TAGORE INTERNATIONAL SCHOOL
VASANT VIHAR, NEW DELHI
PARENTS SYLLABUS (2020-21)
CLASS XII C & D
March -May

Subject	Topics Covered/ No. of Periods	Learning outcomes	Activities	Assessments
Math	**Part I** **Ch2 : Inverse trigonometric Functions** **(8 classes)**	**Each student will be able to** ● define one-one onto functions ● know that the trigonometric functions have inverse with restricted domains ● evaluate principal value of inverse trigonometric functions ● list the various properties of inverse trigonometric functions. ● apply the properties to solve various questions.	To draw the graph of $\sin^{-1}x$ using the graph of sinx and demonstrate the concept of mirror reflection about the line y=x	● Questions from NCERT and assignment done as CW and given as HW ● Google Form ● Oral questions ● Short class test
	Part I **Ch 5 :Continuity & Differentiability** **(14classes)**	**Each student will be able to** ● discuss continuity of any function at some points and find the points of discontinuity of a given function ● test the differentiability of a given function at some given point(s) in its domain	● To draw inference between logarithmic and exponential function through a video ● Lab Activity: To verify Rolles Theorem	● Questions from NCERT and assignment done as CW and given for HW ● Oral questions ● Google Form ● Short test

	Part I **Ch6 : Application of derivatives** **(18 classes)**	● Know the derivatives of inverse trigonometric functions and differentiate functions related to the same and also implicit functions ● define and differentiate parametric functions ● know the logarithmic and exponential functions and list properties of logarithmic functions ● differentiate functions using logarithm ● determine second order derivative ● state and apply Rolles Theorem ● state and apply the Mean Value Theorem **Each student will be able to** ● calculate the rate of change of one variable w.r.t another variable ● find the slope of tangent and normal of a given curve at a point and hence their equations ● find the points on the curve for which the tangents satisfy some given conditions ● find the intervals in which a given function increases or decreases ● determine maximum and	● Discussion followed after watching a video on calculating speed at any instant and the real life application of dy/dx ● Discussion on corona virus curves as an increasing function in India ● Lab activity: To understand the	● Questions from NCERT done as CW and given for HW ● Oral questions ● 2 Google Forms

	Part II **Ch 7 : Integrals** (5 classes)	minimum values of given functions ● find the absolute maxima and minima ● state what are maximum /minimum values and maximum/minimum points of a function in an interval ● define local maxima and minima ● determine local maxima and minima using derivative tests ● apply the derivative tests to obtain the solution /prove the required in statement questions **Each student will be able to** ● describe integration as a reverse process of differentiation ● know the geometrical interpretation of indefinite integral ● relate the formulae of integration with differentiation ● integrate functions using substitution method ● Integrate using trigonometric identities	concepts of absolute maximum and minimum values of a function in a given closed interval through a graph ● Lab activity: To understand the concepts of local maxima , local minima and point of inflection. To find the difference between differentiation and integration by reading the text book	● Questions from NCERT done as CW and given for HW ● Oral questions
English	**<u>Vistas:</u>** **<u>CH 1 The Third Level</u>** **<u>4 classes</u>**	**Each Student will be able to:** ● Identify the theme of the lesson ● Illustrate the ill effects of the war and its fallout on the modern generation	● Reading of the text watching movies on World War I&II ● A list of the movies were provided to the	**Worksheet** **Word quiz(Gabardine)**

			students ● Discussion and their debate in class ● Word meaning ● Through reading of the chapter	
	<u>CH 2 The Tiger King</u> **<u>5classes</u>**	**Each Student will be able to:** ● Evaluate the theme of the lesson ● Judge the character of the Tiger King ● Comprehend the justification of writing this story ● Illustrate the literary devices employed	Students were given an exposure to two kinds of documentary Discussion in the class regarding Tiger conservation Reading of the chapter Discussion of doubts	**Quiz**
	<u>Flamingo:</u> **<u>CH 1 Last Lesson</u>** **<u>4classes</u>**	**Each student will be able to** ● Recall the lesson ● Identify the two characters in the lesson ● Attempt the questions and answer them correctly	Students were told to read about the German invasion of Prussia The significance of mother tongue	**NCERT questions**
	<u>CH 2 Lost Spring</u> **<u>3classes</u>**	**Each students will be able to** ● Identify the theme of the lesson ● Evaluate how unlucky the lives are in contrast to their lives ● Understand the need to work for social upliftment.	Discussion about the ill effects of procrastination Students are instructed to read about the lives of bonded child labourers working in various industries. Where do they encounter child labour?Through reading of the text. Discussion on two lives(Sheb e Alam and Mukesh)	**Quiz**

