SYLLABUS 2016-17
CLASS – 12

Content

English Language

Lesson No.	Month	Topic	Concept	Activity
1.	Apr.	Composition-Narrative	Journey, story realor imaginary, visit to place, any incidents such as, festival, marrige or quarrel	speaking skills disscussion on any "incident"
2.		Tensesand their uses-I	Defination, taransformation, present, period, general truth, future actions, quotations.	Live examples
3.		Prepositions	Location, relationship of words, examples	Live examples
4.		Test Paper - 2, 3	Fill in the blank, transformation, correct verbs.	Solve exercise, examples.
1.	June	Comprehension - 1, 2	Meanings, important points clarity, understanding	Live examples
2.		Composition-Descriptive	suitable words. Description of some person, place or thing, action convincing words, location	Live experiences
3.		Reported speech - I	Change of tenses, universal truth, Habitual action	Rules / examples
		Test paper - 4, 5	various examples, sentence, instruction.	exercise solving
1.	July	Comprehension - 3, 4	Important points, clarity & understanding experience,	Thinking skills
2.		Directed writing - I	Experience, event, person or place, opinions, compares and contrasts, advice, information	format / rules
3.		Tenses adn their uses-II	Develpment inaction,situations, examples	Transforming sentences
4.		Test paper - 6, 7	instructions, brackets, suitable words.	exercises / examples.
1.	August	Composition-Argumenta tive	Opinion ideas orviews, argument, forceful actions, language	debate
2.		Degrees	Interchange of theDegrees of comparison (Positive, Comparative, Superlative)	Live examples
3.		Directed writing - II	Review of Theatre, concert, cultural Programme, Television, Speech writing	Format / Rules
4.		Tespaper - 8	Instructions, interchagne, fillups, brackets	Thinking skills
1.	Sep.	Comprehension 5, 6	Clarity, understanding, meaning imp points	Live examples
2.		Reported speech - II	Exclamatory, Interrrogative, puncuation location,	Rules, Examples
3.		Prepositions	time, period, relationship, examples	Live Examples
4.		Testpaper - 9, 10	bracket, different exercise, instructions	Rules / Regulations
1.	Oct.	Composition - Reflective	Structure, aim, interesting details, experiences	Thinking skills
2.		Transformation of Sentences - I	Interchange of interrogative, Assertive, Negative, Affirmative, Exclamatory, examples	Rules chart
3.		Comprehension 7, 8	important points, clarity, meanings, understanding	Reading skills
4.		Test paper - 11, 12	statements, instruction,s brackets, fillups.	Live examples
1.	Nov.	Short Story	Characters, plot, setting, Dialogue, language, mood	Frame story (outline)
2.		Directed writing - III	crime report, sports repot, Travel, Personal profile	Format / Rules
3.		Transformation of Sentences - II	Interchange of Degrees of comparison, Active and passive voice, positive and Negative, sentences	Live examples
4.		Test paper - 13	Instructions, brackets, interchange, examples	Rules / examples
1.	Dec.	Tenses & Their uses-III	Present perfect tense, past perfect, postperfect continuous tense, conclusions,Future, Continuous	Live Examples
2.		Comprehension - 9,10	Clarity, instructions, brackets, fillups, imp points	thinking skills
3.		Active & passive voices	Formation of passive voice, verbs, sentences	Live examples / Rules
4.		Test paper - 14, 15	brackets words, instructions, examples, meanings	Lalving exercise
5.		Degrees	comparision of positive, comparative, superlative	Live examples
1.	Jan.	Revision Whole syllabus	Work sheet, Prelims Exams	Brain storming
1.	Feb.	Whole syllabus	Prelims Exam continue	

Syllabus

Round 1 (100 Marks)

1.	Composition (any one) (Narrative / Descriptive)	30m
2.	Article writing (any one) (Concert review, play review, film review)	20m
3.	Gram ex-–Preposition, verbs, tenses, degrees, transform, Narration	20m
4.	Comprehension - Ques (a,b,c) (board pattern)	30m

