would raise their concern and sensitize themselves for establishing inner as well as outer peace.
	REVISION FOR SUMMATIVE ASSESSMENT II	

CURRICULUM (041) : 2021-22

SUBJECT : MATHEMATICS

CLASS : XI

Objectives :

The aims of teaching and learning mathematics are to encourage and enable students to:

- To acquire knowledge and critical understanding, particularly by way of a motivation and visualization, of basic concepts, terms, principles, symbolsand mastery of underlying processes and skills.
- To feel the flow of reasons while proving a result and solving a problem.
- To apply the knowledge and skills acquired to solve problems and whereber possible, by more than one method.
- To develop positive attitude to think, analyze and articulate logically.
- To develop interest in the subject by participating in related competetions.
- To acquaint students with different aspects of Mathematics in daily life.
- To develop an interest in students to study Mathematics as a discipline.
- To develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics.

Month: JULY **No. of working days:25**

Chapter	Methodology	Learning Outcomes
UNIT – 1 Chapter 1 Sets	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Sets and their representations, Empty set Finite and Infinito 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 Difference of sets. Complement of a set. Properties of complement.

UNIT-1 Chapter 2 Relations and Functions	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	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 (upto R x R x R). Definition of relation pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation Pictonal 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. Sum difference product and quotients of functions
UNIT-1 Chapter 3 Trigonometric Functions	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	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 sin2x cos2x = 1, for all x. Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing sin (x ± y) and cos (x ± y) in terms of sinx, siny. cosx & cosy and their simple applications. Deducing identities like the following: tan(x ± y) = tan x ± tan y/(1 $\mp$ tanxtany), cot (x + y) = cotxcoty $\mp 1/(\text{coty} \pm \text{cotx})$ sina±sinb= $2\sin\frac{1}{2}(a \pm b)\cos\frac{1}{2}(a \mp b)$ cosa + cosb = $2\cos\frac{1}{2}(a + b)\cos\frac{1}{2}(a - b)$ cosa-cosb = $-2\sin\frac{1}{2}(a+b)\sin\frac{1}{2}(a-b)$ Identities related to sin2x. cos2x, tan2 x sin3x cos3x and tan3x General solution of trigonometric equations of the type siny sina, cosy cosa and tany= tana

Month: AUGUST No. of working days:22

Chapter	Methodology	Learning Outcomes
UNIT – 2 Chapter 4 Principle Of Mathematical Induction	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Process of the proof by Induction, motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers. The principle of mathematical induction and simple applications.

UNIT- 2 Chapter 5 Complex Numbers and Quadratic equations	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quardratic equations. Algebraic properties of complex numbers Argand plane and polar representation of complex numbers Statement of Fundamental Theorem of Algebra, solution of quadratic equations (with real coefficients) in the complex number system. Square root of a complex number

Month: SEPTEMBER No. of working days: 14

Chapter	Methodology	Learning Outcomes
UNIT – 2 Chapter 6 Linear Inequalities	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	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.
UNIT- 2 Chapter 7 Permutaions and combinations	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Fundamental principle of counting. Factorial n. (n!) Permutations and combinations, derivation of Formulae for nPr, and nCr, and their connections, simple applications.

Month: OCTOBER No. of working days: 21

Chapter	Methodology	Learning Outcomes
UNIT – 2 Chapter 8 Binomial Theorem	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Historical perspective, statement and proof of the binomial theorem for positive integral indices Pascal's triangle, General and middle term in binomial expansion, simple applications
UNIT- 2 Chapter 9 Sequence and Series	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Sequence and Series. Arithmetic Progression (AP) Arithmetic Mean (AM) Geometric Progression (GP), general term of a GP sum of n terms of a G.P. infinite G.P and its sum, geometric mean (GM), relation between A.M. and G.M. Formulae for the following special sums : $\sum_{k=1}^{n} k,\ \sum_{k=1}^{n} k^2\ ,\ \sum_{k=1}^{n} k^3$

Month: NOVEMBER No. of working days: 20

Chapter	Methodology	Learning Outcomes
UNIT – 3 Chapter 10 Straight Lines	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Brief recall of two dimensional geometry from earlier classes. Shifting of origin. 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 Equation of family of lines passing through the point of intersection of two lines. Distance of a point from a line.
UNIT- 3 Chapter 11 Conic Sections	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section Standard equations and simple properties of parabola, ellipse and hyperbola Standard equation of a circle.

Month: DECEMBER No. of working days:25

Chapter	Methodology	Learning Outcomes
UNIT – 3 Chapter 12 Introduction to three-dimensional geometry	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula
UNIT- 4 Chapter 13 Limits and Derivatives	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Derivative introduced as rate of change both as that of distance function and geometrically, butive sdea of imit. Limits of polynomials and rational functions trigonometric, exponential and kogarthmic functions. Definition of derivative relate it to scope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.
UNIT- 5 Chapter 14 Mathematical Reasoning	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Mathematically acceptable statements Connocting words/ phrases consolidating the understanding of "if and only if (necessary and sufficient) condition", "implies". "and/or", "implied by", "and", "or" "there exists" and their use through variety of examples related to real life and Atathematics. Validating the statements involving the connecting words, difference among contradiction, converse and contrapositive.

Month: JANUARY **No. of working days: 16**

Chapter	Methodology	Learning Outcomes
UNIT – 6 Chapter 15 Statistics	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Measures of Dispersion: Range. Moan deviation, variance and standard deviation of ungrouped/grouped data. Analysis of frequency distributions with equal means but different variances.
UNIT- 6 Chapter 16 Probability	Chalk-blackboard method Link previous knowledge with new concepts Vidoes	Random experiments; outcomes, sample spaces (set representation). Events, occurrence o events, not, and and or events, exhaustive events, mutually exclusive events, Axiomatic (se theoretic) probability, connections with other theories of earlier classes. Probability of an event probability of ‘not’, ‘and’ and ‘or’ events,

CURRICULAM: 2021-22

SUBJRCT- PHYSICS

CLASS-XI

Learning objectives:

1. Strengthen the concepts developed at the secondary stage to provide frim foundation for further learning in the subject.
2. Expose the learner to different processes used in physics related industrial and technological application.
3. Develop process skills and experimental, observational, manipulative, decision making and investigatory skills in the learners.
4. Develop conceptual competence in learners and make and appreciate the interface of physics with other disciplines.

Month: July

No of working days: 25

Chapter	Methodology	Learning outcome
Unit-1 : physical world and measurement Unit-2 : kinematics	Lecture method/interactive/demonstration	• Would able to understand scope of physics, nature of physics laws and observe relation of physics to society • Would able to understand necessity of measurement , units , systems of unit. • Would able to determine dimension of physical quantity and analyse dimension and its application. • Would able to distinguish between accuracy and precession of measuring instrument. • Would able to understand the error and distinguish between error and mistakes and analyse combination of error. • Understand the meaning of significant figures and able to do mathematical operation with significant figure.

		• Would able to draw position-time and velocity-time graph and able to understand their significance. • Would able to understand elementary concepts of differentiation and integration for disturbing motion. • Would able to understand the difference between uniform and non uniform motion. • Would able to determine instaneous and average speed and acceleration. • Would able to derive relations for uniformly accelerated motion. • Would able to develop problem solving skills on these concept/topics.

Month : Agust

No .Working days : 22

Chapter	Methodology	Learning outcome
Unit-2 : kinematics Unit-3 : laws of motion	Lecture/interactive/demonstration/PPT	• Would able to differentiate between scalar and vector quantity. • Would able to distinguish between displacement vector and position vector. • Would able to understand the representation of vector, multiplication, addition and subtraction. (triangle law of vector/parallelogram law of vector addition.) • Would able to define unit vector and resolve of vector plane, rectangular components. • Would able to find scalar and cross product and

		observe the difference between them. • Would able to define the projectile, understand the projectile motion, its trajectory and able to calculate the various parameter like maximum height, time of flight, horizontal range. • Would able to understand uniform circular motion and calculate centripetal acceleration. • Would able to understand the concept of force, inertia, linear momentum impulse and netwon's laws of motion. • Would able to understand the conservation of linear momentum and its application. • Would able to understand the equilibrium of concurrent forces. • Would able to distinguish between static, limiting and kinematic friction. • Would able to understand motion on a level circular road and vehicle on banked road. • Would able to develop problem solving skills on these concept/topics.

