

PARENT SYLLABUS –SCIENCE Class XII-C OCTOBER-JANUARY (SESSION 2020– 21)

	English					
MONTH	TOPICS/NO. OF PERIODS	LEARNING OUTCOMES	ACTIVITY	ASSESSMENT		
October	Topic: Evans Tries an O- Level by Colin Dexter (8)	Each student will be able to familiarize themselves with specific background of the cat and mouse role of the police and the criminal. identify and make connections between similar situations in their own country where each of us witness the dereliction of duty of the law keepers and their complacent laxity. write character sketches justify the title improve upon their writing skills	 Students will do the following: Group Discussion: Would Education in the jails help in refining prisoners? Pair Work: Justify the title, 'Evans Tries an O-Level'. Discuss and suggest another title for the story Individual Activity: Imagine that you are Evans. Write an account of how you planned and executed your escape from the prison at Oxford despite all the security measures that had been taken to ensure against that. 	Students will be assessed through:Short Revision Test through Google formsClass participationSubmission of workPractice WorksheetsAssignment Long Answer Questions		
November	Topic: On the Face of It (6)	Each student will be able to fight out their loneliness, depression and disappointment, if any accept the physically challenged people positively in their life and expand their social interaction. build up optimism and self confidence through oral discussions justify the title	Students will do the following: Group discussion: "It's got nothing to do with my face and what I look like" Individual activity: Appearances are deceptive	Students will be assessed through: Short Revision Test through Google forms Class participation Submission of work		

		express themselves through an article writing		Practice Worksheets Assignment Long Answer Questions
December	Topic: Revision: Writing Skills Practise questions from the sample papers	Each student will be able to Improve upon their writing skills	Students will do the following: Revise formats, write letters, notices, advertisements, invitations and replies, articles and reports	Students will be assessed through: Short Revision Test through Google forms
				Class participation Submission of work
lanuary	Tonic	Each student will be able to	Students will do the following:	Practice Worksheets Assignment Long Answer Questions
January	Revision: Literature and Reading Skills Practise sample papers	Revise all lessons from the literature section	Analyse characters, justify titles, write answers to questions	through: Short Revision Test through Google forms
				Class participation Submission of work
				Practice Worksheets Assignment Long Answer Questions

	Maths				
Month	No. of Periods/ topics covered	Learning outcome	Activities	Assessment	
October 8	Teaching days: 8 Chapter 10- Vectors Chapter 11- Three Dimensional Geometry	VectorsEach child will be able to*define scalar product of vectors*apply the scalar product concept in solving questions*define vector product of vectors*apply the vector* product concept in solving problems*evaluate the projection of a vector on another vector***find scalar triple product of given vectorsThree Dimensional Geometry *recall the concept of 3-D *list the various forms of line *apply the various equations of line in solving problems *define skew lines *calculate the distance btw two lines- skew and parallel lines *list various equations of plane ****angle between two lines, two planes, line and a plane	Solve Exercises from chapter 10 and 11 (NCERT) Solve assignment- Vectors <u>Experiential Learning-</u> Physical significance of cross and dot product. Solving Questions <u>Activity-</u> To verify that the angle in a semi circle is right angle. Students will watch Don't memorise videos and NROER videos <u>https://nroer.gov.in/55ab34ff81fccb4f1d806025/file/581b475b16b51c2e7fb0f801</u> <u>https://nroer.gov.in/55ab34ff81fccb4f1d806025/tags/parallel%20lines</u> Research about skew lines Art Integration: visualization of Three Dimensional Geometry	Assessment through Google Forms *Oral questioning Mid Term Examinations (5 th Oct- 14 th Oct) Online Quiz: MCQs 10QsX1m=10m	
November 13	Chapter 12- Linear Programming Problem (5) Chapter 13- Probability (5)	Linear Programming Problem Each child will be able to *define an L.P.P, objective function, constraints, feasible region, feasible solution ****learn to mathematical formulate an L.P.P	Introduction to lpp - <u>https://www.youtube.com/watch?v=Uo6aRV-mbeg</u> Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve Exercises from chapter 12 and 13 (NCERT)	Assessment through Google Forms, Oral Questioning, Work sent in the google classroom.	