Round 2 (100 Marks)

1.	Composition (Reflective, Argumentative)	30m
2.	Article writing (book review, concert, function)	20m
3.	Grammar ex – Transformation, narration, preposition, correct use of verb from bracket	20m
4.	Comprehension (As per board patern)	30m

Round 3 (100 Marks)

1.	Composition - Story based, Descriptive, Argumentative	30m
2.	Article writing (Play, personal, film review, book review	20m
3.	Gram ex – Transformation, verbs, tenses, preposition, narration	20m
4.	Comprehension (As per board pattern)	30m

Round 4 (100 Marks)

1.	Composition – All types	30m
2.	Article writing – All types	20m
3.	Gram ex – Complete, sentence without changing meaning, preposition, correct form of verb	20m
4.	Comprehension - As perboard pattern	30m

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English Literature

Lesson No.	Month	Topic	Concept	Activity
Poem 7	April	Five ways to kill a man	Death as an everyday issue, dispassionate about life, world war I, gas attack.	References from Bible and history.
Peom 8		Phenomenal woman	Boosts the self esteem of women, bold and beautiful, self confidence, charming personality	Speakign skills on "Women power"
Story 7		A Real Durwan	India after partition, old Boorima, sweeper, changes in culture and morl values.	Discussion on Topic "Changing ralues & culture"
Story 8		The Lumber Room	Saki style, clever dialogue, wit and power, satire, highly, sensitive, humorous.	Speaking skills dialogue"
Poem 9	June	Breaking out	Plight of a girl, endless humiliations & house holdchores, ironic, pain growing up	Declamation
Story 9		The legend of sleepy Hollow.	Super natural sights, ghost stories, satire, humour and suspense, love	Frame story of ghost
Story 10		Father Returning Home	World of poor father, struggle, nojoy, exhausting daily roution, Dreaming about his ancestors and grand children.	Live examples
Drama	July	Arms & the man Play - Act I	Introduction of characters, plot, theme, setting, style	Role play
Story 10		One Thousand Dollars	Power of love, uncle's will, twist to the plot at end, value, of money, true happiness	Frame a story depicting "Love power and money"
Poem 1	Revision	The Eve of waterloo	Historic battle of waterloo, sorrow, fear, gun fire, death bell of soldier.	Historical refrences
Story 1	Aug.	The lost Jewels	Supernatural, lost love, ghostly, experience, jewellery, lone liness, narrative, style	Speaing skills
Poem 2		The last Ridetogether	monlogue, rejection, pity, hopes, feelings	Recitation, Rhyming
Story 2		Lamb to the slaughter Arme & the man	house wife, murder, insecured, irony Suspense	Suspense story
Drama	Sep.	Play - Act II	The reality of war, class discrimination, idealisation of love.	Roel play
Story 3		The Drover's wife	Hard life of a woman, humour, critical situations	Discussion-"Faces of a women
Poem 3		Mending wall	views & attitude , orthodoxy, relation ships	Write works of Robert Frost
Poem 4	October	Dulce ET Decorum Est	World war I, tragedy, futility, no glory in wars four categories, passion to live, struggle,	Debate on 'wars'
Poem 5		Do not go gentle into that good night	fight against the imminent death	live examples
Story 4		The stolen Bacillus	Scientist, anarchist, chadera bacillus, suspense, humour, wide spread destruction plan, twist	Declamation - use of biological weapontocreate terror.
Story 5	Nov.	Old love	Taleof two scholars, competitors, hatred bad-news, bonding, understanding, love, tragedy	Live examples
Poem 6		Enterprise	Metaphorical journey of life, satire, pilgrimage, hardship, no happines in goal.	Paragraph on "Spiritual life"
Story 6	Dec.	A very old man with enormous wings	Human nature, greed sel fish, Superstitions, man - bird, people's reaction, greed, selfish	Strange incident which you have seen
Drama		Arms and the man play - Act III	Scene in library, discussion on war, relationships, marriage, attitude, status.	Role play
	Jan.	Revision Syllabus	Prelims Exam, worksheet, Refrence book	Brainstorming
	Feb.	Revison (whole-syllabus)	Prelim Exam, Revision	