Month : September

No. of working days : 14

Chapter	Methodology	Learning outcome
Unit-4 : work energy and power	Lecture/interactive/PPT	• Would able to determine the work done by constant/variable force. • Would able to distinguish between the

		kinetic and potential energy and derive the work-energy theorm. • Would able to distinguish between the energy and power. • Would able to derive the potential energy stored in spring. • Would able to distinguish between the conservative and non conservative forces. • Would able to understand and interpret motion in vertical circle. • Would able to understand different kinds of collosion in one/two dimensions. • Would able to develop problem solving skills on these concept/topics.

Month : October

No. of working days : 21

Chapter	Methodology	Learning outcome
Unit-5 : motion of system of particle and rigid body Unit-6 : gravitation	Lecture/interactive/demonstration	• Would able to understand the center of mass of two particle system, momentum conservation, center of mass motion, center of mass of rigid body and center of mass of uniform rod. • Would able to understand the concept of torque and angular momentum and able to establish relation between them. • Would able to understand equilibrium of rigid bodies, equation of rotational motion. • Would able to understand the moment of inertia and its significance and

		determine moment of inertia of rigid body of different shape. • Able to state thermo of parallel/perpendicular axes. • Would able to compare between rotational and translation motion. • Would able to state newton law of gravitation and kepler laws of planetry motion. • Would able to understand the acceleration due to gravity and its variation with attitude/depth. • Would able to distinguish between gravitational potential energy and gravitational potential. • Would able to determine the expression for escape velocity , orbital velocity, time period of satellite. • Would able to understand the geostationary satellite and their application. • Would able to develop problem solving skills on these concept/topics.

Month : November

No. of working days : 20

Chapter	Methodology	Learning outcome
Unit-7 : properties of bulk matter	Lecture/interactive/demonstration	• Would able to understand the elastic behavior of solids, stress-strain relationship , hooks law. • Would able to define youngs modulus, bulk modulus, modulus of rigidity and poission ratio. • Would able to calculate the elastic energy.

		• Would able to define pressure. • Would able to state passcal laws and its application. • Would able to define viscosity, stokes law, terminal velocity. • Would able to distinguish between the laminar flow, stream flow and turbulent flow. • Would able to state bernualls theorm and its application. • Would able to define surface tension, surface energy, angle of contact. • Would able to calculate the excess pressure inside liquid drop/ soap bubble. • Would able to understand capillary and its action. • Would able to distinguish between heat and temperature. • Would able to understand the thermal expansion of solid, liquid and gases, anomalous expansion of water. • Would able to define specific heat capacity, C_P and C_V. • Would able to understand the principle of claorimetery and latent heat capacity. • Would able to understand the transfer of heat though conduction, convention and radiation. • Woulds able to understand the concept of black body, wien displacement law and stefans law and green house effect.

		• Would able to develop problem solving skills on these concept/topics.

Month : December

No. of working days : 25

Chapter	Methodology	Learning outcome
Unit- 8 : thermo dynamics Unit-9 : kinetic theory of gases Unit- 10 : oscillation and waves	Lecture/interactive/PPT/methodology	• Would able to understand the concept of thermal equilibrium and define zeroth law of thermodyanmics. • Would able to distinguish between the heat, wave and initernal energy. • Would able to state first law of thermo dynamics, second law of thermo dynamics and understand their significance. • Would able to distinguish between the isothermal and adiabatic process, reversible and irreversible process. • Would able to understand the working of heat engine and refrigeration. • Would able to understand equation of perfect gas, assumption of kinetic theory of gases. • Would able to establish the expression for pressure exerted on wall of container by gas. • Would able to understand kinetic interpretation of temperature, rms speed of gas. • Would able to define the degree of freedom, law of equipartion of energy and apply it to calculate specific heat of gases. • Would able to understand the concept of mean free path,

		Avogadro number. • Would able to distinguish between the periodic motion, oscillatory motion and simple harmonic motion. • Would able to distinguish between periodic function harmonic function and able to find time period. • Would able to understand the concept of amplitude, frequency, time period, displacement and phase. • Would able to understand the oscillations of loaded spring. • Would able to determine KE, PE AND TE of particle executing • Would able to derive expression for time period of simple pendulum. • Would able to distinguish between free, forced, damped oscillation and resonance. • Would able to develop problem solving skills on these concept/topics.

Month : January

No. of working days : 16

Chapter	Methodology	Learning outcome
Unit-10 : oscillation and waves	Lecture/interactive/PPT	• Would able to understand concept of wave motion. • Would able to distinguish between the transverse and longitudinal waves. • Would able to find speed of travelling waves. • Would able to distinguish between progressive wave and

		standing wave. • Would able to understand the formation of standing wave in string and organ pipes, fundamental modes and harmonics. • Would able to understand concept of beat and Doppler effect and able to find apparent frequency. • Would able to develop problem solving skills on these concept/topics.

CURRICULUM 2021-2022

Chemistry

Class Xl

OBJECTIVES

1 Promote understanding of basic facts and concepts of chemistry

2 Make students capable of studying chemistry in academic and professional courses

3 Expose the students to various emerging new areas of chemistry and apprise them with their relevance in future studies

4 Equip students to face various challenges related to health ,nutrition ,environment,population ,weather, industries and Agriculture

5 Develop problem solving skills in students

6 Apprise students with the interface of chemistry with other disciplines of science such as Physics, Biology, engineering geology and mathematics

7 Acquaint students with different aspects of chemistry and its use in daily life

8 Develop an interest in students to study chemistry as a discipline

9 Integrate life skills and values in context of chemistry

Month July
No. of days 25

Chapter	Methodology	Learning outcomes
Some basic concepts of chemistry Practical	Lecture method Group discussio Crystallization of	Students will be able to ● Understand and appreciate the role of chemistry in different spheres of life ● Explain the characteristics of three States of matter ● Classify different substances into elements compounds and mixtures ● Define SI base units and list some commonly used prefixes ● Differentiate between accuracy and precision ● Convert physical quantities from one System of units to another ● Explain various laws of chemical combination ● Appreciate significance of atomic mass average atomic mass molecular mass and

	copper sulphate	formula mass ● Define the term mole and solve numericals on mole concept ● Determine empirical formula and molecular formula for a compound from the given experimental data ● Perform the stoichoimetric calculations
Structure of atom Practical	Lecture method Demonstration Group discussion Neutralization titration Oxalic acid and Sodium hydroxide	Students will be able to ● Know about the discovery of electron proton and neutron and their characteristics ● Describe Thomson Rutherford and Bohr's atomic models ● Understand the important features of the quantum mechanical model of atom ● Understand nature of electromagnetic radiation and Planck's Quantum theory ● Explain the photoelectric effect and describe features of atomic spectra ● State the De Broglie relation and Heisenberg Uncertainty Principle ● Define atomic orbital in terms of quantum numbers ● StateAufbau's principle, Pauli's exclusion principle and Hund's rule of maximum multiplicity ● Write the electronic configuration of atoms
Classification of elements and periodicity in properties	Lecture method Group discussion Art integrated learning Activity based learning	Students will be able to ● Appreciate how the concept of grouping elements in accordance to their properties lead to the development of periodic table ● Understand the periodic law ● Understand the significance of atomic number and electronic configuration as the basis of periodic classification ● Name the elements with atomic number greater than hundred according to IUPAC Nomenclature ● Classify the elements into s ,p, d and f blocks and learn their main characteristics ● Recognise the periodic trends in physical and chemical properties of elements ● Use scientific vocabulary appropriately to communicate ideas related to certain important properties of elements for example atomic radii, ionic radii ,ionization enthalpy, electron gain enthalpy, electronegativity and valence of elements