	Reviosion(3)	*solve an L.P.P using Corner point method	Students will solve questions from Assignment	Online Quiz: MCQs 10QsX1m=10m
		Probability Each child will be able to *define probability, random exp, event, sample space *recall the fundamental principle of addition and multiplication *list the various types of events *differentiate btw independent and mutually exclusive events *perceive the concept of reverse probability *learn the Baye's theorem *define a random variable ***apply the concept of random variable in finding mean and variance	Video on Independent events <u>https://www.youtube.com/watch?v=CjeXRuZs1XI&list=PLmdFyQYShrjcdULqwq37UXo4UO4aSmV36&index=8</u> Activity- Explain the computation of conditional probability of given event A, when event B has already occurred through an example.	Revision Exam
December/January	Revision	Each child will be solve the important questions from Ncert , Exemplar and the assignment	Solving questions from previous years board question papers	Preboard Exam

	Chemistry				
Month	Topic Covered No. of Periods	Learning outcome	Activities	Assessments	
Oct	Coordination Compounds No. of periods:7	 Each student will be able to: Name mononuclear coordination compounds according to IUPAC. Discuss the nature of bonding in coordination compounds in terms of Werner's theory, VBT & CFT. Differentiate between primary and secondary valency. Explain the formation of high spin and low spin complexes. Explain the hybridisation of the central metal atom/ion in complexes based on magnetic properties. List the limitations of Werner's theory and VBT. Draw crystal field splitting patterns for tetrahedral and octahedral complexes. Explain the properties of complex compounds-colour, type of complex etc using CFT. Discuss the importance and applications of coordination compounds in daily life. 	 Discussion on how alums / Mohr salt are different from potassium ferro cyanide. Discussion on qualitative analysis tests which involve complex formation. Lab Activity Demonstration of Experiment (OLabs) / Extra Class To determine an anion and a cation present in the given salt samples. (Group 3 & 4 – Al & Zn salts- Sulphate, acetate, nitrate) 	 Online Quiz using Google Forms Class Participation Weekly Assignment / Worksheet (Submission of work) 	
Oct contd	Biomolecules No. of periods: 5	 Each student will be able to: Define and classify carbohydrates and monosaccharides. Explain the chemical reactions of glucose for the structure determination of glucose. Explain D & L configuration in monosaccharides. 	General discussion on role of living cell in the regulation of energy cycle and importance of biomolecules/ (Mentimeter activity – importance of biomolecules) Denaturation of protein (egg albumin)	 Online Quiz using Google Forms Class Participation 	

		Explain the cyclic structure of glucose and fructose.	Drawing projection formulae of Glucose and Fructose.	 Weekly Assignment / Worksheet (Submission of work)
		 Draw the Haworth and Fischer projections of glucose and fructose. 	the given food item.	
		Explain the terms anomers, epimers and mutarotation.		
		 Explain the terms-amino acids, peptide bond, Proteins, zwitter ion and denaturation. 		
		 Explain the 1⁰,2⁰,3⁰,4⁰ structures of proteins. Differentiate between fibrous and globular proteins. 		
		 Explain the term - Nucleic acids: their composition, nucleoside, nucleotide and phosphodiester bond. Differentiate between RNA & DNA. 		
		 Explain different types of bonds in biomolecules(glycosidic bond, peptide bond and phosphodiester bond). 	Lab Activity Demonstration of Experiment (OLabs) / Extra Class	
			 To determine an anion and a cation present in the given salt samples. (Group 5 – Ba, Sr, Ca salts- chloride & nitrate) 	
Nov	Surface Chemistry	Each student will be able to:	Montimeter book optivity	Online Ouis using
	No. of periods: 7	 Define and differentiate between physisorption & chemisorption). 	Students will be asked to think and share atleast one process involving surface	Online Quiz using Google Forms
		 Explain the factors affecting extent of adsorption. 	phenomena. (something in daily life / chemical reactions)	Class Participation
		 Draw graphical representation and explain Freundlich adsorption isotherms 	(Chemical processes like hydrogenation, dyeing of fabrics, decolourisation of raw sugar, chromatography, catalysis, movie hall projector	Weekly Assignment
		Classify colloids on different basis.	system, LCD etc)	/ Worksheet