Syllabus

Round 1 (100 Marks)

Poem – 7,8,9   Story – 7,8

Drama – Act I Arms & the man

Round 2 (100 Marks)

Poem – 10,1, 2   Story – 9,10,1

Drama – Arms & the man Act II

Round 3 (100 Marks)

Poem – 3,4,5,6   Story – 2,3,4,5,6

Drama – Arms & the man Act III

Round 4 (100 Marks)

Poem – 1 to 10   Story –1 to 10

Drama – Arms & the man Act I, II, III

(Paper Style as per Board Exam.)

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Chemistry

Sr. No.	Month	Topic	Concept	Activity
1.	Apr.	Ch. 12 Alcohols and phenols.	• Classification, general formulas, structure and nomenclature. • Methods of preparation, manufacture, properties and uses of ethane, 1,2 diol, propane - 1,2,3 triol • Conversion of one alcohol into another • Distinction between primary, seconday and tertiary alcohols.	Functional group detection in practicals
2.	June	Ch. 16 Polymers Ch. 11 Alkyl and Aryl halides	• Polymerisation • Classification, (Polyethene, polypropene, PVC, PTFE, Polystyrene, natural rubber, polyster, Nylon 66, Nylon 6, bakelfte. Nomenclature, preporation, properties, Organometallic compounds.	
3	July	Ch. 01 Relative molecular mass and mole.	• Normality, molality, molarity, mole fraction, as measured of concentration. • Raoult's law and colligative properites • Non - volatile, non - electrolytic solute • Dissociation - electrolytic solute • Association • Relative molecular mas of non - volatile substances a. By relative lowering of vapour pressure b. Depression in freezing point c. Elevation in boiling point method. d. Osmotic pressure and its application in the determination of relative molcular mass. e. Van't Hoff factor f. Van't Hoff equation and its interpretation g. Numerical problems.	Derivations Numericals
		Ch. 2 State of matter structure and properties (solid state)	• Crystalline and amorphous substances lattice unit cell 3-D packing of atoms in a crystal lattice relation between radius, edge length and nearest neighhour distance of atoms in a unit cell density of a unit cell : Interstitial void : Imperfections in solids, Ionic, metallic and atomic solids,	Group Discussion

Sr. No.	Month	Topic	Concept	Activity
		Ch. 5 Ionic Equilibria	electrical and magnetic properties. • Ostwald's dil;ution law • Arrhenius, Bronsted - Lowry and lewis concept of acids and bases. • Ionic product of water, pH of solutions & pH Indicators. • Common ion effect • Salt hydrolysis • Buffers solutions • Solubitity product and its applications.	Derivation, Numericals
4.	Aug.	Ch. 9 Preparation, Properties & uses of Compounds of Group 16, 17 Ch. 7 Co-ordination compounds Ch. 13 Ether's and carbonyl compounds	• Ozone • Hyrogen peroxide • Sulphur dioxide • Sulphuric acid • Thyochloric acid • Concept of complexes; defination of ligands; Classification of ligands, co-ordination number, co-ordination sphere; IUPAC nomenclature of of co-ordination compounds; Isomerism; magnetic characteristics, valence bond theory, stability constant, and uses in different fields. • General formula and structure, Nomenclature, Preporation, properties and uses of ether with reference to diethyl ether. • Carbonyl compounds methods of preparation, properties and uses of aldehydes and ketones, and preparation from alcohol, alkenes, alkynes, acid chlorides, calcium salt of carboxylic acids. • Physical and chemical properties • Uses • Tests	Practicals in Lab. Group discussion Functional group detection in practicals.
5.	Sep.	Ch. 14 Carboxylic acids and acid derivatives.	Carborylic acids : Classification, general formulae, struture and nomenclature, general methods of preparation, properties and uses of acids. Acid derivatioes : Laboratory preparation, properties and uses of acetyl chloride, acetic anhydride,	Functional group detection in practicals