Month August

No. Of days 22

Chapter	Methodology	Learning outcomes
Chemical bonding and molecular structure	Lecture method Group discussion Three dimensional models	Students will be able to ● Understand kossel Lewis approach to chemical bonding ● Explain the octet rule and its limitations draw Lewis structures of simple molecules ● Explain the formation of different types of bonds ● Describe the VSEPR theory and predict the geometry of simple molecules ● Explain the valence bond approach for the formation of covalent bonds ● Predict the directional properties of covalent bonds ● Explain the different types of hybridization involving s p and d orbitals and draw shapes of simple covalent molecules ● Describe the molecular orbital theory of Homonuclear diatomic molecules ● Explain the concept of hydrogen bonding
States of matter Practical	Lecture method Group discussion Demonstration Salt analysis	Students will be able to ● Explain the existence of different states of matter in terms of balance between intermolecular forces and thermal energy of particles ● Explain the laws governing behaviour of ideal gases ● Apply gas laws in various real life situations ● Explain the behaviour of real gases ● Describe the conditions required for liquefaction of gases ● Differentiate between gaseous state and vapours ● Explain properties of liquids in terms of intermolecular interactions ● Explain surface tension and viscosity
Thermodynamics	Lecture method Group discussion	Students will be able to ● Explain the term system and surroundings ● Differentiate between open closed and isolated systems ● Explain internal energy work and heat ● State first law of Thermodynamics and Express

		its mathematical formulation ● Explain state functions like internal energy and enthalpy ● Correlate between change in internal energy and change in enthalpy ● Measure experimentally internal energy change and enthalpy change ● Calculate enthalpy change for various type of reactions ● State and apply Hess's law of constant heat summation ● Differentiate between extensive and intensive variables ● Define spontaneous and nonspontaneous processes ● Explain entropy is a thermodynamic state function and applied for spontaneity of a process ● Explain Gibbs energy change

Month September

No. of days 14

Chapter	Methodology	Learning outcomes
Environmental Chemistry	Peer teaching PowerPoint presentation Project report	Students will be able to ● Understand the meaning of Environmental Chemistry ● Define atmospheric pollution explain reasons for global warming ,greenhouse effect and acid rain ● Identify causes of ozone layer depletion and its effects ● Give reasons for water pollution and know about international standards for drinking water ● Describe causes of soil pollution ● Suggest Strategies for control of environmental pollution ● Appreciate the importance of Green chemistry in day to day life
Half yearly exams	Doubt clearing session / revision work	

Month October

No.of days 21

Chapter	Methodology	Learning outcomes
Organic chemistry some basic principles and techniques Practical	Lecture method Group discussion Mind maps Salt analysis	Students will be able to ● Understand reasons for tetravalency of carbon and shapes of organic molecules ● Write structure of organic molecules in various ways ● Classify the organic compounds ● Name the compounds according to IUPAC system of nomenclature and also derive their structures from the given names ● Understand the concepts of Organic reaction mechanism ● Explain the influence of electronic displacement on structure and reactivity of organic compounds ● Recognise types of organic reactions ● Learn the techniques of purification of organic compounds ● Write the chemical reactions involved in the qualitative analysis of organic compounds ● Understand the principles involved in quantitative analysis of organic compounds
Hydrocarbons	Lecture method Group discussion 2D and 3 D models	Students will be able to ● Name hydrocarbons according to IUPAC system of nomenclature ● Recognise and write structures of isomers of alkanes ,alkenes, alkynes and aromatic hydrocarbon ● Learn about various methods of preparation of hydrocarbons ● Distinguish between alkanes alkenes alkynes and aromatic Hydrocarbons on the basis of physical and chemical properties ● Draw and differentiate between various conformations of Ethane ● Appreciate the role of Hydrocarbons as a source of energy and for other industrial applications ● Predict the formation of addition products of unsymmetrical alkene and alkynes on the basis of mechanism ● Comprehend the structure of benzene explain aromaticity and understand mechanism of electrophilic substitution reactions of benzene

		● Predict the directive influence of substituents in monosubstituted benzene ring ● Learn about carcinogenicity and toxicity
Redox reactions	Lecture method Group discussion	Students will be able to ● Identify a Redox reaction as a class of reactions in which oxidation and reduction reactions occur simultaneously ● Define the terms oxidation reduction oxidant and reductant ● Explain the mechanism of redox reaction by electron transfer process ● Use the concept of oxidation number to identify oxidant and reductant in a reaction ● Classify the redox reactions into combination ,decomposition, displacement and disproportionation reaction ● Balance chemical equations using oxidation number method and half reaction method ● Learn the concept of redox reactions in terms of electrode processes

Month November

No. of days 20

Chapter	Methodology	Learning outcomes
Hydrogen Practical	Lecture method Group discussion Question answer technique Salt analysis	Students will be able to ● Present informed opinion on the position of hydrogen in the periodic table ● Identify the modes of occurrence and preparation of dihydrogen on small and commercial scales and describe various isotopes of Hydrogen ● Explain how different elements combine with hydrogen to form ionic ,molecular and non stoichiomertic compounds ● Understand the structure of water and use the knowledge for explaining physical and chemical properties ● Differentiate between hard and soft water and learn about water softening ● Acquire the knowledge about heavy water and its importance ● Understand the structure of hydrogen peroxide learn its preparation methods and properties leading to manufacture of useful chemical and cleaning of environment ● Understand hydrogen economy

The s block elements	Lecture method Group discussion Question answer technique	Students will be able to ● Describe the general characteristics of alkali metals and their compounds ● Explain the general characteristics of alkaline earth metals and their compounds ● Describe the manufacture properties and uses of industrially important Sodium and Calcium compounds including cement ● Appreciate the biological significance of Sodium Potassium magnesium and Calcium

Month December

No. of days 25

Chapter	Methodology	Learning outcomes
The p block elements	Lecture method question answer technique	Students will be able to ● Appreciate the general trends in the chemistry of p block elements ● Describe the trends in physical and chemical properties of group 13 and 14 elements ● Explain anamolous behaviour of Boron and carbon ● Describe allotropic forms of carbon ● Know the chemistry of some important compounds of Boron ,carbon and silicon ● Describe uses of group 13 and 14 elements and their compounds
Equilibrium Practicals	Lecture method Group discussion pH determination Common ion effect	Students will be able to ● Identify the dynamic nature of equilibrium involved in physical and chemical processes ● State Law of equilibrium ● Explain characteristics of equilibrium involved in physical and chemical processes ● Write expression for equilibrium constant ● Establish the relationship between equilibrium constant Kp and Kc ● Explain various factors that affect the equilibrium state of a reaction ● Classify substances acids and bases according to arrhenius bronsted lowry and Lewis concept ● Classify acid and bases as weak or strong in terms of the ionization constant ● Describe pH scale in expressing concentration of hydrogen ions ● Explain ionization of water

		● Understand solubility product and ionic product ● Appreciate the importance of common Ion effect in qualitative analysis ● Appreciate the uses of buffer solution

Month January

No. Of days 16

Revision work and doubt clearing sessions

Month February

No. of days 15

Practice test

Practicals

CURRICULUM 2021-22

SUBJECT- BIOLOGY

CLASS- XI

LEARNING OBJECTIVES-

1- Define basic biological concepts and processes.

2- Describe levels of organization and related functions in plants and animals.

3- Describe the intricate relationship between various cellular structures and their corresponding functions.

4- Demonstrate critical thinking skills.

MONTH	TOPIC	SUB-TOPIC	METHODOLOGY	ASSESSMENT /ACTIVITIES	LEARNING OUTCOMES
JULY 25 DAYS	DIVERSITY IN THE LIVING WORLD	The living world	• Demonstration and Lecture method • Pupil centered method (inside the class)	To prepare a herbarium	Students will understand the basis of classification and its applications
		Biological classification	• Demonstration and Lecture method • Pupil centered method (inside the class)	To prepare a chart showing diversity in organisms	Basis of classification and itsvarious attributes
		Plant kingdom	• Demonstration and Lecture method • Pupil centered method (inside the class)	To prepare a chart work on contrasting featires ofthallophyta, bryophyta and pteridophyta.	Structure of various lower plants, their evolution with respect to modern day plants
		Animal kingdom	• Demonstration and Lecture method • Pupil centered method (inside the class)	Lab activities to demonstrate the variouscontrasting features of various organisms on thebasis of the specimens Provided	Contrasting features of various phylum and their comparative study.