	<u>CH 6 Poets and Pancakes</u> **<u>5classes</u>**	**Each student will be able to** ● record correctly the lesson ● Understand the theme ● Analyze the character of Kothamangalam Subbu	Through reading of the chapter Discussion of the Gemini Studio and sharing its logo Analysing the logo Plot and Character analysis	**Question & Answer worksheet**
	<u>CH 1:Mother at Sixty-Six</u> **<u>3classes</u>**	**Each student will be able to** ● Analyze the theme of the lesson ● Identify the rhetorical devices Express the anguish of the character(daughter) ● Examine the distinct emotion portrayed	Students are instructed to read the poem and make their individual inferences Discussion of the rehtorical devices used and the significance of its usage in poetry.	**NCERT questions**
	<u>CH 2 An Elementary Classroom</u> **<u>4classes</u>**	**Each student will be able to** ● Paraphrase the theme of the poem ● Illustrate the difficulties faced by the children born in poverty ● Contrast their privileged situation in life with that of lesser privileged children of the country.	Students are instructed to Read the poem and give their views on the subject Explanation,reading and solving question and answers	**Worksheet** **NCERT questions**
	<u>Writing Skill: Poster, Notice,Advertisements,Note Making</u> **<u>4classes</u>**	**Each student will be able to** ● Attempt the questions correctly choosing the appropriate format	Students are told to observe three samples of advertisement copies and point out the difference and the similarities. Format discussion and rules of Note making Guided note making	

	Vistas: **CH:3 Journey to the End of the Earth** **3classes** **CH :The Enemy** **5classes** **Flamingo:** **CH 3 Deep Water** **3classes** **Writing Skill:Letter (Enquiry,Complaint,Order)** **2classes** **Letter to the Editor** **1 class** **Resume** **1class** **Job application** **1class**	**Each student will be able to** ● Analyze the meaning of global warming and its ill effects **Each student will be able to** ● Analyze the dual duty that of nationality and that of a doctor. ● The real call of humanity and human nature ● Understand Japanese culture **Each student will be able to** ● Identify the theme of the lesson ● Evaluate the need for constant hard work to overcome any shortcoming ● Understanding Trauma **Each student will be able to** ● Write the letters correctly ● Frame the body of the letter according to the question ● Choose a correct format	Students read the lesson and are able to completely identify with their situation in the present condition. Students read the chapter explanation and the discussing illustrates the different ways human beings respond to crisis Students read and discuss the lesson and the various techniques employed to win over a complex situation. Discussion on PTSD and trauma Students are able to write the letter using the correct format. The text ENEMY is used to create a Job application and a resume for a fugitive doctor.	

Psychology	**Unit 8:** ● **Psychology and life** (**9 Classes)**	**Each student will be able to:** ● Name four types of interpersonal physical distance ● State any 3 features of PTSD. ● List any two reasons that affect the intensity of reaction ● State any 4 actions to protect our environment ● Define poverty from socio-psychological point of view ● Diff. btw instrumental & hostile aggression ● State any 4 measures for poverty alleviation ● Discuss the social factors related to health	● Make an action plan to work during disaster ● Research and discuss the social disadvantage felt by people below the poverty line during the lockdown period in India due to Coronavirus. ● List any two events which showed excessive violence and discuss its effects	● Assignment ● Quiz ● Oral questioning
	Unit 7: Social Influences and Group Processes **(14 classes)**	**Each student will be able to:** ● Give any two reasons for people to join groups ● Name the factors that facilitate group formation ● State the stages of group formation ● Give example of the group influence on individual behavior ● Define bandwagon effect ● Give any three determinants of conformity ● Name the three techniques of compliance	● Group discussion on 'Cabinet selection' to understand group formation ● Group discussion on social loafing ● Group discussion on Ash Experiment ● Advertisements for social cause to be listed with techniques of conformity ● Prisoner's Dilemma Game, Sherif's summer camp	● Assignments ● Oral questioning