Sr. No.	Month	Topic	Concept	Activity
		Ch. 15 Cyanides, isocynldes and Nitro compounds	acetamide, ethyl, acetate, urea preparation, properties and uses of urea, manufacture of urea from ammmonia and by eynamide process. Cyanides Nomenclature, general methods of preparation, Correlation of physical properties, their structure, chemical properties, their uses.	
6.	Oct.	Ch.3 Chemical kinetics Ch. 4 Chemical equilibria	• Meaning, Rate of Reactions, Law of mass action, effect of concentration of reactants on the rate of reaction, order of a reaction, collision theory catalyst. • Reversible and Irrevesible reactions • Chemical Equilibrium • Lechartelicer's principle and its applications to chemical equilibria.	Derivations, Numericals Derivations, Numericals
7.	Nov.	Ch. 6 Electro chemistry Ch. 10 Chemistry of Transition and Inner - Transption elements	• faraday's laws of electrolysis • Relation between faraday, Avagadro's number and charge on an electron. • Galvanic cells • Electrolytic conductance • Corrosion • Batteries • d-Block : 3d, 4d and 5d series • F black 4f and 5 f series • Actenoids • Study in terms of metallic character, atomic and ionic radii, Ionization enthalpy, oxidation states, alloy formation. • Study of compounds.	Demonstration of cell in Lab. Group discussion by showing periodic table in Lab.
8.	Dec.	Ch. 17 Biomolecules Ch. 8 Chemistry of p-block element	• Carbohydrates, proteins, Enzymes, Vitamins, and nucleic acids. Occurence, Electronic configuration, Atomic and ionic radii, oxidation state, Electronegative, characters, Ionisation enthalpy, Nature of oxides, hydroxides, hydrides, carbonates, Nitrates, chlorides, Sulphates.	

<u>Syllabus</u>

Round 1

Ch. 1, 2, 11, 12, 16

Round 2

Ch. 1,2,5,7,9,11,12,13,14,15

Round 3

All Chapter (Full course)

Round 4

All Chapter (Full course)

Note : Round 1,2,3,4 carries 70 marks each.

(Paper Style as per Board Exam.)

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Maths

Sr. No.	Month	Topic	Concept	Activity
1.	Apr.	1. Determinants	• Order • Properties • Cramer's Rule • Minors, Cofactors • Consistency, or Inconsistency • Dependent, or Independent.	Group Discussion Oral Test
		2. Matrices	• Types of matrices • Symmetric, Skew symmetric • Operations • Multiplications • Singular, Non-Singular • Inverse, A^{-1} • Martin's Rule • Consistency of Equations.	Oral Discussion of Methods and formulas.
		3. Boolean Algebra	• Principle of duality • Boolean function • Switching circuites • Application of Boolean algebra to switching Circuits.	Oral Questioning
2.	Jun.	6. Differentiation	• Revision of clas XI • Trigonometric functions • Logarithmic And Exponential functions • Implicit Function • Inverse Trigonometric functions • Chain rule • Successive diff. upto second order.	Group Discussion
		7. Indeterminate forms of Limits	• L'Hospital's Rule • $\frac{0}{0}, \frac{\infty}{\infty}, 0^0, \infty^\infty$ form	Oral Test
		8. Mean Value Theorems 9. Maxima and Minima	• Rolle's Mean Value Theorem • Lagrange's Mean Value Theorem • Conditions • Points of inflexion • General conditions for turning points • Location of maximum and minimum values in closed intervals. • Applications.	Geometrical Interpretations of both theorems. Real life Examples.
3.	July	9. Continue 10. Integration	• Revision of XI • Change of the independent variable. • By substitution	• Meaning of Intergration • Practical Applications in