MONTH	TOPIC	SUB-TOPIC	METHODOLOGY	ASSESSMENT /ACTIVITIES	LEARNING OUTCOMES
AUGUST 22 DAYS	CELL: STRUCTU READ AND FUNCTIO N	Cell , the unitof living	• Pupil centered method (inside the class)	Study of fluid mosaicmodel of plasma membrane	Learning of various cell organelles and their role
		Biomolecules	• Demonstration and Lecture method	Demonstration of variousstructure of proteins.	Learning of all the important components of cell
		Cell cycle andcell division	• Pupil centered method (inside the class)	to show the various phases of mitosis and meiosis	Importance of various phasesof cell division.
	STRUCTURA L ORGANISAT ION IN PLANTS AND ANIMALS	Morphology offlowering plants	• Demonstration and Lecture method	To study the modifications of , stemand root and their applications	Learning of various parts of aplant and their importance and modifications
SEPTEMBER 14 DAYS		Anatomy of flowering plants.	• Pupil centered method (inside the class)	To study the structure ofmonocot and dicot root and stem	Basis understanding of all thetissues and their role.
		Structural Organisation inanimals	• Demonstration and Lecture method	To make a project on various types of animaltissues	Various types of tissues and their role

MONTH	TOPIC	SUB-TOPIC	METHODOLOGY	ASSESSMENT / ACTIVITIES	LEARNING OUTCOMES
OCTOBER 21 DAYS	PLANT PHYSIOLOGY	Transport in plants	• Demonstration and Lecture method • Pupil centered method (inside the class)	To demonstrate a theorybased on movement of food in plants	Study of various types ofmovement in plants.
		Mineral Nutrition	• Demonstration and Lecture method	To make a chart on various deficiency diseases in plants	Learning of essential elements and the or role, concept of nitrogen fixationin plants
		Photosynthesis in higher plants	• Pupil centered method (inside the class)	To make a chart showing differences between light and dark reactions	Concept of photosynthesis and its applications
NOVEMBER 20 DAYS		Respiration in plants	• Demonstration and Lecture method	To make a chart showing events occurring in glycolysis .	Learning of respiration and its uses in various attribut es.
		Plant growth and development	• Pupil centered method (inside the class)	To demonstrate variousroles of various plant hormones	Role of plant hormones andits applications

MONTH	TOPIC	SUB-TOPIC	• Demonstration and Lecture method	ASSESS MENT / ACTIVIT IES	LEARNING OUTCOMES
DECEMBER 25 DAYS	HUMAN PHYSIOLOGY	Digestion and absorption	• Pupil centered method (inside the class)	To prepare a chart showing the mode ofdigestion	Mechanism of digestionwill be understood
		Breathing and exchange of gases	• Demonstration and Lecture method	To calculate the total lung capacity in an organism	Mechanism of breathing will be understood
		Body fluids and circulation	• Pupil centered method (inside the class)	To calculate the pulse rate and breathing rate	Various mechanism of circulation will be studied.
		Excretory product and their elimination	• Demonstration and Lecture method	To make a chart showing urine formation	Concept of functioning of kidney will be studied

DECEMBER	TOPIC	SUB-TOPIC	METHODOLOGY	ASSESSMENT / ACTIVITIES	LEARNING OUTCOMES
		Locomotion and movement	• Pupil centered method (inside the class)	To demonstrate varioustypes of bones.	Study of human skeletalsystem and its disorders associated to it.
		Neural control and co ordination	• Demonstration and Lecture method	To study the various partsof human brain via different models	Learning of various parts of brain and its co ordination with various parts of the body.
JANUARY 16 DAYS		Chemical co ordination andits integration	• Pupil centered method (inside the class)	To show the various modes of action of hormones graphically	Action of various hormonesand their impact on body.
FEB/MARCH **Exams**					

DAV PUBLIC SCHOOL BRIJ VIHAR

Curriculum Economics 2021-22

Class-11

Learning Objectives:

Understanding of the most basic economic concepts and development of economic reasoning which the learners can apply in the day to day life as citizens, workers and consumers.

Realisation of learners' role in nation building and sensitivity to the economic issues that the nation is facing today.

Equipment with basic tools of economics and statistics to analyse economic issues This is pertinent for even those who may not pursue this course beyond senior secondary stage.

Development of understanding that there can be more than one view on any economic issue and necessary skills to argue logically and with reasoning.

JULY 21

TOPIC	METHODOLOGY	LEARNING OUTCOMES
INTRODUCTION	Taking examples explain what The subject matter of economics is all about. To make students understand how economics is linked with the study of economic activities in consumption	Enables the students to understand the relationship between economics and statistics. They will be able to establish the importance of statistics in economic activities.

	production and distribution. Discuss in class how knowledge of statistics can help in describing consumption production and distribution. Taking in examples and relating it to how some uses of statistics helps in the understanding of economic activities.	 Students can relate the statistics with the process of consumption production and distribution. They will be able to chalk out how statistics is related to economics , business planning ,economic planning etc.
COLLECTION ,ORGANISATION OF DATA	Explaining the meaning and purpose of data collection. By taking examples, distinguishing between primary and secondary sources of data. To discuss the mode of collection of data and hence differentiate between sample and census surveys. Discussing the various techniques of sampling Explaining difference between quantitative and qualitative classification. Preparing a frequency distribution table by showing on black board Numerical example will be taken to get students familiar with the	Students will be able to understand the purpose of collection of the data. They will be able to give examples to differentiate between primary and secondary data. Students will understand how to collect the data for statistical study. They will be able to know the techniques of sampling. Chalk out the important sources of secondary data. Enable the students to differentiate between quantitative and qualitative classification. The students will be able to prepare a frequency

	method of tally marking. Taking numerical eg the difference between univariate and bivariate frequency distribution will be explained.	distribution table. They will also be able to formulate the bivariate and univariate frequency distribution table.

AUGUST'21:

TOPIC	METHODOLOGY	LEARNING OUTCOMES
PRESENTATION OF DATA	A flowchart of various different types of presentations will be explained. The example of tables will be taken and the eg will be discussed in the class on the blackboard. The flowchart of different types of diagrams used in statistical analysis will be discussed Examples of each diagram presentation will be taken on the blackboard and the students will be asked to draw the diagram accordingly	Enable the students to chalk out various types of presentations. They will be able to draw tables.. Students will be able to Construct a frequency distribution classes and will be able to calculate the tally. Enable the students to draw bivariate and univariate tables.
MEASURES OF CENTRAL TENDENCY	Explaining the students need for one single number summarising the whole set of data	Understand the meaning of averages.

	Taking examples and explaining how to recognise and distinguish between different types of Averages. Explain the students how meaningful conclusions can be drawn from set of data. Various numerical examples will be taken to explain how to calculate Average in different types of series.	Students will be able to explain how a single number represents the whole set of data. Enable the students to find out averages numerically in different types of series. They will be able to differentiate between different types of averages.