	Unit 3: Meeting Life Challenges (11classes)	• Give any three determinants of cooperation and competition **Each student will be able to:** • Differentiate between primary and secondary appraisal • State causes of stress including examples. • Critically evaluate GAS Model Theory of Stress • Discuss the role of Natural Killer cells • Discuss the relationship between our lifestyle, health and stress. • Explain any three stress management techniques	experiments analysis • Sharing of personal experiences • Activity 3.4 from NCERT • Group discussion on our degrading lifestyles • Application of Creative visualisation • Sharing the life skills that help in meeting the challenges in school life	• Assignments • Oral questioning
Economics	**Government Budget and the Economy** **Meaning** **Structure** **Public revenue** **Revenue and capital.** **(8 classes)**	**Each student will be able to** • Identify the spending categories and major revenue sources in the Union budget • State the various objectives of the Budget. • Define fiscal policy, identifying the roles of tax rates and government spending. • Assess the impact of the budget on the economy? • Differentiate between capital and	Making of a budget plan for a school event. Discussion on the difference between various types of budgets. Read through the central budget 0f 2020. Participation in discussion on the 20 crore economic package	• Worksheets • Online Quiz/MCQs' • HOTS questions Prepare your own budget

	POVERTY **Reasons for poverty** **Causes** **Measurement** **(6 classes)**	revenue receipts. ● Identify the types of deficit ● Explain the various sources from which the budgetary deficits are financed? ● Differentiate between capital and revenue receipts. ● Identify the types of deficit ● Explain the various sources from which the budgetary deficits are financed **Each student will be able to** ● Define poverty. ● Identify the reasons for the emergence of poverty. ● Identify the causes of poverty ● Measure the levels of poverty across the world, country and states. ● Comprehend the diverse dimensions relating to the concept of poverty. ● Critically appreciate the way poverty is estimated. ● Appreciate and be able to assess existing poverty alleviation programs.	Newspaper articles on the topics discussed Find out the measures taken to remove poverty in India by the Government. Identify the causes of poverty Measure the levels of poverty across the world, country and states . Hold a Hunger Banquette The Hunger Banquette is a fun, interactive activity that you can do in a classroom to teach about the demographics of poverty around the world.	• Worksheets • Online Quiz/MCQs' • HOTS questions

	Unemployment **Workforce** **Types of unemployment** **(6 classes)**	**Each student will be able to** ● Define unemployment ● State the difference between workforce and labor force. ● Identify the different types of unemployment ● Understand a few basic concepts relating to employment such as economic activity, worker, workforce and unemployment ● Understand the nature of participation of men and women in various economic activities. ● Know the nature and extent of unemployment in the economy. ● Work together to discover who is unemployed. ● Calculate unemployment rates and labor force. ●	• Highlight ways in which you will know whether a worker is working in the informal sector. • Analyse, Why are regular salaried employees more in urban areas than in rural areas. • Analyse, Why are less women found in regular salaried jobs. Activity to identify different kinds of unemployment.	• Worksheets • Online Quiz/MCQs' • HOTS questions
	NATIONAL INCOME AND RELATED AGGREGATES. **Different methods of calculating National income** **GDP and welfare** **(13 classes)**	**Each student will be able to** ● Identify the three methods of national income. ● Calculate inventories. ● Associate the problem of double counting with the value added method. ● Establish the precautions associated with the methods.	• Commence with real-life examples like how much pocket money do they get from their parents and how are they allocating this money(transfer income) • In what sense can defence and security provided by the government be treated as	Worksheets Online Quiz/MCQs' HOTS questions Numerical worksheet