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				(Submission of work)
		 Distinguish between-colloids, solution and suspension, lyophilic & lyophobic colloids, multi & macro molecular colloids. 		
		Explain associated colloids and conditions for micelle formation.		
		• Explain purification (Bredig's arc method, electrophoresis & ultrafilteration) and properties (Tyndall effect, Brownian movement) of colloids.		
		 Draw diagrams for the purification methods & properties of colloids. 		
		 Explain coagulation, Hardy Schulze law, zeta potential and protection of colloids. 		
		 Discuss the applications of colloids in different fields. 	Lab Activity Demonstration of Experiment (OLabs) / Extra Class	
			To determine an anion and a cation present in the given salt samples. (Group 6 – MgSO4)	
Nov	Solid State	Each student will be able to:		
		 Differentiate between types of solids & classify solids. 	Mentimeter hook activity	Online Quiz using
contd	No. of periods: 7	Classify solids and distinguish between crystalline and amorphous solids.	Discussion on characteristics of solids, and cubic structures.	Google Forms
		 Classify crystalline solids on the basis of the nature of forces. 		
		Define crystal lattice and unit cell		 Class Participation
		 Draw types of unit cells and calculate the no of particles. 	Students will be asked to collect atleast few things around them which have cubic structures	
		• Solve numericals related to density of solids, packing efficiency and radius of the crystal in different structures.	and will be required to distinguish between the shapes of cubes. (Types of primitive unit cells)	 Weekly Assignment / Worksheet
		Explain types of packing in solids.		(Submission of
		 Describe types of voids & close packed structures (ccp & hcp) AA, AB, AAA patterns. 	Use caram coins or currency coins (same size) to draw the types of patterns in close packing in	work)

	Revision and Exams	 Describe the imperfections in solids (Schottky & Frenkel defect, Metal excess & deficiency defect etc. and their effect on properties. Differentiate between Stiochiometric & non Stiochiometric defect, Schottky & Frenkel defect, Metal excess & deficiency defect etc. Differentiate between Stiochiometric & non Stiochiometric defect, Schottky & Frenkel defect, Metal excess & deficiency defect etc. Differentiate between Stiochiometric & non Stiochiometric defect, Schottky & Frenkel defect, Metal excess & deficiency defect etc. 	solids. Lab Activity Demonstration of Experiment (OLabs) / Extra Class Determination of the functional group in the given sample of organic compound.	
December & January	Revision and Exams			

	Physics				
Month	<u>Topic</u>	Learning Outcomes	Activities	Assessment	
October	Optics (Wave optics) No. of classes :6	Each student will be able to— -correlate wave motion of electromagnetic waves to mechanical waves and infer that light has dual nature. -state Huygens Principle. -draw the reflected and refracted wave fronts. -apply it to prove laws of reflection and refraction. -interpret the conditions for coherency of sources and sustained interference. - deduce mathematically the conditions for constructive and destructive interference, - deduce equation for fringe width in Young's double slit experiment and single slit diffraction. -sketch graph between intensity and fringe width for diffraction and interference of light.	Students will- -draw the reflected/ refracted wave fronts from a spherical mirror, lens and a prism. -draw the graph between intensity and path difference for interference and diffraction due to single slit. Extra Class / Lab Activity: To assemble the components of a given electrical circuit.	Online quizzes using Google Form Class participation Weekly assignments/worksheets	
Month	Topic	Learning Outcomes	Activities	Assessment	
October	Electronic Devices No. of classes:7 (to be continued in Nov)	Each student will be able to- -differentiate between conductors, insulators and semiconductors on the basis of conductivity and energy	Students will -draw the energy band diagrams for p and n type semiconductors. -compare the circuit symbols of various special purpose diodes with	Online quizzes using Google Form	