SEPTEMBER'21

TOPIC	METHODOLOGY	LEARNING OUTCOMES
MEASURES OF DISPERSION	Introducing the topic by explaining the limitations of averages Explaining them various measures of dispersion By taking examples of dispersion explaining numerically how to measure dispersion	Enable the students to understand the need to study dispersion Differentiate between various measures of dispersion Enable them to numerically calculate dispersion

	Explain absolute and relative dispersion	Distinguish between absolute and relative dispersion
CORRELATION	Explain the meaning of correlation using examples By taking examples explaining the relationship between two variables By infographics explaining scatter diagram By taking numerical example explaining how to measure correlation by different methods Through infographics analyse the degree and direction of the relationship between the variables	Enable the students to understand the meaning of correlation Enable them to establish relationship between the variables Students will be able to tell correlation through scatter diagram Enable them to calculate coeff of correlation and tell the degree of correlation between them

OCTOBER''21

TOPIC	METHODOLOGY	LEARNING OUTCOMES
INDEX NUMBERS	Explain the meaning of index numbers	Enable the students to define index numbers

	Taking examples of few index numbers and asking students to tell about them Taking numerical examples to explain calculating and measuring index numbers Discussing usage of index numbers in Economy	They will give examples of some index numbers and where they are used Enable them to calculate various index numbers numerically
MICRO ECONOMICS (PART2) CENTRAL PROBLEMS AND PPC	Taking Examples explain the concept of Micro and Macro Economics Taking various situations explaining the concept of positive and normative economics Asking students about various problems faced by every economy and thus relating to central problems of an economy Explaining PPC by examples and schedule and diagram and thus asking students about result of functioning of the economy below on	Enable the students to differentiate between micro and macro economics Students will be able to give examples of positive and normative economics Explain the problems of What to produce How to produce For whom to produce In various economic systems Will be able to draw the PPCand will be able to point out the production taking place at underemployment ,full employment and

	and above the PPC	over utilisation of resources on the PPC Enable them to mark the slope and define slope of PPC

CONSUMER'S EQUILIBRIUM	Taking day to day examples introduce concept of utility	Differentiate between different types of utility
	Using schedule and blackboard with help of diagram explain relationship between TU and MU	Enable the students to calculate TU and MU
	Using concept of MU explaining the law of diminishing marginal utility	They will be able to calculate TU and MU
	Taking real life examples explaining the concept of consumers equilibrium	Enable them to establish the relationship between TU and MU
	Using MU approach Both 1 commodity case and 2 commodity case	Students will be able to tell the conditions for consumers equilibrium for 1 and 2 commodity case
	Taking numerical examples to explain how consumer attains equilibrium in 1 and 2 commodity case	Enable them to numerically calculate consumers equilibrium in 1 and 2 commodity case

NOVEMBER 21

TOPIC	METHODOLOGY	LEARNING OUTCOMES
CONSUMER'S EQUILIBRIUM- INDIFFERENCE CURVE APPROACH	Starting the chapter with budget and asking questions on budget from students. Explaining the meaning of budget set ,budget constraint, budget line Explaining them about preferences and how preferences have to play an important role in finding out consumers equilibrium with indifference approach Using numerical values to construct budget line and indifference curve using black board Showing the students on the black board how consumer's equilibrium is calculated with the help of budget line and indifference curve Explaining them the conditions of consumer's equilibrium	Enable students to define budget line ,budget set , budget equation Student will be able to tell the importance of consumers preference and budget line in finding out consumers equilibrium Construct the diagram showing consumer's equilibrium in indifference analysis Chalk out the conditions for consumers equilibrium in indifference analysis Construct the diagram showing consumers equilibrium in indifference analysis

	and why it is so with the help of diagram	
DEMAND	Meaning of Demand will be introduced by taking examples Various factors affecting demand will be taken up using examples to explain their impact on Demand Using black board schedule will be used to explain the concept of demand schedule and demand curve (individual and market) Law of demand will be explained using demand schedule Using diagrams on black board concept of change in Demand and change in Quantity Demanded will be taught	Enable students to differentiate between desire and Demand Chalk out the factors which affect Demand Differentiate between normal and inferior goods substitute and complementary goods Draw the demand schedule and the demand curve Give reasons for the downward slope the demand curve Differentiate between change in demand and change in quantity demand using diagram
ELASTICITY OF DEMAND (Ed) PRICE ELASTICITY OF DEMAND	Asking students questions on how much change in demand takes place as a result of change in price	Define Ed and chalk out the factors affecting Ed Students will be able to tell degree of Ed of various goods

	Relating this discussion with Ed ,concept of Ed will be explained in class	
	Various examples will be given to the students and asked about there Ed	Students will be able to tell the values of various degrees of Ed
	Various degrees of Ed will be explained with the help of diagram explaining concept of slope of Ed also with it	Enable students to calculate price Ed and interpret the result of Ed
	Various egs of numericals will be taken up on the black board to explain how to measure Ed	Enable students to draw the slope of various degrees of Ed

DECEMBER21

PRODUCTION FUNCTION AND RETURNS TO A FACTOR	Explaining the meaning of production function	Define production function
	Taking factors affecting production and asking students how it affects production	Establish relationship between TPP and MPPusing diagram
	Taking examples of production schedule to explain the concept of TPP,MPP, APPDraw the diagram of TPP,MPP APP and explain the	Draw curves of TPP, MPPand APP

	relationship between TPP, MPPandAPP	
	Law of production will be explained using schedule of TPPand MPP	Enable the students to chalk out various phases of law of variable proportions
	Taking numerical example explaining how to calculate TPP and MPP	They will be able to calculate MPP, APPand TPP
CONCEPT OF COST AND REVENUE	Concept of cost and revenue will be taken up by using live examples and cost and revenue schedules will be used supported by curves to explain the concept of cost and revenue	Enable the students to define cost and revenue
		Differentiate between various cost concepts
		Establish relationship between TC,MC,AC using curves
		Draw TR,MR and AR curves and understand the relationship between them

TOPIC	METHODOLOGY	LEARNING OUTCOMES
PRODUCERS EQUILIBRIUM	Asking questions from students regarding where the producer	Enable the students to define producer''s equilibrium

	would like to produce and hence introduce the topic of Producers equilibrium	
PRODUCERS EQUILIBRIUM USING MP AND MC APPROACH	Taking example of perfect competition market schedule students will be asked to draw diagram Using diagram producer equilibrium will be explained using MR and MC approach	Enable the students to draw diagram of producers equilibrium Students will be able to tell why MP=MC is the point of producers equilibrium
SUPPLY	Meaning of Supply will be introduced by taking examples Various factors affecting supply will be taken up using examples to explain their impact on supply Using black board schedule will be used to explain the concept of supply schedule and supply curve (individual and market) Law of supply will be explained using supply schedule	Enable students to differentiate between stock and supply Chalk out the factors which affect supply Differentiate between normal and inferior goods substitute and complementary goods Draw the supply schedule and the supply curve Give reasons for the

	Using diagrams on black board concept of change in supply and change in Quantity supplied will be taught	upward slope the supply curve Differentiate between change in supply and change in quantity supply using diagram
ELASTICITY OF SUPPLY (Es)	Asking students questions on how much change in supply takes place as a result of change in price Relating this discussion with Es,concept of Es will be explained in class Various examples will be given to the students and asked about their Es Various degrees of Es will be explained with the help of diagram explaining concept of slope of Es also with it Various egs of numericals will be taken up on the black board to explain how to measure Es	Define Es and chalk out the factors affecting Es Students will be able to tell degree of Es of various goods Students will be able to tell the values of various degrees of Es Enable students to calculate price Es and interpret the result of Es Enable students to draw the slope of various degrees of Es Enable the students to calculate Es

JANUARY 22

TOPIC	METHODOLOGY	LEARNING OUTCOMES
VARIOUS MARKET FORMS: PERFECT COMP MONOPOLY IMPERFECT COMP OLIGOPOLY	Asking questions from students about various markets and thus introducing the various market forms on the basis of competition Discussing meaning of various market forms and explaining the implications of the features Using diagram explaining how prices are determined and slope of the demand curve in various markets Asking students to differentiate between various markets by making a tabular presentation	Define market on the basis of competition in the market Chalk out the features of various market competition Draw am of the diagrams of how prices are determined in various market forms Enable the students to differentiate between various market forms
EQUILIBRIUM PRICE	Taking concept of Demand Supply explaining how prices will be determined by DD and SS Drawing diagram on black board explain how equilibrium price is determined	Students will be able to show with the help of diagram how equilibrium price and quantity Enable them to draw diagram showing effect of changes in DD and SS on equilibrium price and quantity

	Using diagrams explaining how with the change in DD and SS equilibrium price and quantity will be affected Explaining the concept of Excess and Deficient DDwith the help of examples and diagram	Students will be able to chalk out the steps taken by the government in the situation of excess and deficient DD Draw the curves showing situation of excess and deficient DD

NOTE: Project work will be done during the year by integrating Art from the curriculum.