		● Analyze the circular flow of income. ● Understand different sectors. ● Numericals ● Compare real and nominal income ● Discuss GDP and welfare	intermediate service. • Identify -Why is GDP not an adequate indicator of welfare. • Increase in per capita income means increase in per capita availability of goods and services. Discussion- Does it necessarily mean rise in the welfare of the people in the country. COVID 19 and the effect on national income.	
Biology	**Unit- Reproduction** ● **Reproduction in organisms** ● **Reproduction in Plants** ● **Reproduction in animals** ● **Reproductive Health** **(14 Classes)**	**Each child will be able to:** ● Discuss the structure of anther & carpel mainly in the flower & process of development of male & female gametophytes diagramatically. ● Specify the modes of pollination, ● Explain the significance of out breeding & devices in plants to achieve it, ● Discuss the compatibility between pollens & stigmatic surface, ● specify the process of double fertilization. ● Explain the structures formed in ovary after fertilization e.g. embryo, seed, (monocot & dicot) & fruit diagrammatically	● Label the given diagram in the Activity sheet ● List 20 vocabulary words related to the topic ● Choose the correct options from the MCQ Sheet. ● Make Graphical Flow Chart for Spermatogenesis & Oogenesis ● draw a well labelled diagram of Human Sperm & Secondary Oocyte. ● Activity Worksheet based on Gametogenesis & Menstrual cycle. ● Make a flow chart on stages of Fetal growth based on text & video	● Work Sheets ● Google Docs ● Google Forms ● Online Class Test

		● Explain the structure of male & female reproductive system. ● Graphically explain gametogenesis ● Specify the role of hormones in the process of gametogenesis. ● Discuss stages of embryogenesis & developments in the uterus after pregnancy & at the time of parturition. ● Relate the changes taking place during various phases of menstruation & changes in the hormones in the female reproductive system. ● Explain common methods of birth control & ● Explain methods of ART	link sent. PRACTICALS- Study & draw the labelled diagram of T.S.of Testis, Ovaries & Human Blastula.	
	Unit-Genetics & Evolution ● **Principles of Inheritance** ● **Molecular basis of Inheritance**	**Each child will be able to:** ● Determine analogy between Gene Inheritance & Chromosomal behaviour. ● Explain the relationship of linkage & crossing over, the morgan's work. Explain the three patterns of Sex determination. ● Analyze human genetic traits disorders using pedigree.	● Compare Mendel's Monohybrid & Dihybrid cross. ● List conclusions drawn from each cross. ● List Mendel's deviations & conclusions drawn about inheritance. ● Attempt a cross between two Heterozygous parents & write the ratio based on	● Activity Sheets ● Brainstorming ● Google Docs ● Google Forms ● Online Class Test

		● Specify the reasons & symptoms of human genetic disorders. ● Describe the structure of molecules making DNA. ● List the number of base pairs in Humans, Bacteria & Bacteriophage ● Explain the process of packing of DNA in the nucleus of a cell. ● Explain the experiments for establishing DNA as the genetic material. ● List the features of a molecule acting as genetic material. ● Compare a DNA & RNA molecule. ● Explain DNA replication. ● Explain the experiment to support- replication of DNA is semi conservative.	the Genotype of its Progeny. ● Sex determintion has genetic basis & its patterns are different. Explain using humans, bees & insects as an example. ● Using given recombination frequencies construct the gene map on a Chromosome. ● Activity sheet on Human Genetic Disorders. ● Draw the structure of a single & double Polynucleotide strand of DNA molecule. ● Make a flowchart on Griffiths & Hershey & Chase experiment. ● Make a well labelled diagram of Replication fork, Transcription unit & Translation process. Practicals: Study & Draw the two plants adapted to aquatic habitats & two plants adapted to xerophytic conditions.	