		 band diagram. explain the formation of p type and n type semiconductors and pn junction diode. draw circuit diagrams for characteristics of diode and graphically represent the variation of I with V. draw circuit diagram and explain working of a diode as a rectifier. list the uses of semi conductor in various electronic devices. differentiate between the different types of special diodes on the basis of their uses. 	their images. - make a list of electronic appliances at home where a voltage regulator might be used. - compare the IV graphs for semiconductors with that of conductors and decide whether they follow Ohm's law or not. Extra Class / Lab Activity: To assemble the components of a given electrical circuit.	Class participation Weekly assignments/worksheets
<u>Month</u>	<u>Topic</u>	Learning Outcomes	Activities	<u>Assessment</u>
November	Dual Nature of matter and Radiation No. of classes:7	Each student will be able to- -list the various methods of electron emission and define them. -explain the various observations made by Hertz and Lenard experiments -conclude that wave nature cannot explain photo electric effect. -graphically represent the conclusions from experimental set up on photoelectric effect.	Students will: -Plot the of different graphs for photoelectric effect and variations of current with frequency, potential, kinetic energy ,time of emission of electrons. Extra Class/ Lab Activity : To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using a Multi meter.	Online quizzes using Google Form Class participation Weekly assignments/worksheets

		 -state Einstein's laws of photoelectric emission - correlate with radiation's dual nature and infer that Matter possesses dual nature. -state de Broglie's hypothesis and derive the equation. 		
<u>Month</u>	<u>Topic</u>	Learning Outcomes	Activities	<u>Assessment</u>
November	Atoms and Nuclei No. of classes:7	Each student will be able to— -list the various models for structure of atom. -explain the observations of alpha particle scattering experiment. -state the postulates of the Bohr's model for hydrogen atom. -mathematically derive the expressions for radius velocity, and total energy of an electron in hydrogen atom. -draw energy level diagram for hydrogen atom. - write the equation for mass energy relation and mass defect. -differentiate between nuclear fission and fusion.	Students will : -Calculation of energy corresponding to a particular energy state. -Draw the energy level diagram for hydrogen atom. Extra Class/Lab Activity: To study the nature and size of the image formed by a (i) convex lens, (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).	Online quizzes using Google Form Class participation. Weekly assignments/worksheets
December, January, February	Revision and Exam			

Computer					
Month/ T. Days No of Periods Topics/Subtopics	Learning Outcomes	Activities	Art Integration	Assessment	
OCTOBER	 Unit II: Computer Networks Network Protocol: TCP/IP, File Transfer Protocol (FTP), PPP, HTTP, SMTP, POP3, Remote Login (Telnet) and Internet, Wireless / Mobile Communication protocol such as GSM, GPRS and WLL. Mobile Telecommunication Technologies: 1G, 2G, 3G, 4G and 5G; Mobile processors; Electronic mail protocols such as SMTP, POP3, Protocols for Chat and Video Conferencing: VoIP, Wireless technologies such as Wi-Fi and WiMax Network Security Concepts: Threats and prevention from Viruses, Worms, Trojan horse, Spams Use of Cookies, Protection using Firewall, https; India IT Act, Cyber Law, Cyber Crimes, IPR issues, hacking. Introduction To Web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML); Hyper Text Transfer Protocol (HTTP); Domain Names; URL; Website, Web browser, Web Servers; Web Hosting, Web Scripting – ****** Client side (VB Script, Java Script, PHP) and Server side (ASP, JSP, PHP), Web 2.0 (for social networking) ******* E-commerce payment transactions using online banking, mobile banking, payment apps and services.(15) 	 Students will come to know about various types of networks/ topologies prevalent in today's world. will come to know about different Network Models/Protocols will be able to differentiate among different Network Models. will be able to differentiate among different mobile computing technologies will be able to identity and appreciate purpose of different networking protocols and also differentiate among different protocols will be able to appreciate the importance of IPR and Cyber laws, Indian IT act 2000 will be able to state importance of Intellectual property rights, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. Privacy laws, Cyber forensics, IT Act, 2000. Technology and society: understanding of societal issues and cultural changes induced by technology. Students will be able to state importance of E-waste management: proper disposal of used electronic gadgets. ******** Identity theft, unique ids, and biometrics. 	Comic strip - Violation of IPRs Brochure Designing- Networking Terms	MCQ based test Worksheets & Lab Assignments	