Revision work will be done before every assessment.

Curriculum 2021-22

Subject: Accountancy

Class: XI

Learning Objectives

1.To familiarize students with new and emerging areas in the preparation and presentation of financial statements.

2. To acquaint students with basic accounting concepts and accounting standards.

3. To develop the skills of designing need-based accounting database.

4. To appreciate the role of ICT in business operations.

5. To develop an understanding about recording of business transactions and preparation of financial statements.

6. To enable students with accounting for Not-for-Profit organizations, accounting for Partnership Firms and company accounts

Month & No. of working Days: July, 25 Days

To acquaint students with basic accounting concepts and accounting standards.

Chapter	Methodology	Learning
Part-A Unit-1: Theoretical Framework	Mind Maps & Story telling	**After going through this Unit, the students will be able to:** • describe the meaning, significance, objectives, advantages and limitations of accounting in the modem economic environment with varied types of business and non-business economic entities. • identify / recognise the individual(s) and entities that use accounting information for serving their needs of decision making. • explain the various terms used in accounting and differentiate between different related terms like current and non-current, capital and revenue. • give examples of terms like business transaction, liabilities, assets, expenditure and

		purchases. • explain that sales/purchases include both cash and credit sales/purchases relating to the accounting year. • differentiate among income, profits and gains. • state the meaning of fundamental accounting assumptions and their relevance in accounting. • describe the meaning of accounting assumptions and the situation in which an assumption is applied during the accounting process. • explain the meaning and objectives of accounting standards. • appreciate that various accounting standards developed nationally and globally are in practice for bringing parity in the accounting treatment of different items. • acknowledge the fact that recording of accounting transactions follows double entry system. • explain the bases of recording accounting transaction and to appreciate that accrual basis is a better basis for depicting the correct financial position of an enterprise. • Understand the need of IFRS • Explain the meaning, objective and characteristic of GST.

Month & No. of working Days: August, September & October, 57 Days

Chapter	Methodology	Learning
Part-A Unit-2: Accounting Process	Mind Maps, Story Telling & Role play	**After going through this Unit, the students will be able to**: • explain the concept of accounting equation and appreciate that every transaction affect either both the sides of the equation or a positive effect on one item and a negative effect on another item on the same side of

		accounting equation. • explain the effect of a transaction (increase or decrease) on the assets, liabilities, capital, revenue and expenses. • appreciate that on the basis of source documents, accounting vouchers are prepared for recording transaction in the books of accounts. • develop the understanding of recording of transactions in journal and the skill of calculating GST. • explain the purpose of maintaining a Cash Book and develop the skill of preparing the format of different types of cash books and the method of recording cash transactions in Cash book. • describe the method of recording transactions other than cash transactions as per their nature in different subsidiary books . • appreciate that at times bank balance as indicated by cash book is different from the bank balance as shown by the pass book / bank statement and to reconcile both the balances, bank reconciliation statement is prepared. • develop understanding of preparing bank reconciliation statement. • appreciate that for ascertaining the position of individual accounts, transactions are posted from subsidiary books and journal proper into the concerned accounts in the ledger and develop the skill of ledger posting. • explain the necessity of providing depreciation and develop the skill of using different methods for computing depreciation. • understand the accounting treatment of providing

		depreciation directly to the concerned asset account or by creating provision for depreciation account. • appreciate the method of asset disposal through the concerned asset account or by preparing asset disposal account. • appreciate the need for creating reserves and also making provisions for events which may belong to the current year but may happen in next year. • appreciate the difference between reserve and reserve fund. • acquire the knowledge of using bills of exchange and promissory notes for financing business transactions; • understand the meaning and distinctive features of these instruments and develop the skills of their preparation. • state the meaning of different terms used in bills of exchange and their implication in accounting. • explain the method of recording of bill transactions. • state the need and objectives of preparing trial balance and develop the skill of preparing trial balance. • appreciate that errors may be committed during the process of accounting. • understand the meaning of different types of errors and their effect on trial balance. • develop the skill of identification and location of errors and their rectification and preparation of suspense account.

Month & No. of working Days: November & December, 45 Days

Chapter	Methodology	Learning
Part-B Unit 3: Financial Statements of Sole Proprietorship	Mind maps Story telling Role Play	**After going through this Unit, the students will be able to:** • state the meaning of financial statements the • purpose of preparing financial statements. • state the meaning of gross profit, operating profit and net profit and develop the skill of preparing trading and profit and loss account. • explain the need for preparing balance sheet. • understand the technique of grouping and marshalling of assets and liabilities. • appreciate that there may be certain items other than those shown in trial balance which may need adjustments while preparing financial statements. • develop the understanding and skill to do adjustments for items and their presentation in financial statements like depreciation, closing stock, provisions, abnormal loss etc. • develop the skill of preparation of trading and profit and loss account and balance sheet. • state the meaning of incomplete records and their uses and limitations. • develop the understanding and skill of computation of profit / loss using the statement of affairs method.

Month & No. of working Days: January, (16 Days)

Chapter	Methodology	Learning
Part-B Unit 4: Computers in Accounting	Mind maps	**After going through this Unit, the students will be able to:** • state the meaning of a computer, describe its components, capabilities and limitations. • state the meaning of accounting information system • appreciate the need for use of computers in accounting for

		preparing accounting reports. • develop the understanding of comparing the manual and computerized accounting process and appreciate the advantages and limitations of automation. • understand the different kinds of accounting software.
Revision		

Curriculum 2021-22

Subject: Business Studies

Class: XI

Learning Objectives

1. To inculcate business attitude and develop skills among students to pursue higher education, world of work including self-employment.
2. To develop students with an understanding of the processes of business and its environment;
3. To acquaint students with the dynamic nature and inter-dependent aspects of business;
4. To develop an interest in the theory and practice of business, trade and industry;
5. To familiarize students with theoretical foundations of the process of organizing and managing the operations of a business firm;
6. To help students appreciate the economic and social significance of business activity and the social cost and benefits arising there from;
7. To acquaint students with the practice of managing the operations and resources of business;
8. To enable students to act more effectively and responsibly as consumers, employers, employees and citizens

Month & No. of working Days: July, 25 Days

Chapter	Methodology	Learning
Part-A Unit-1 Evolution and Fundamentals of Business	Mind Maps, storytelling, Case studies & Role Play	**After going through this Unit, the students will be able to:** •To acquaint the History of Trade and Commerce in India •Understand the meaning of business with special reference to economic and non-economic activities. • Discuss the characteristics of business. • Understand the concept of business, profession and employment. • Differentiate between business, profession and employment • Appreciate the economic and social objectives of business. • Examine the role of profit in business • Understand the broad categories of business activities- industry and commerce • Describe the various types of industries. • Discuss the meaning of

		commerce, trade and auxiliaries to trade. • Discuss the meaning of different types of trade and auxiliaries to trade. • Examine the role of commerce trade and auxiliaries to trade • Understand the concept of risk as a special characteristic of business. • Examine the nature and causes of business risks.
Unit-2 Forms of Business organizations	Mind Maps, storytelling, Case studies & Role Play	• List the different forms of business organizations and understand their meaning. • Identify and explain the concept, merits and limitations of Sole Proprietorship • Identify and explain the concept, merits and limitations of a Partnership firm. • Understand the types of partnership based on duration and on the basis of liability. • State the need for registration of a partnership firm. • Discuss types of partners – active, sleeping, secret, nominal and partner by estoppel • Understand the concept of Hindu Undivided Family Business • Identify and explain the concept, merits and limitations of Cooperative Societies. • Understand the concept of consumers, producers, marketing, farmers, credit and housing cooperatives. • Identify and explain the concept, merits and limitations of private and public companies. • Understand the meaning of one person company. • Distinguish between a private company and a public company • Highlight the stages in the formation of a company.