	● **Evolution** **(16 Classes)**	**Each child will be able to:** ● List evidence of evolution. ● Explain each evidence & write at least one suitable example of each. ● Define the term Adaptive Radiation. ● Correlate Industrial evolution with Natural selection. ● Explain the mechanism of Evolution. ● Write differences between natural selection theory & Saltation theory. ● Define Hardy Weinberg's principle. ● Calculate the Allele frequency from the given values.	● Compare Darwin's theory with Devries theory of evolution. ● Calculate the total Allelic frequency of Allele 'a ' in a population if the value of a allele is 25%. ● Make a flow chart on Evolution in general & Human Evolution.	● Google Docs ● Graphic Organizers ● Flow Charts ● Google Forms
	Unit- Biology in Human welfare ● **Human Health & Diseases** **(7 CLASSES)**	**Each child will be able to:** ● Define the term Health. ● Explain the terms Pathogen, Symptoms & Disease Reservoir.Categorize the disease as Pathogenic & Non-Pathogenic. ● Characterize common human diseases on the basis of Causative organisms, Symptoms & mode of Transmission. ● Describe the Plasmodium life cycle. ● Relate the term Digenetic life cycle	● Compare common human diseases. ● Classify pathogens into different categories. ● Fill the blanks in the given activity sheet on common human diseases. ● Graphically draw stages of the life cycle of Plasmodium & HIV & label each stage. ● Make a graphic organizer on the immune system in	● Google docs ● Activity sheets ● Schematic representation of the stages of Plasmodium & HIV cycle. ● Flow chart on Immune System.

		with Plasmodium. ● Explain the terms Innate & Acquired Immunity. ● State the role of B & T cells. ● Classify Acquired Immunity into Active & Passive Immunity. ● Relate Vaccination to Active Immunity. ● Explain HIV life cycle. ● Characterize Cancer as a disease on the basis of causes, features of cancer cells & treatment.	humans. ● Compare Innate with Acquired Immunity in humans ● ● Class discussion on Drugs & Alcohols . Practicals: Study & Draw the disease causing pathogens- Ascaris, Entamoeba, Plasmodium & Ringworm.	
Physics	**Unit 1:** ● Electric Charges(1) ● Conductors and Insulators(1) ● Charging(1) ● Coulomb's Law (1) ● Electric field (2) ● Gauss's Law (2) ● Electostatic energy (1) ● Electric potential (1) ● Capacitors(2) ● Dielectrics(1) **Unit 2:Electricity** Conductors and insulators ● Potential difference and emf(1) ● Ohm's Law(1) ● Drift Velocity (1)	**Each student will be able to** ● Write the properties of charges. ● Explain quantization of charges. ● List and explain two methods of charging. ● Differentiate between insulators, conductors and dielectrics. ● State coulomb's law and express it mathematically. ● Establish a relation between force and electric field. ● Draw electric lines of forces due to a positive, negative and combination of charges. ● Mathematically express electric potential. ● Establish a relation between electric field and electric potential. ● Draw the equipotential surface	Practicals Using OLAB simulation: 1)To calculate the resistivity of a wire using Ohm's Law 2) To calculate the ratio of the emf of two given cells. 3) To calculate the unknown resistance using a metre bridge. Exit Ticket for each topic. MCQ assessment using google forms. Practice test using Google document. Movie Strip: Prestige to introduce EMI and discuss about NICOLA TESLA Project Work: Investigatory Project	● Worksheets ● Online Quiz/MCQ assessment ● Exit Ticket ● Practice Test ● Numerical worksheet ● In text practice questions. ● Exemplar questions.

	● Expression of resistance(1) ● Internal resistance(1) ● Kirchoff's Laws(2) ● Combination of cells(2) ● Wheatstone Bridge (1) ● Metre Bridge (2) ● Potentiometer (2) **Unit 3:Magnetism** ● Magnetic Force(1) ● Lorentz Force(1) ● Magnetic force on a current carrying conductor(1) ● Motion in a magnetic field(1) ● Velocity selector(1) ● Cyclotron(1) ● Oersted's experiment(1) ● Flemmings left hand rule ● Biot Savart law(1) ● Ampere's circuital law(1) ● Moving coil galvanometer(1) ● Conversion of a galvanometer into voltmeter and ammeter(2) **Unit4: Electromagnetic Induction.** ● Faraday's law of	due to different system of charges ● Derive the expression for electric field, potential and energy due to a system of charges ● Define current, give its unit, factors affecting the flow of current ● Explain the difference between emf and potential difference. ● Mathematically express resistance of conductors. ● Draw the I V curve of metals insulators and semiconductors. ● Derive the expression for the current. ● List the a factors on which internal resistance depends on ● Solve the given networks to find the value of current, resistances ● Analysis of the heating effects of current. ● Demonstrate that electric current gives rise to magnetism. ● Predict the direction of the magnetic field in any current carrying element ● Calculate the force experienced by a moving charged particle in a crossed electric and magnetic field ● Solve numerical based on Lorentz force.		