Lession No.	Month	Topic	Concept	Activity
		11. Standard Methods of Integration	• Integrals of $\frac{1}{x}$, $\frac{1}{ax+b}$, e^x, a^x, e^{ax} • Definite Integration. • Method of substitution • Two important forms $\int \frac{f^{\mid,}(x)}{f(x)} dx$	Engineering field. Group Discussion
		12. Special Integrals	• Integrals of tan x, cot x, cosec x, sec x. • Integration by parts. • Using partial fractions. • Integration of $\frac{1}{x^2+a^2}, \frac{1}{x^2-a^2}, \frac{1}{a^2-x^2}$ $\frac{1}{\sqrt{x^2+a^2}}, \frac{1}{\sqrt{x^2-a^2}}, \frac{1}{\sqrt{a^2-x^2}}$ and reducible to this form special integration forms.	Oral Test
4.	Aug.	13. Definite Integrals 14. Applications of Definite integrals (Area of a curve) 15. Correlation 16. Regression Analysis	• Evaluation, • Properties. • Question based on them. • Sketching of Simple curves • Geometrical interpretation. • Area of a curve included between the x-axis or the y-axis. • Karl Pearson's coefficient $r = \dfrac{\sum (x-\bar{x})(y-\bar{y})}{\sqrt{\sum(x-\bar{x})^2}\sqrt{\sum(y-\bar{y})^2}}$ • Spearman's rank correlation coefficient (correction also) • Definition and meaning of regression coefficient. • Equations of line of regression of x on y and y on x	Group Discussion Geomettical Interpretation Visit to smart class to see videos. Make a chart paper of Formulas. Make a list of formulae of all the topics covered under Regression Analysis.
5.	Sep.	17. Probability	• Random Experiment and their outcomes. • Events its types • Laws of Probability, conditional probability.	Coin, Die, Card Experiments Practical Applications.
6.	Oct.	18. Complex numbers 19. Differential Equations 5. Inverse Trigonometric functions	• Argument and conjugate • Operations of complex numbers • Simple locus questions • Triangle inequality • Square root • De Moivre's theorem • Cube roots of unity. • Order and Degree • Solution of differential equations. • Variable separable • Homogeneous Equations. • Linear form $\dfrac{dy}{dx} + Py = Q$ P and Q are functions of x. • Principal values • $\sin^{-1}x$, $\cos^{-1}x$, $\tan^{-1}x$,	Oral Test Group Discussion

Lession No.	Month	Topic	Concept	Activity
			• $\sin^{-1}x + \cos^{-1}x = \dfrac{\pi}{2}$ • Addition formulae • $\tan^{-1}x + \tan^{-1}y$ • Application of these formulae.	Group Discussion
			Section-B	
7.	Nov.	20. Vectors	• Scalar product • Vector (cross) Product • Scalar triple Product • Proof of formulae (using vectors) • Sine rule • Cosine rule • Projection formula • Area of a Δ is $\dfrac{1}{2}$ a b sin C.	Take students to smart class, practical application of vectors.
		21. Straight lines in Space	• Cartesion and vector equations of a line • Coplanar and skew lines • Conditions for intersection of two lines • Shortest distance between two lines.	Group Discussion
		22. The Plane	• Cartesian and vector equations of a plane. • Direction ratios of the normal • One point form • Normal form • Intercept form. • Distance of a point from a plane. • Angle between two planes, a line and a plane. • Equation of a plane through intersection of two planes. i, e. $P_1 + kp_2 = 0$ • Simple questions based on above.	Oral Test
8.	Dec.	23. Further probability Baye's Theorem 24. Probability Distribution 4. Conics	• Baye's theorem • Theore tical probability distribution • Probability distribution function • Binomial distribution its mean and variance. • Random variable • Graphical representation • Mean and Variance • Binomial distribution • Section of cone • Parabola, finding equation, foci and directrix are given. • ELLIPSE : $\dfrac{x^2}{a^2} + \dfrac{y^2}{b^2} = 1$ • Hyperbola $\dfrac{x^2}{a^2} - \dfrac{y^2}{b^2} = 1$ transverse and conjugate axis.	Oral Discussion Oral Test Group Discussion Take students to the smart class so as to show the videos

Syllabus

Round 1 :

Ch.-1,2,3,6,7,8

Round 2 :

 Ch.-1,2,3,6,7,8,9,10,11,12,13,14,15,16

Round 3 :

Whole Book

Round 4 :

Whole Book

(Paper Style as per Board Exam.)