NOV-DEC	Revision Revision Test and Preboard Test (70+30)		
****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-21. However, these topics will be covered through discussion in the class to bridge the learning gaps.		

Psycology				
Month	Topics covered	Learning outcome	Activities	Assessments
October	Chapter: Social Influence and Group Processes Introduction Nature and Formation of Groups Types of groups Social Loafing 	 Each student will be able to: Explain nature and types of groups Describe how groups are formed State the influence of group on individual behaviour Explain why people join groups 	 Students will identify the stages of group formation in any movie showing teamwork. Students will identify and write the different primary/secondary groups they are a part of. 	 Assignments Practice tests MCQ Board Papers
November- January	Revision of entire syllabus (as per revised syllabus) Variations in psychological attributes Self and Personality Meeting life challenges Psychological disorders Therapeutic approaches Attitude and social cognition Social influences and group processes	 Each student will be able to: Describe the theories of intelligence Explain different approaches of personality Describe the different techniques for assessing personality State the various stress management techniques Describe the various mental disorder Explain the various types of psychotherapy Explain components of attitude Describe formation of attitudes Explain the different types of social influences and group processes 	1)	 Assignments Practice tests MCQ Board Papers

Biology					
MONTH	NO. OF PERIODS/TOPICS COVERED	LEARNING OUTCOMES	ACTIVITIES	ASSESSMENT	
October	Ecosystem (2) ****	Each student will be able todescribe the components of ecosystem	 Diagrammatic representation of decomposition cycle in a terrestrial ecosystem 	 Online quiz using Google forms 	
		 mention any two reasons why the primary productivity varies in different types of ecosystems 	 Diagrammatic representation of trophic levels in an ecosystem and the energy flow through them 	Class participation	
		 differentiate between net primary productivity and gross primary productivity 	 Construction of three types of ecological pyramids (pyramids of 	 Weekly assignment/workshe et 	
		 explain decomposition of detritus by different agents which is then made available as nutrients to the plants 	numbers, biomass and energy)	(submission of work)	
		• give one example each of a detrivore and a decomposer	 Diagrammatic representation of primary succession 		
		• list three parameters used for constructing ecological pyramid	• Drawing simplified model of carbon cycle and phosphorous cycle		
		• construct pyramids of numbers, biomass and energy	Demonstration of experiment		
		• compare two different types of pyramids of biomass with the help of an example	(OLABS) Study of plant population density by quadrat method		
		 mention the role of pioneer species in primary succession on rocks 	Study the plant population frequency by quadrat method		
		 distinguish between primary and secondary ecological successions 			

	Biodiversity and Conservation	 mention important features of sedimentary cycle draw simplified model of carbon cycle and phosphorus cycle 	Making nin chart representing global	
	(6)	 mention three important components of biodiversity explain the importance of biodiversity for ecosystem functioning state two effects of loss of biodiversity in a region 	 Making ple chart representing global biodiversity: proportionate number of species of major taxa of plants, invertebrates and vertebrates Plotting graph showing species area relationship 	 Online quiz using Google forms Class participation Weekly
		 describe the causes of biodiversity loss give reason as to why biodiversity should be conserved compare in situ and ex situ conservation of biodiversity 	 Examining the destruction of Amazon forest through Google Earth tool Demonstration of experiment (OLABS) Study the effect of temperature and pH on the activity of salivary amylase on starsh 	assignment/workshe et - (submission of work)
			Study of T.S. of blastula (Mammalian) Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary	
November	Environmental Issues (3) ****	Each student will be able to:explain the causes and control of air and water pollution	Diagrammatic representation of electrostatic precipitator	Online quiz using Google forms