	electromagnetic induction. ● Motional Emf ● Eddy Current	● State Fleming's rule. ● Explain the working of a velocity selector. ● State Biot Savart's law ● Express it mathematically in vector notation ● Apply Biot Savart law to calculate the magnetic field due to different current carrying elements. ● State Ampere's circuital law ● Apply Ampere's circuital law to derive the magnetic field due to a long conductor. ● Solve numerical based conversion of galvanometer into ammeter and voltmeter. ● Explain the working of a galvanometer. ● Justify how can a galvanometer be converted into an ammeter and a voltmeter? ● Justify the use of radial field in a galvanometer		

Chemistry	**Ch-3** **Electrochemistry** ● electrochemical cell ● Hydrogen electrode ● Effect of concentration on emf of cell ● Nernst equation- Numericals ● Conductivity and conductance ● Battery reactions and working	**Each student will be able to:** ● Describe an electrochemical cell and differentiate between galvanic and electrolytic cells; ● apply Nernst equation for ● calculate the emf of galvanic cell and define standard potential of the cell; ● derive relation between standard potential of the cell, Gibbs energy of cell reaction and its equilibrium constant; ● define resistivity , conductivity and molar conductivity ● differentiate between ionic (electrolytic) and electronic conductivity; ● define molar conductivity at zero concentration or infinite dilution); ● enunciate Kohlrausch law and learn its applications; ● understand quantitative aspects of electrolysis; ● describe the construction of some primary and secondary batteries and fuel cells;	● Construction of an electrochemical cell ● Analysis of voltage and with change in concentration of electrolyte	● .Worksheet – short questions ● Google form ● Worksheet – Objective questions (Assessment) ● Assignment ● In text practice questions.
	Ch-16 **Chemistry in every day life** ● Drugs and medicine ● difference between	**Each student will be able to:** ● List some drugs/medicines used as tranquilizers,analgesics, ● Antiseptics,antimicrobials,	● Project : Make a list of common medicine used in daily life commonly used at	● Google form ● Worksheet – Objective ● Class test

	antiseptics and disinfectants ● Soap and detergents ● Chemicals in food ● Biodegradable and non-biodegradable detergents **Ch-10 Haloalkanes and haloarenes** ● Nomenclature ● Types of halo compounds ● Methods of preparation ● Physical and chemical properties ● Sandmayer reaction, ● Electrophilic substitution reaction ● Chemical properties of	antifert,antibiotic ● Mention at least two uses of each drug or medicine ● Outline the difference between antiseptics and disinfectants ● Classify detergents and Explain cleansing action of detergent ● Identify a particular drug from a group. ● Select the use of drugs in various diseases. ● List various preservatives , sweetening agents ● Differentiate between biodegradable and non biodegradable detergents from the given structure **Each student will be able to** ● Follow IUPAC rules of nomenclature of these organic compounds. ● Classify haloalkanes and haloarenes into various categories. ● Enlist at least four methods of preparation of these compounds (two each) ● compare Physical properties of	home in daily life . ● Practicals - Aim: To identify the cation and anion present in the given salt sample. ● Explain practical chemical reactions of practical.	● Assignment

	haloalkanes and haloarenes ● Stereochemical aspect of S_N1 and S_N2 mechanism ● Polyhalogen Compounds **Ch -15 Polymers** ● Classification- Intermolecular forces Addition and Condensation Polymers ● Polymers and their monomer units ● Biodegradable and non-biodegradable polymers ● effect of polymers on environment **Ch- 11** **Alcohols, phenols and ethers** ● IUPAC name of organic compounds containing R-OH,Ar-OH and R-O-R	haloalkanes and haloarenes. ● Visualize the nucleophilic mechanism for sym and chiral compounds ● Understand stereo chemical aspect of alkyl halides ● Discuss environmental hazards of some polyhalogen compounds ● Define polymer, homopolymer,copolymer,addition and condensation polymers. ● Classify polymers into various types depending on molecular forces,availability,mode of synthesis. ● Differentiate between addition and condensation polymers. ● List important polymers with their monomers used and uses ● Describe the preparation of some important synthetic polymers and their properties **Each student will be able to-** ● name alcohols, phenols and ethers according to the	https://www.olabs.edu.in/ ● Project Based Learning ● Project – Find names of different polymers and write their monomers (name and structure).Make a list of their uses. ● Practicals - Aim: To identify the cation and anion present in the given salt	● Worksheet – short questions (Assessment) ● Google form(objective questions) ● Google doc(assignment) ● Google form