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PHYSICAL EDUCATION (PE)

Sr. No.	Month	Topic	Concept	Activity
1.	Jun.	Sports injuries and first Aid.	Sports injuries, Role of individual in prevention of sports related accidents, First Aid.	
2.	July	Health Education and Health Problem	Meaning of Health & Health Education, Principles and importance of Health Education, products, Personal hygiene, substance Abuse.	
3.	Aug.	Career Aspects in Physical Education	Career options in physical Education Important Institutions of physical Education in India.	
4.	Sep.	Compititions and Tournaments.	Tournaments and types of tournaments, Difference between professional and Amateur Players.	
5.	Oct.	Socialogical Aspects of physical Education.	Games and sports as man's cultural heritage Development of the inidvidual throught games and sports, physica education and personality development.	
6.	Nov.	Training Methods	Meaning and importance of sports Training method of training, worming up, Isometric and Isatonic exercises.	
7.	Dec.	Basket Ball and volley	Knowledge of the game, ground, how to improve, performance	

Paper Style for SA-I and SA-II
Part _ I (70 marks)

The theory paper will be divided in to two section A and B candidates will be to required to answer five questions out of seven from section A, each carrying 8 marks. Section B will be based on questions on major games in the syllabus. Candidates will be required to select two games from this section and answer any three of the five subparts (a), (b), (c), (d) and (e) from each of the two selected games of their choice Each question shall carry 15 marks.

SA-I
1. Sports injuries and First Aid.
2. Health Education and Health Problems.
3. Career Aspects in physical Education.
4. Games.

SA- II

1. Competitions and Tournaments.
2. Sociological Aspects of Physical Education.
3. Training Methods
4. Games

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BIOLOGY

Sr. No.	Month	Topic	Concept	Activity
1.	April	5. Absorption & Movement of water	Diffusion, Osmosis, Mechinism of absorption, Ascent of sap, Mechnism of opening & closing of Stomata, guttation.	1. Study of imbibition in Raisins / Seeds. 2. Demonoration of plasmolysis. 3. Demonstration of Osmosis in living plant cells by potato Osmoscope
		6. Photosynthesis	Ultra structure of chloroplast, Photosynthesis, Factors, affecting photosysnthesis, photorespiration	1. Distribution of stomata on the two surface of a leaf 2. To demonstrate that oxygen is evolved during photosysnthesis. 3. To demonstrate the effect of different concentration of carbon dioxide on the rate of photosynthesis.
		7. Human Reproduction	Male & Female reproductive system, menstrual cycle, Amniocentesis, embryonic development in mammals.	1. Identification & comment on permanent slide of T.S. mammilan tests.
2.	June	4. Anatomy of flowering plants.	T.S. of young dicot and monocot stem, young dicot & monocot root & V.S. of dicot & monocot leaf	1. Study of T.S. dicot root T.S. monocot root, T.S. dicot stem, T.S. monocot stem, T.S. dicot leaf, T.S. monocot leaf.
		9. Fundamentals of Genetics 10. Genes and chromosome structure	Alleles, phenotype & genotype, Homozygous, Heterozygous, Mendel's experiments with peas. Packaging of hereditary chromosomes linkage and crossing over, mutation, sex determination, Human genome project, DNA fingerprinting.	1. Pedigree problem sloving sums.
3.	July	11. Molecular Basis of	DNA as genetic material, central dogma, genetic	Video of proten sysnthesis