	 state the effect of eutrophication describe biomagnification of DDT in aquatic food chain state the effect of greenhouse effect and global warming as well as ozone depletion in stratosphere explain degradation by improper resource utilization and maintenance. 	 4) Flow chart to show biomagnification of DDT in an aquatic food chain 	 Class participation Weekly assignment/workshe et (submission of work)
	montion the causes of deforestation		•
Revision (10)		 Demonstration of experiment (OLABS) Meiosis in onion bud cell or grasshopper testis through permanent slides. Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations. Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations. Prepared pedigree charts of any one of the genetic traits such as rolling of 	 Revision using Google sheets/forms

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December/January	Revision and Exams		
		•	•
****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2020-		
	21. However, these topics will be covered through	•	•
	discussion in the class to bridge the learning gaps.		

Economics					
Month	Topics covered	Learning outcome	Activites	Assessments	
October 2020	Development Experience of India India's relation with China and Pakistan	 Each student will be able to: Analyze India's relation with neighboring countries, its development vise a vis development experience of neighbors. Highlight 4 points of present economic relations between India and China. Figure out comparative trends in various economic and human development indicators of India and its neighbours, China and Pakistan. Assess the strategies that these countries have adopted to reach their present state of development. 	 Case study on the comparative study of the three countries. Compare the products in terms of its price, quality, appearance, reliability etc produced by India and China. Analyse the present days border tensions between the countries and their economic impacts. Quiz on the topic. Case study on the comparative study of the three countries. Discussion on: Compare the products in terms of its price, quality, appearance, reliability etc produced by India and China. Compare the products in terms of its price, quality, appearance, reliability etc produced by India and China. Comparative study of India , China and Pakistan from newspaper articles . Do you think it is necessary for India and Pakistan to concentrate on the manufacturing sector as China does? Why? Scholars argue that the service sector should not be considered as an engine of growth whereas India and 	Worksheets Online Quiz/MCQs' HOTS questions	

		Pakistan have raised their
		share of output mainly in this
		sector only. What do you
		think?
		There is a general perception going
		around in India that there is sudden
		increase in dumping of Chinese goods
		into India which will have
		implications for manufacturing sector
		in India and also that we do not
		engage ourselves in trading with our
		neighbouring nations.
November	Revision	
December	Revision	
January'21	Pre Board Examination	

Physical Education					
Month	Topics covered	Learning outcome	Activities	Assessments	
October	Chapter: Social Influence and Group Processes Introduction Nature and Formation of Groups Types of groups Social Loafing 	 Each student will be able to: Explain nature and types of groups Describe how groups are formed State the influence of group on individual behaviour Explain why people join groups 	 Students will identify the stages of group formation in any movie showing teamwork. Students will identify and write the different primary/secondary groups they are a part of. 	 Assignments Practice tests MCQ Board Papers 	

November- January	Revision of entire syllabus	Each student will be able to:		
	(as per revised syllabus)	 Describe the theories of intelligence 	2)	 Assignments
		 Explain different approaches of personality 	-7	 Practice tests
	 Variations in psychological attributes 	Describe the different techniques for assessing personality		 MCQ
	Self and Personality	State the various stress management techniques		
	Meeting life challenges	 Describe the various mental disorder 		Board Papers
	 Psychological disorders 	 Explain the various types of psychotherapy 		Dodra i aporo
	Therapeutic approaches	Explain components of attitude		
	Attitude and social cognition	Describe formation of attitudes		
	Social influences and group processes	Explain the different types of social influences and group processes		

Physical Education					