	(Alcohols ,phenols and ethers ● methods of preparation ● physical properties ● chemical properties ● mechanism of important reactions ● comparing alcohols and phenols ● Ethers Preparation and properties	IUPACsystem of nomenclature; ● discuss the reactions involved in the preparation of alcohols from (i) alkenes (ii) aldehydes, ketones and carboxylic acids; ● discuss the reactions involved in the preparation of phenols from (i) haloarenes (ii) benzene sulphonic acids (iii) diazonium salts and (iv) cumene; ● discuss the reactions for preparation of ethers from(i) alcohols and (ii) alkyl halides and sodium alkoxides/aryloxides; ● correlate physical properties of alcohols, phenols and ethers with their structures; ● discuss chemical reactions of the three classes of compounds on the basis of their functional groups. ● Each student will be able to-write all the steps involved in dehydration on alcohol ● explain the suitable reactant require for Williamsons synthesis and state all the steps involve in SN2 mechanism of reaction of HI with ether	sample. ● Explain practical chemical reactions of practical. https://www.olabs.edu.in/	(assessment)

	Ch-2 Solution ● Types of solution ● Concentration- Mass by volume percentage (w/V): Parts per million: Molarity Molality Mole fraction ● Numerical - calculation of concentration of solutions ● Henry's law ,Raoult's law; And Numericals ● Ideal and non-ideal Solution ● Non-ideal Solution ● Positive and negative deviation from Raoult's law ● Azeotropes ● minimum boiling azeotrope and maximum boiling azeotrope ● Colligative properties ● (1) relative lowering of vapour pressure of the solvent ● (2) depression of freezing point of the solvent ● (3) elevation of	**Each student will be able to-** ● describe the formation of different types of solutions ● express concentration of solution in different units ● solve numerical to calculate concentration of solution ● state and explain Henry's law and Raoult's law; ● Raoult's Law as a special case of Henry's Law ● explain the effect of mole fraction on vapour pressure ● distinguish between ideal and ● non-ideal solutions; ● solve numerical to calculate vapour pressure of solution ● distinguish between minimum boiling azeotrope and maximum boiling azeotrope ● explain the lowering of vapour pressure of the solution is the function of amount of solid solute dissolved ● correlate depression of freezing point of the solvent with mole fraction of solute ● apply concept of osmosis in daily life ● explain abnormal colligative properties exhibited by some solutes in solutions.	● Practicals – Aim:To separate the coloured components present in a mixture of dyes by ascending paper chromatography and find their R_f values. ● Calculate Rf value of dyes from chromatogram	● Google form(short answer questions) ● Class test-Google form(Numerical questions) ● Class test-Google Doc(Numerical questions)

	boiling point of the solvent and ● (4) osmotic pressure of the solution ● Numericals on colligative properties ● Van't Hoff factor and abnormal mass ● Alcohols ,phenols and ethers	● explain the lowering of vapour pressure of the solution is the function of amount of solid solute dissolved ● correlate depression of freezing point of the solvent with mole fraction of solute ● apply concept of osmosis ● explain abnormal colligative properties exhibited by some solutes in solutions.		
Computer Science	**Ch 1: Revision Tour 1 (5 Days)** ● Revision of Python basics ● String Manipulation ● Operators, Mutable, Immutable Data Types ● Control Statements **Ch 2: Revision Tour 2 (5 Days)** ● Lists ● Tuples ● Dictionaries **Ch 3: Working with Functions (User Defined Functions) (10 Days)** ● Definition ● Scope ● Passing parameters	**Students will be able to:** ● Use keywords and differentiate among various tokens. ● Recapitulate various types of control statements including if else and for and while loops **Students will be able to :** ● implement matrices using python nested lists ● Work with different tuples and dictionaries and code the programs based on the same. **Students will be able to :** ● Create their own functions and modules ● Differentiate between default , keyword and named parameters ● Understand and implement the	Programs based on Control statements: ● Factorial of a number ● Series given ● Pattern based programs Programs based on Lists and Tuples ● Creating and manipulating lists, tuples and Dictionaries ● Using all the methods that work with Lists , tuples and dictionaries Using User Defined Functions: ● Write a program to find factorial of any given number.	● Online Assignments ● Discussion on online classes ● Outputs provided by the students during online classes ● Google Forms ● Online Assignments ● Online Discussion ● Google quiz ● Google forms ● Discussion on online classes ● Outputs provided by the students during online