		• Discuss the important documents used in the various stages in the formation of a company. • Distinguish between the various forms of business organizations. • Explain the factors that influence the choice of a suitable form of business organization.

Month & No. of working Days: August, 22 Days

Chapter	Methodology	Learning
Part-A Unit-3- Public, Private and Global Enterprises	Mind Maps, storytelling & Role Play	**After going through this Unit, the students will be able to:** • Develop an understanding of Public sector and private sector enterprises • Identify and explain the features, merits and limitations of different forms of public sector enterprises • Develop an understanding of Global Enterprises, joint ventures and public private partnership by studying their meaning and features.
Unit 4: Business Services	Mind Maps, storytelling & Role Play	• Understand the meaning and types of business services. • Discuss the meaning and types of Business service Banking • Develop an understanding of difference types of bank account • Develop an understanding of the different services provided by banks • Recall the concept of insurance • Understand Utmost Good Faith, Insurable Interest, Indemnity, Contribution, Doctrine of Subrogation and Causa Proxima as principles of insurance • Discuss the meaning of different types of insurance- life, health, fire, marine insurance. • Understand the utility of different telecom services

Month & No. of working Days: September, 14 Days

Chapter	Methodology	Learning
Part-A Unit 5: Emerging Modes of Business	Mind Maps, storytelling & Role Play	**After going through this Unit, the students will be able to:** • Give the meaning of e-business. • Discuss the scope of e-business. • Appreciate the benefits of e-business • Distinguish e-business from traditional business. • Understand the concept of outsourcing. • Examine the scope of outsourcing, appreciate the need of outsourcing. • Discuss the meaning of Business Process Outsourcing and Knowledge Process Outsourcing
Unit 6: Social Responsibility of Business and Business Ethics	Mind Maps & Role Play	• State the concept of social responsibility. • Examine the case for social responsibility • Identify the social responsibility towards different interest groups. • Appreciate the role of business in environment protection • State the concept of business ethics. • Describe the elements of business ethics

Month & No. of working Days: October, 21 Days

Chapter	Methodology	Learning
Part-B Unit 7: Sources of Business Finance	Mind Maps, storytelling & Role-play	**After going through this Unit, the students will be able to:** • State the meaning, nature and importance of business finance • Classify the various sources of funds into owners' funds. • State the meaning of owners' funds. • Understand the meaning of Global Depository receipts, American Depository Receipts and International Depository Receipts • State the meaning of

		borrowed funds. • Discuss the concept of debentures, bonds, loans from financial institutions and commercial banks, Trade credit and inter corporate deposits. • Distinguish between owners' funds and borrowed funds
Unit 8: Small Business and Enterprises	Mind Maps, storytelling & Role-play	• Understand the concept of Entrepreneurship Development (ED), Intellectual Property Rights • Understand the meaning of small business • Discuss the role of small business in India • Appreciate the various Government schemes and agencies for development of small scale industries. NSIC and DIC with special reference to rural, backward area.

Month & No. of working Days: November, 20 Days

Chapter	Methodology	Learning
Part-B Unit 9: Internal Trade	Mind Maps, storytelling	**After going through this Unit, the students will be able to:** • State the meaning and types of internal trade. • Appreciate the services of wholesalers and retailers • Explain the different types of retail trade • Highlight the distinctive features of departmental stores, chain stores and mail order business. • Understand the concept of GST
Unit 10: International Trade	Mind Maps, storytelling	• Understand the concept of international trade. • Describe the scope of international trade to the nation and business firms • State the meaning and objectives of export trade. • Explain the important steps involved in executing export trade • State the meaning and objectives of import trade. • Discuss the important steps

		involved in executing import trade • Develop an understanding of the various documents used in international trade. • Identify the specimen of the various documents used in international trade. • Highlight the importance of the documents needed in connection with international trade transactions • State the meaning of World Trade Organization. • Discuss the objectives of World Trade Organization in promoting international trade

Month & No. of working Days: December & January, 40 Days

- Revision

CURRICULUM 2021-22

Subject- Physical Education

Class- XI

Learning Objectives-

1. Creating new knowledge
2. Developing feelings and emotions
3. Enhancing physical and mental skills

Months (and Number of days) - July to November (143 days)

July to August (47 days)

S No.	Chapter	Methodology	Learning Outcomes
1	Changing trends and career in Physical education	• Lecture method • Chalk & Board • Instructional method • Discussion method	Career opportunities in Physical education.
2	Olympic value education	• Lecture method • Discussion method	Building a better world through sports.
3	Physical fitness, wellness and lifestyle	• Lecture method • Discussion method	Activity is the basis of life.

September to October (35 days)

S No.	Chapter	Methodology	Learning Outcomes
4	Physical Education and sports for CWSN (Children with special needs)	• Lecture method • Instructional method • Discussion method	Role of various professionals for children with special needs.
5	Yoga	• Lecture method • Discussion method	Yoga for different lifestyle diseases.
6	Physical activity and leadership training	• Lecture method	Creating leaders through physical education.
7	Test, measurement and evaluation	• Lecture method • Discussion method	Importance of test, measurement and evaluation in sports.

November to December (45 days)

S No.	Chapter	Methodology	Learning Outcomes
8	Fundamentals of Anatomy, Physiology and Kinesiology in sports	• Lecture method • Demonstration method	Effect of sports on structure and functions of different parts of the body.
9	Psychology and sports	• Lecture method • Discussion method	Importance of Psychology in Physical Education and sports.
10	Training and doping in sports	• Lecture method • Instructional method	Meaning and concept of sports training and doping, in sports.

Subject: Music Vocal Class: XI

Learning Objectives:-

1) Learn Vocal Music
2) Short and Long Definitions in Hindi and English

CONTENT	METHODOLOGY	LEARNING OUTCOME
July:- 28 Periods; Brief study of the following definitions: Nada, Shruti, Swar, Saptak. Introduction of Raga Bhairvi. PRACTICAL:- Raga Bhairvi, Drut Khayal and One Devotional Song	Lecture Method and Practice of some questions. Memorizing the Ragas	Students learned short definitions. Developing singing skills.
August:- 22 Periods; Brief study of Dhrupad and life sketch of Ustad Tansen. PRACTICAL:- Teen Taal with hand beats and one Folk song.	Lecture Method. Write complete descriptions and their importance.	Students came to know the importance of these books. Developing rythematic sense.
September:- 14 Periods; Detail definitions of the follows. Margi-Desi, Raga, Swarmilika. Introduction of Raga Johnpuri. PRACTICAL:- Raga Johnpuri, Drut Khayal, Ektaal with hand beats.	Lecture Method. Laykari – Thah, Dugun and Chaugun.	Students collected their photographs and learned how to improve classical music. Developing the sense of Sur and Taal.

October:- 21 Periods; Brief study of Gharana and Life Sketch of Pt. Bhatkhande PRACTICAL:- Chau Taal with Hand Beats and one tribal song	Lecture Method. Students wrote life sketch of the vocalists and their work. Learned Taal with hand beats.	Students collected their photographs and learned how to improve classical music. Developing the sense of Taal Beats.
November:- 20 Periods; Introduction of Raga Bhimplasi and the knowledge of the structure of Taanpura. Life Sketch of Pt. Paluskar. PRACTICAL:- Raga Bhimplasi and Drut Khayal and recognizing the Ragas	Lecture and Demo Method.	Students learned the basic knowledge of Classical Music by Taanpura.
December:- 25 Periods; Brief History of Khayal and Tarana. Detail study of Natya Shastra. PRACTICAL:- One Drupad, Layakri with Dugun and Chaugun. National Anthem.	Lecture and Demo Method.	Students will be able to recognize the Raagas and their Swar.

Curriculum – 2021-2022

SUB- FINE ARTS

CLASS- 11TH

LEARNING OBJECTIVES -

- The objective of including the history of Indian arts for the student is to familiarize them with the various styles and modes of art expressions from different parts of India. This would enrich their vision and enable them to appreciate and develop an aesthetic sensibility to enjoy the beauty of nature and life. The students will also have an opportunity to observe and study the evolution of its mutations and synthesis with other style an altogether new style. The students should be made aware of art as human experience. The teacher should be able to expose them to the wide range of artistic impressions, the media, the tool used. The history of Indian art is a long one. Hence the students will be acquainted with brief glimpses of the development Indian visual arts as are required for concept formation.
- The purpose of introducing practical exercises is to help and enable the students to develop the skills using drawing and painting material, to sharpen their observation skills, to express the different feelings and moods of life and nature in lines.

June-July

Topic	***learning Methodology***	***Learning Outcome***
Pre historic rock paintings Art of indus valley civilization	The introduction will be given in the class and definition of art will be discussed with their elements and principles.	Students will get to know the difference between the paintings, frescos, miniature paintings, sculptures and graphics.

	PRACTICAL	
Basic shaped and objects	Step by step objects will be drawn in the class with shading.	The students will get to know that all the objects have a particular shape and change into any form
	August- September **Theory**	
Mauryan art, Shunga Art, Kushana Art and Gupta period	Comparison will be made between these periods by showing the pictures and different sculptures.	The students will learn the heritage and culture of India
	PRACTICAL	
Different types of flowers, leaves and tress will be done in the class.	Step by step sketching will be done and oil pastels will be introduced in the class	To create love for the environment.
	October- November	
	THEORY	
Indian temple sculptures Indian bronzes Indo-Islamic architecture	The picture will be shown in the class.	To familiarize the students with various aspects of culture and heritage of India.
	PRACTICAL	
Animals, Birds and landscape.	Step by step sketching will be shown in the class.	Students will learn the easy method of sketching and coloring in different mediums.
	December – January	
	REVISION WILL BE DONE	

	PRACTICAL	
	Human figures and sick drawing will be done in the class.	

Computer Science
CLASS-XI 2021-22
Code No. 083

Learning Outcomes

Student should be able to :

a. Develop basic computational thinking
b. Explain and use data types
c. Appreciate the notion of algorithm
d. Develop a basic understanding of computer systems - architecture, operating system and cloud computing
e. Explain cyber ethics, cyber safety and cybercrime
f. Understand the value of technology in societies along with consideration of gender and disability issues

MONTH & NO. OF WORKING DAYS : APRIL -23 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit I: Computer Systems and Organisation ● 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	▪ Lecture method ▪ Diagrammatic representation ▪ Group discussion ▪ Demonstration of activities	The students will be able to… -The concept of Basic Computer Organization -Types of software -Operating system and its functions

MONTH & NO. OF WORKING DAYS : MAY -23 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
● 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, ISCII and UNICODE (UTF8, UTF32) ● Emerging trends: Cloud computing, cloud services (SaaS, IaaS, PaaS), blockchains, Artificial Intelligence (AI), Machine Learning (ML), Internet of Things (IoT)	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Know Boolean logic, Number system, Encoding Scheme etc.

MONTH & NO. OF WORKING DAYS : JULY -25 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit II: Computational Thinking and Programming – 1 ● 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 ● 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	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Know basic features of Python programming. ● Develop small python programs like 'Hello Work'

character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments		

MONTH & NO. OF WORKING DAYS : AUGUST -22 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
● 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) ● 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 ● Errors: syntax errors, logical errors, runtime errors ● Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Learn data types in python programming language ●Various operators used in python programming language ●Learn expressions, statements in python. ●Know errors in python programming ●Know flow of control in python programming

MONTH & NO. OF WORKING DAYS : SEPTEMBER -14 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
● **Conditional statements**: if, if-else, if-elif-else, flowcharts, 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, 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()	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● know conditional statement, iterative statement in python programming ●Know use of string with its various functions

MONTH & NO. OF WORKING DAYS : OCTOBER -21 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
● **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	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ●Know about list with its various useful functions ●Know about tuples with its various useful functions

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		

MONTH & NO. OF WORKING DAYS : NOVEMBER -20 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
● **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 ● Sorting techniques: Bubble and Insertion sort ● Introduction to Python	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● to do programs by using dictionary with its various useful functions. ●know sorting techniques ●Know python modules and their uses

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)		

MONTH & NO. OF WORKING DAYS : DECEMBER -15 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit III: Society, Law and Ethics ● 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-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime ● 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	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Know the impact of internet on society, ●Know law and ethics related to cyber world. ●Aware of Cyber Crime, Cyber Safety and Safely accessing the web sites. ●Know about information technology and Information Technology Act (IT ACT)

● Indian Information Technology Act (IT Act) ● Technology & Society: Gender and disability issues while teaching and using computers		

MONTH & NO. OF WORKING DAYS : JANUARY -15 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
● Preparing of Practical file (containing at least best 20 python programs and at least 10 SQL queries ● Preparing of Project report	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Prepare practical file ● Prepare Project report

Informatics Practices

CLASS XI _ 2021-22

Code No. 065

Learning Outcomes :

At the end of this course, students will be able to:

- Identify the components of the Computer System.
- Create Python programs using different data types, lists and dictionaries.
- Explain what is 'data' and analyse using NumPy.
- Explain database concepts and Relational Database Management Systems.
- Retrieve and manipulate data in RDBMS using Structured Query Language
- Identify the Emerging trends in the fields of Information Technology.

MONTH & NO. OF WORKING DAYS : APRIL -23 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit 1: Introduction to Computer System and computing: Evolution of computing devices, components of a computer system and their interconnections, Input/Output devices. Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns. 2 Software: purpose and types – system and application software, generic and specific purpose software.	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Know about components of a computer system, input output devices, types of memories ● Know about type of software

MONTH & NO. OF WORKING DAYS : MAY -23 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit 2: Introduction to Python Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operators, precedence of	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Learn Python Basics

operators, data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion, debugging, control statements: if-else, for loop		

MONTH & NO. OF WORKING DAYS : JULY -25 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions.: len(), list(), append(), extend(), insert(), count(), find(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum() 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()	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ●Know list operations with its various useful functions

MONTH & NO. OF WORKING DAYS : AUGUST -22 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit 3: Data Handling using NumPy Data and its purpose, importance of data, structured and unstructured data, data processing cycle, basic statistical methods for understanding data - mean, median, mode, standard deviation and variance. Introduction to NumPy library, NumPy arrays and their advantage, NumPy attributes, creation of NumPy arrays; from lists using np.array(), np.zeros(),	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ●Learn data handling using NumPy ●Learn Various mathematical and statistical operations with its various useful methods

np.ones(),np.arange() , indexing, slicing, and iteration; concatenating and splitting array; Arithmetic operations on one dimensional and two dimensional arrays. Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays.		

MONTH & NO. OF WORKING DAYS : SEPTEMBER -14 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit 4: Database concepts and the Structured Query Language Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: concept of attribute, domain, tuple, relation, candidate key, primary key, alternate key, foreign key. Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation Language.	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● know database concept (i.e. Database Management System) ● Know various keys constraints used in a database with their purposes.

MONTH & NO. OF WORKING DAYS : OCTOBER -21 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Introduction to MySQL: Creating a database, using database, showing tables using MySQL, Data Types : char, varchar, int, float, date Data Definition Commands: CREATE, DROP, ALTER (Add and Remove primary key, attribute). Data Query Commands: SELECT-FROM- WHERE, LIKE, BETWEEN, IN, ORDER BY, using	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Create a database with various DDL queries ● Manage a database with various DML queries

arithmetic, logical, relational operators and NULL values in queries, Distinct clause Data Manipulation Commands: INSERT, UPDATE, DELETE.		

MONTH & NO. OF WORKING DAYS : NOVEMBER -20 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
Unit 5: Introduction to the Emerging Trends Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ●aware about various online activities, their management and their impact on our society

MONTH & NO. OF WORKING DAYS : DECEMBER -15 DAYS

CHAPTER	METHODOLOGY	LEARNING OUTCOME
● Preparing of Practical file (containing at least best 20 python programs and at least 10 SQL queries ● Preparing of Project report	● Lecture method ● Practical method ● Pictorial demonstration ● Discussion Method	The students will be able to… ● Prepare practical file ●Prepare Project report