Sr. No.	Month	Topic	Concept	Activity
		inheritance Genes. 12. Reombinant DNA Technology & its application.	code, protein synthesis, Lac Operon in E-Coli, HGP Tools for Recombinant DNA Teachnology, PCR, vector, Plasmids, Genetransfer methods.	& Lac Operon.
4.	Aug.	1. Origin of life & Evolution 2. Theories & Mechanism of evolution.	Chemical & Organic evolution, Miller-Urey experiments, evidences of evolution, vestrigial, Organs, fossils, genetic evidences. Lamarckism, Darwinism, types of natural selection, Adaptation, New Darwinism, variations.	
5.	Sep.	3. Human evolution 8. Reproduction and development in Angiosperms	Evolution of man Structure of a typical flower, types of inflorescence, placentation, pollination, fertilisation, embryo, seed, fruits, parthenocarpy.	Study of different flowers and inflorescence.
6.	Oct.	13. Crop improvement 14. Biotic community 15. Biodiversity Today	Methods of crop improvements, tissue-culture, single cell protein, biofertification, biopesticides. Intraspecific and interspecific relationship, commensalism, predation, savenging, parasitism sysmbiosis. Improtance of biodiversity, types of biodiversity, types of biodiversity, genetic conservation, gene banks and cryopreservation	
7.	Nov.	16. Biofertiliser and biopesticides 17. Human Diseases 18. Adolesenl issues	Green manure, nitrogen fixation, nitrogen cycle, examples of biopesticides. Body's defense mechanisms, immune diorders, AIDS, Allergies, interferons, communicable disease, non communicable diseases, genetic diseases. Alcoholism and drugs	
8.	Dec.	19. Biomedical Engineering 20. Human population 21. Animal Husbandry	Instruments ECG, EEG, CT Scan, Ultrasound, MRI, Pacemaker, Dialysis, external prothesis. Population growth curves, causes of increase in population. Dairy farm management , poultry form management apiculture, pisciculture.	

Syllabus

Round 1

Ch. 4,5,6,7

Round 2

Ch. 9,10,11,12,1,2

Round 3

Ch. 3,8,13,14,15,16,7

Round 4

Whole Syllabus

(Paper Style as per Board Exam.)

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COMPUTER

Sr. No.	Month	Topic	Concept	Activity
1.	April	Ch. 1 Propositional logic	Proposition, well formed formulae and Truth values Tautology, contradiction and contingency, syllogism	Group Discussion
		Ch. 2 Boolean algeba	Binary-valued quantities, Boolean postulates and laws, SOP expression, POS expression, min term, max term karnaugh Map.	Numerical on K-map (very important)
2.	June	Ch.3. Computer Hardware	Logic gates, universal logic Gates, encoder, Decoder, multiplexer.	Group Discussion
		Ch. 4 Object and classes	objects, classes, inheritance, Abstraction, polymorphism, dynamic binding	Give real world examples of all the features.
		Ch. 5 Primitive Values, Type casting, Variables and Expression	tokens and its types, data types, type conversion - Implicit and explicit, variables, operators, Unary, binary, ternary, arthimatic, logical operators.	Group Discussion
3.	July	Ch. 6 Conditional statements and loops	Math package, Scanner class, Printer Writer class, if-else, switchcase, scope of variables, iteration through loops	Generation of various patterns
		Ch. 7 String Manipulations	String buffer class; conversions from string to primitives and vice -versa, character and string manipulation, using library classes, Types of streams, Exception handing in Java, Wrapper Classes, Packages in Java	Various Programs on String Manipulation
		Ch. 8 Arrays, single and multidimentional	Arrays; 1D array, 2D array, searching linear and binary search, sorting -selection, Bubble and insertion, insersion, deletion, merging	Write programs for various for various sorting and and searching algorithms.
4.	Aug.	Ch. 9 Methods/functions	Defining a method, static and instant methods; invoking a function, actual and formal parameter, pass by value and pass by reference; pure and impure functions, function overloding, recursive functions.	Practical application of methods.
		Ch. 10 Class as User	Class, static member methods, static data	Desigining a class based

Sr. No.	Month	Topic	Concept	Activity
		Defined Data types, constructors	members, default constructior, parameterized constructor, copy constructor, constructor overloading	on Teachers requirement
5.	Sep.	Ch. 11 File operations in Java	Concept of stream - Input and output Stream; File class; Scanner class; Binary Files.	Programs for file handing
6.	Oct.	Ch. 12 Inheriternce and Polymorphism	Inheritance, visibility modes of inheritance, types of inheritence, overriding member methods, Overloading member function.	Program to implement method overiding
7.	Nov.	Ch. 13 Data structure	Stack-Push and POP Operation, prefix, postfix and infix expression, tower of Hanoi-Queue, Dqueue, Address-calculation in - 1D and 2D array, linked List, insertion and deletion on linked list, Double linked list, Insertion and detection in Double Linked list, Tree-Binary Tree, Recursive Data Structure, quick sort,	Write program for performing various operations on data structer studied till now.
8.	Dec.	Ch. 14, Computational complexity and Big O Notation.	Complexity, Application of complexities, Big O notation, Complexity calculation, best, average and worst case complexity, selection sort and bubble solt.	Find the worst, average and best cimplexity for all the searching and sorting algorithms sutdied till now.
9.	Jan.	Revision		

Syllabus

Round 1 : Ch. 1,2,3,4,5,6,7,8

Round 2 : Ch. 9 to 14

Round 3 : Whole Book

Round 4 : Whole Book

Paper Style

Part 1 : (30 Marks)

This part will consist of compulsory short answer questions from syllabus.

Part II : (70 Marks)

There will be three sections. A,B and C

Section A : Attempt three out of four questions   10 Marks each

Section B and C : Attempt two out of three questions 10 Marks each

(Paper Style as per Board Exam.)

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Physics

Sr. No.	Month	Topic	Concept	Activity
1.	April	Ch-1. Electrostatics	• Eelectric charge - Coulomb's Law, Concept of electric field. • Gauss' theorem, electric potential, capacitance & Dielectrics.	numericals & Derivation
2.	June	Ch-2. Current electricity	• Source of current, electric current- ohm's law, Direct current circuits, electric power-heating effect of current, thermoelectricity.	Derivation numericals, practical from mannual
3.	July	Ch-3. Magnetism	• Magnetic fields, Superposition of magnetic fields, properties of Magnetic substances.	
4.	Jul/Aug.	Ch-4. Electromagnetism	• Magnetic effect of current, Force on a moving charge in a magnetic field, current loop as a magnetic Dipole, electromagnetic induction, transient current, machines	
5.	Aug.	Ch-5. Alternating current circuits.	• DC and AC circuits, Average or mean value, R.m.s value, L-C-R circuit, Q-factor, Resonance circuit	numericals
6.	Sep.	Ch-6. Wave optics	• Electromagnetic waves, Huygen's principle and and interference, Diffraction, polarisation.	numericals
7.	Oct.	Ch-7. Ray optics	• Refraction at a plane surface and prism, spherical surface, Dispersion, optical instruments.	practical from mannual
8.	Nov.	Ch-8. eletrons & photons Ch-9. Atoms Ch-10. Nucles	• electrons, photoelectric effect, wave particle duality • Atoms, x-Rays. • Introduction, Atomic mass propety, Radioactivity	
9.	Dec.	Ch-11. Nuclear energy Ch-12. Semiconductor Devices Ch-13. Communication systems	• Nuclear fission & Nuclear Fusion • Energy band in solids & junction Diode, Junction transistor, Logic gates. • Terminology used in communication, block diagram, tyeps of wave propogation, modulation, need of it, Types of modulation.	

Syllabus

Round 1

Ch. 1,2

Round 2

Ch. 1,2,3,4,5,

Round 3

Ch. 6 to 13

Round 4

All Syllabus

(Paper Style as per Board Exam.)