	● Return Statements ● Types of arguments	various kinds of parameters in programming ● Define the scope of data objects used in a program ● Use global keyword and implement it in programming applications too	● Write a program to find number of digits of a given integer	classes ● Google Forms ● Online Tests
	Ch 4: Python Libraries and Modules **(5 Days)** ● Functions using libraries ● string functions ● mathematical functions ● Random functions, re module	The students will be able to recapitulate various modules learnt earlier and will inculcate new libraries and modules in their programming.	What are the possible outcome(s) expected from the following Python code? Also specify maximum and minimum value of Y. import random X= random.random() Y= random.randint(0,4) print(int(X),":",Y+int(X)) Possible outputs: (i) 0 : 0 (ii) 1 : 6 (iii) 2 :4 (iv) 0 :3	● Assignments on Google classroom ● Outputs provided by the students during online classes ● Google Forms ● Class tests
	Ch 5: File Handling **(10 Days)** ● Open and close a file, relative and absolute path ● Opening files with various file opening modes(r,r+,w,w+,rw,rw+) ● Reading from a file ● read(),readline(),readlines() ● Writing to a file/appending	**Students will be able to :** ● Understand the concepts of file handling and its relevance in a programming language. ● Create text files and open them using various modes ● Write and append to a text file ● differentiate between read(), readlines() and readline() methods ● Differentiate between reading and	**Experiential Learning Activity** Write an English poetry of your syllabus in a text file and WAP to read that file and perform the following: count the number of vowels count the number of consonants number of lines	● Online Assignments ● Google Classroom Assignments ● Discussion on online classes ● Google Forms ● Google quiz

	to a file ● Standard input/output and error streams ● Binary Files ● CSV Files	writing in text, binary and csv files	● Write the programs to create a data sheet using binary and csv files.	
	Ch 6: Recursion **(5 Days)** ● Recursion : Introduction and execution of recursion ● Recursion trees and calculating output.dry run/understanding execution	**Students will be able to :** ● execute a recursive program and produce its output ● Describe the execution of any program containing functions and implementing recursion.	Write the recursive functions for the following: ● Binary Search ● Exponential value for two numbers ● Factorial of a number	● Outputs provided by the students during online classes ● Google quiz ● Google forms ● Google classroom Assignments
	Ch 8: Data Structure 1: Linear Lists **(5 Days)** ● Lists Methods ● Append ● Sort ● Insert ● Del ● Pop	The students will be able to recapitulate previously done concepts on List Manipulation. This will help them to understand complex data structure better.	● Output and error questions based on List Manipulation. ● To find the sum of even elements from a list. ● To sort a list using Bubble and Insertion Sort.	● Error/ Output assignments ● Google forms and quiz ● Practical demonstration and screen sharing
	Ch 9: Data Structure 2: Stacks & Queues using Linear Lists **(5 Days)** ● Stacks : introduction ● Stack implementation ● Stacks as utility ● Queues : Introduction	The students will be able to create linear data structures like stacks and queues. They will be able to appreciate the implementation of stacks and queues in real world. They will also be able to convert infix, prefix and postfix notations	● Write a function in Python, InsertQ(Arr,data) and DeleteQ(Arr) for performing insertion and deletion operations in a Queue. Arr is the list used for	● Outputs provided by the students during online classes ● Practical assessment through screen sharing ● Online tests ● Google quiz ● Google forms

	● Queues implementation		implementing queue and data is the value to be inserted. ● Write a function in Python, StkPush(Package) and StkPop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure	