



CALCUTTA PUBLIC SCHOOL, ORMANJHI

Affiliated to CBSE, Delhi (10+2) Affiliation No. 3430600

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SYLLABUS (2024 – 2025)

CLASS – XII SCIENCE

Name: _____

Class: _____

Section: _____

Roll No: _____

ENGLISH CORE

Prescribed Books: 1. Flamingo 2. Vistas 3. Goya's Assignment in English Core

Months	No. of periods	FLAMINGO	VISTAS	READING & WRITING
April	24	1. The last lesson Poetry: 1. My mother of sixty six 2. Keeping quite 3. A Road Side Stand	1. The third level	Notice / Advertisement
May	14	2. Lost Spring Poetry: 4. A thing of beauty	2. The Tiger King	Letter Writing
June	12	3. Deep Water 4. Indigo	3. Journey to the end of the earth	Report Writing
July	26	6. Poet and pancakes 5. The Rattrap	4. The Enemy 5. On the face of it	Article Writing
August	25	7. The Interview Poetry: Aunt Jennifer's Tiger		Reading Skills
September	First Term Examination			
October	25	8. Going Places	6. Memories of childhood	
Syllabus for Term Exam and Periodic Test				
Periodic Test-I	1. The last lesson (Prose) 2. Keeping quiet (Poetry) 3. A letter to Job			
Periodic Test-2	1. The Tiger King 2. A Road Side Stand 3. Advertisement (Reading & Writing Skills)			
Periodic Test-3	1. Indigo 2. My mother of sixty six 3. Article writing(Reading& Writing Skills)			
Periodic Test-4	1. The Rattrap 2. the Enemy 3. Aunt Jennifer's Tiger			

हिंदी पाठ्यक्रम कक्षा – बारहवीं विषय – हिंदी आधार विषय कोड – 302 शैक्षणिक सत्र .
2024-2025

Prescribed Book 1. आरोह भाग –2 (एन. सी. ई. आर. टी.)

2. वितान भाग – 2 (एन. सी. ई. आर. टी.), अभिव्यक्ति और माध्यम (एन. सी. ई. आर. टी.)

1st Periodic पाठ – 1 आत्मपरिचय (काव्यखंड)
दिन जल्दी –जल्दी ढलता है।
पाठ – 11 भक्तिन (गद्यखंड)

Month	No.Of Prds	आरोह भाग –2	वितान भाग –2	अभिव्यक्ति और माध्यम
April	08	पाठ –1 आत्मपरिचय (काव्यखंड) दिन जल्दी– जल्दी ढलता है। पाठ – 11 भक्तिन (पाठ –1 सिल्वर वैडिंग (वितान)	विभिन्न माध्यमों के लिए लेखन अपठित गद्यांश
May	10	पाठ –2 पतंग ((काव्यखंड)	पाठ – 2 जूझ (वितान)	पाठ – 4 पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया अपठित गद्यांश
June	08	पाठ –3 कविता के बहाने बात सीधी पर (काव्यखंड) पाठ – 12 बाजार दर्शन (गद्यखंड)	पाठ – 3 अतीत में पॉव	रचनात्मक लेखन
July	10	पाठ 4 कैमरे में बंद अपाहिज (काव्यखंड) पाठ – 13 काले मेघा पानी दे (गद्यखंड)		पाठ –5 विशेष लेखन स्वरूप और प्रकार
August	12	पाठ –6 उषा (काव्यखंड) पाठ – 14 पहलवान की ढोलक (गद्यखंड)		पाठ – 12 कैसे करें कहानी का नाट्य रूपांतरण। पाठ –11 कैसे बनता है रेडियों नाटक
September		Revision + Term – 1 Examination		
October	10	पाठ –7 बादल राग (काव्यखंड) पाठ – 8 कवितावली उत्तरकांड में लक्ष्मण– मर्छा और राम विलाप (काव्यखंड)	पाठ 17 शिरीष के फूल पाठ – 18 श्रमविभाजन और जाति प्रथा। मेरी कल्पना का आदर्श समाज	
November		Preboard -1	Syllabus taught from April to October	
December		Preboard -2		

पाठ – विभिन्न माध्यमों के लिए लेखन (अभिव्यक्ति और माध्यम)

2nd Periodic पाठ 12 बाजार दर्शन (गद्यखंड)
पाठ-2 पतंग (काव्यखंड)
पाठ-1 सित्वर वैडिंग

3rd Periodic पाठ -4 कैमरे में बंद अपाहिज (काव्यखंड)
पाठ – 14 पहलवान की ढोलक गद्यखंड)

1st Term Examination Syllabus Taught from April to August
Preboard Examination (Whole Syllabus)

Mathematics

Class – XII

One paper.

Time – Three Hours.

Max Marks - 80

No.	Units	No. of periods	Marks
I	Relations and Functions	30	08
II	Algebra	50	10
III	Calculus	80	35
IV	Vectors and Three – Dimensional Geometry	30	14
V	Linear Programming	20	05
VI	Probability	30	08
	Total	240	80
	Internal Assessment	–	20

Months	Contents	
April	<p>Relations and Functions</p> <p>Inverse Trigon. Functions</p> <p>Matrices</p>	<p>Types of relation: - (a) Reflexive (b) Symmetric (c) Transitive (d) Equivalence relations. One to One and onto functions.</p> <p>Inverse Trigonometric fun. (Defn); Range, Domain Principal value Branch. Graphs of Trigonometric functions.</p> <p>Rows, columns and entries of matrices. Present a set of data in Matrix from Examples of transpose of a matrix. A square matrixes a sum of symmetric and skew symmetric matrix. Observe diagonal elements of skew symmetric matrices are zero, perform. Addition and Subtraction on matrices of same order. Multiplication of matrices can be shown to the students / that with a real no, also invertible matrices</p>
May	<p>Determinants</p> <p>Inverse of a matrix</p> <p>Solving system of simultaneous equations using matrix method.</p> <p>Continuity and differentiability</p>	<p>Singular and non-singular matrix of a square matrix. $AB = A B$ Adjoint and inverse of a square matrix. Simple problem to find determinant value.</p> <p>Inverse of a matrix using cofactors. Using $(AB)^{-1} = B^{-1}A^{-1}$ $(A^{-1})^{-1} = A$, $(A^{+T})^{-1} = (A^{-1})^{+T}$ Solution of system of simultaneous equation up to three variables only (Nonhomogeneous equns.)</p> <p>Continuity of function. Differentiability of a function. Implicit function. Explicit function. Chain rule to find the derivative of a function. Concept of exponential and logarithmic functions and its derivatives. Derivative of logarithmic functions expressed in parametric forms. Second order derivatives.</p>
June	Application of Derivatives	To find the rate of change of quantities such as area and volume w.r to time. Nature of increasing and decreasing functions. Critical points. To find local maxima and local minima by (a) first derivative (b) 2nd derivative.
July	Integrals	Integration as a reverse process of difference. Vocabulary and notations related to integration. Evaluate indefinite integral by using substitution, partial fractions, by parts. $\int \frac{dx}{x^2+a^2}$, $\int \frac{dx}{\sqrt{x^2 \pm a^2}}$, $\int \frac{dx}{a^2-x^2}$, $\int \frac{dx}{\sqrt{ax^2+bx+c}}$, $\int \sqrt{ax^2 + bx + c} dx$

August	Definite Integrals Application of Integrals	Evaluations of definite Integrals using properties. Evaluations of area under simple curves such as lines, circles, Parabola, Hyperbolas, will be discussed.
	Differential Equations	Defn. Order, degree and examples. General and particular solution of differential equation by using variable separable methods. Solution of homogeneous different equation of firth order and first degree. Solution of differential equation of the type of $\frac{dy}{dx} + py = Q$, $\frac{dx}{dy} + px = Q$
September	Revision and Term – I Examination	
October	Linear Programming	Need for framing linear programming problem. Defn. Of decision variables constraints, objectives fun; non-negative conditions. Set the problems in terms of decision variables, objective funs. Express the problems in terms of in equations. Examples of finding the solutions by graphical method. Feasible and infeasible solution
	Probability	Conditional probability. Multiplication theorem. Independent events. Total probability theorem. Bayes' Theorem Random Variable and its probability. Distribution. Mean of random variable.
	Vectors	Basic ideas of vectors and scalars, different kinds of vectors, Magnitude and direction of a vector, addition and Multiplication of vectors direction ratios and direction cosine of two vectors. Dot and cross product of vectors and its geometrical Interpretations.
	Three dimensional geometry	Direction ratios and direction cosines of a vector. Relation between l, m, n Distance between two points. Angle between two vectors if the d cosine & d ratios are given. Cartesian and vector equation of a line. Shortest distance between two skew lines.
Periodic Test – 1.		1. Relations, functions. 2. Inverse Trigonometric function.
Periodic Test – 2.		1. Calculus (Application of Derivatives) First part 2. Matrices and Determinants
Term – I.		1. Relations. 2. Functions, Inverse Trigonometric function. 3. Matrices and Determinants 4. Calculus (up to Maxima & Minima) first part book.
Periodic Test – 3.		Integration and its application pre-board-whole syllabus.
Pre Board Exam		Whole Syllabus

SUBJECT: BIOLOGY (044) (XII)

Prescribed book	1. Biology NCERT 2. Biology exemplar NCERT. 3. Core laboratory Manual (goal brothers)	
Month	Total number of periods.	Chapters/ lesson
April	30	Chapter: 1 Sexual reproduction in flowering plants. Chapter: 2 Human reproduction
May	28	Chapter: 3 Reproductive health. Chapter: 4 Principles of inheritance and variation.
Jun	32	Chapter: 5 Molecular basis of inheritance. Chapter: 6 Evolution.
July	35	Chapter: 7. human health and disease. Chapter: 8. Microbes in human welfare.
August	34	Chapter: 9. Biotechnology-Principles and processes. Chapter: 10. Biotechnology and its application.
September	Revision + Term 1 examination	
October	25	Chapter: 11. Organisms and populations. Chapter: 12. Ecosystem. Chapter: 13. Biodiversity and conservation.
Syllabus for periodic test and Term examination		
Periodic Test	PT1: Chapter: 1. Sexual reproduction in flowering plants. PT2: Chapter: 4. Principles of inheritance and variation	
Term 1	Chapter: 1 Sexual reproduction in flowering plants. Chapter: 2 Human reproduction. Chapter: 3 Reproductive health. Chapter: 4 Principles of inheritance and variation. Chapter: 5 Molecular basis of inheritance. Chapter: 6 Evolution.	
Periodic Test	PT3: Chapter: 5 Molecular basis of inheritance. Chapter: 6 Evolution.	
Pre Board 1. Pre Board 2.	Whole syllabus	

SUBJECT – CHEMISTRY / CLASS – XII (SC) (SYLLABUS – 2024-25)

Months	No. of Periods	Unit (Topic)
April	24	Unit – 2 Solution Types of solution expression for concentration of solution of solid in liquid solubility of gases in liquids solid solution, Raoult's law colligative property relative lowering of vapour pressure elevation of boiling point depression in freezing point osmotic pressure determination of molecular masses using colligative property abnormal molecular masses vant hoff factor. Unit – 3 Electrochemistry Redox reaction, EMF of cell standard electrode potential, Nernst equations and its application to chemical cells. Relation between Gibbs energy change and EMF of cell. Conductance in electricity solution specific and Molar.....
May	20	Unit – 3 Electrochemistry Conductivity variation of conductivity with concentration. Kohlrausch's law. Electrolysis and the law of electrolysis (Elementary idea) dry cell, electrolytic cells and Galvanic cells, Lead accumulate for fuel cells corrosions.
June	18	Unit – 4 Chemical Kinetics Order and Molecularly of a reaction, rate law and specific rate constants integrated rate equations and Half-life (only for zero and first order reaction) Concept of collision theory (Elementary idea), no Mathematical treatment. Activations energy and Arrhenius equations. Unit – 10 Haloalkanes & Haloarenes Haloalkanes: - Nomenclature nature of C - X bond. Physical and Chemical properties, optical rotation mechanism of substitution reaction.
July	26	Haloarenes :- Nature of C – X bond, substitution reaction (directive influence of halogen in monosubstituted compound only) Uses and environmental effect of dichloromethane. Tro churro methane, tetra churro methane iodoform. Freon DDT. Unit – 11 Alcohols , phenols and Ethers Alcohols: - Nomenclature method of preparation. Physical and chemical properties of (primary alcohol only) Identification of primary secondary and tertiary alcohols mcojanism of dehydration uses with special reference to methanol and ethanol phenol nomenclature method of preparation. Physical and chemical properties, acidic Nature of phenol electrophilic substitution reaction, uses of phenols ethers, Nomenclature, method of preparation physical and chemical properties uses.
August	26	Unit – 12 Aldehyde, Ketones and Car Boxylic Acids Nomenclature nature of carbonyl group method of preparation physical and chemical properties mechanism of nucleophile addition Reactivity of alpha Hydrogen in aldehyde uses carboxylic acids, Name cloture acidic nature method of preparation Physical and Chemical properties uses. Unit – 13 Amines Nomenclature, classification structure method of preparation, physical and chemical properties uses. Identification of Primary secondary and tertiary amines, diazorium salts preparation chemical reaction and importance in synthe4tic organic chemistry. Unit – 8 d and f. Block Elements General introduction, electronic configuration occurrence and characteristic of transition metal general trends properties of the first row transition metal metallic character ionization enthalpy oxidation state ionic radii colour catalytic property, magnetic property interstitial compdsalloy formation preparation and properties of $K_2Cr_2O_2$ and $Kmno_4$. Lanthanides: -Electronic can configuration, oxidation states and comparison with properties chemical reactivity and Lanthanoid contraction and its consequences. Actinoids Electronic configuration state and comparison with lantnanoids.
September	23	Revision and Half yearly examination.

October	21	Unit – 9 Co-Ordination compounds Introduction, ligands co-ordination number colour magnetic properties and shapes, IUPAC Nomenclature mono Nuclear co-ordination compounds. Bonding Werner’s co-ordination theory VBT and CFT structure and stereo isomerism, the importance to co-ordination compounds (A qualitative analysis extraction of metals and Biological systems). Unit – 14 Biomolecules Carbohydrates classification Aldoses and Ketoses mono saccharides (Glucose and fructose) D-L configuration oligosaccharides, sucrose lactose, and maltose) poly saccharides (starch, cellulose and glycogen). Importance of carbohydrate, proteins, elementary idea of amino acids, Peptide Bond polypeptides proteins structure of proteins. Primary secondary and tertiary structure and quaternary structure (qualitative idea only) denaturation of protein enzymes Hormones elementary idea excluding structure vitamins classification and function Nucleic acid DNA and RNA.
November	22	Revision and Annual Examination (Pre Board Exam)
December	20	Pre Board Exam
Note:-	The above schedule are subject to change under unavoidable circumstances.	

SYLLABUS FOR PERIODIC TEST AND TERM EXAMINATION.

Periodic Test – 1.	Unit – 2 (Solution) Unit – 3 (Electrochemistry) From page 73 to 85 (Conductance of electrolytic solution.
Periodic Test – 2	Unit – 4 (Chemical Kinetics) Unit -10 (Haloalkanes and Arenes) Unit -11 (Alcohols Phenols and Ethers)
Term – 1	Unit 2 + Unit 3 + Unit 4 + Unit 10 + Unit 11 + Unit 12 + Unit 13 +Unit 8
Periodic Test – 3.	Unit – 4 Co-Ordination compounds Unit – 14 Biomolecules
Pre Board Exam	Whole syllabus

IP (Class –XIITH)**Prescribed Book: Informatics Practices (NCERT) -065****Session – 2024-2025**

Month	Total Period	Chapter Name by NCERT
April	16	Chapter 2: Data Handling using Pandas – I
May	8	Chapter 2: Data Handling using Pandas – I
June	8	Chapter 1: Database Query using SQL
July	16	Chapter 1: Database Query using SQL Chapter 5: Introduction to Computer Networks
August	16	Chapter 3: Data Handling using Pandas – II
September	Revision + Half Yearly Exam (Term-1)	
October	12	Chapter 4: Plotting Data using Matplotlib Chapter 6: Societal Impacts
PT -1	Ch-2 : Data Handling using Pandas – I	
PT-2	Ch-1 : Database Query using SQL	
PT -3	Ch-3 : Data Handling using Pandas – II Ch-5 : Introduction to Computer Networks	
PRE- BOARD -1		
PRE – BOARD - 2		

SYLLABUS FOR PHYSICAL EDUCATION (048)
(2024-2025)

CLASS- XII

<i>MONTHS</i>	<i>PERIODS</i>	<i>CHAPTER NAMES</i>
April	15	1. Management of Sporting Events
April	10	2. Children and Women in sports
May	10	3. Yoga as Preventive measures
June	12	4. Physical Education and Sports for CWSN
June	15	5. Sports and Nutrition
July	10	6. Test and Measurements in Sports
July	15	7. Physiology and Injuries in Sports
August	12	8. Biomechanics and Sports
September	-----	Revision
October	08	9. Psychology and Sports
October	10	10. Training in Sports
November	-----	Revision
December	-----	Pre- Board

Periodic Test-1:- Ch.1. Management of Sporting events

Ch.2. Children and Women in sports

Periodic Test-2:- Ch.3. Yoga

Ch.4. Physical Education and Sports for CWSN

Ch.5. Sports and Nutrition

Periodic Test-3:- Ch.8. Biomechanics and Sports

Ch.9. Psychology and Sports

TERM-1:- Ch.1. Management of Sporting events

Ch.2. Children and Women in sports

Ch.3. Yoga

Ch.4. Physical Education and Sports for CWSN

Ch.5. Sports and Nutrition

Ch.6. Test and Measurements in Sports

Ch.7. Physiology and Injuries in sports

PRE- BOARD:- Whole Syllabus

CLASS: XII SUBJECT: Physics			BOOKS: 1. NCERT Textbooks (Part 1&2) 2. NCERT Exemplar 3. Laboratory Manual of Physics (Goyal Brothers)		
MONTH	No.OF PERIODS	UNIT	INCLUDING CHAPTERS	MARKS	TOPICS
APRIL	26	I	ELECTROSTATICS Ch-1 : Electric charges and fields. Ch- 2 : Electrostatic Potential and . Ch- 3. Current Electricity.	16	
MAY	18	II	Magnetic effects of current and magnetism.		
JUNE	22	III	Ch-4. Moving charges and magnetism. Ch-5. Magnetism and matter. Electromagnetic Induction and Alternating current.	17	
JULY	23	IV	Ch- 6. Electromagnetic Induction Ch-7. Alternating Current. Electromagnetic Waves. Ch-8. Electromagnetic Waves. Ch-9. Ray optics and Optical Instruments Ch-10. Wave Optics.		
AUGUST	25	V	Dual nature of radiations and matter. Ch-11. Dual nature of radiation and matter. Atoms and Nuclei Ch-12. Atoms Ch- 13. Nuclei	18	
		VI	Electronic Devices Ch-14. Semiconductor Electronics: Materials, Devices, and Simple Circuits		

SEPTEMBER	17	VII		12	
OCTOBER	15	VIII			
NOVEMBER	14	IX		7	
Total-	160			70	

Syllabus for Term Exam and Periodic Test:-

01st Periodic Test :- June 2024 (Tentative)

UNIT -I :- Chapter 01- Electric Charges and Field.

Chapter 02- Electrostatics Potential and Capacitance.

UNIT -II :- Chapter 03- Current Electricity.

UNIT -III :- Chapter 04- Moving Charge and Magnetism.

Chapter 05- Magnetism and Matter.

02nd Periodic Test :- October 2024 (Tentative)

UNIT -IV :- Chapter 06- Electromagnetic Induction.

Chapter 07- Alternating Current.

Chapter -08- Electromagnetic Waves.

Chapter -09- Ray Optics and Optical Instruments.

Chapter -10- Wave Optics.

Chapter -11- Dual Nature of Radiation and Matter.

03rd Periodic Test :- December 2024 (Tentative)

UNIT – VIII :- Chapter 12.- Atoms

Chapter 13- Nuclei

UNIT -IX :- Chapter 14- Semiconductors and Electronic Devices.

PRE BOARD:- January 2025 (Tentative) – Whole Syllabus.

IP (Class –XIITH)

Prescribed Book: Informatics Practices (NCERT) -065

Session – 2024-2025

Month	Total Period	Chapter Name by NCERT
April	16	Chapter 2: Data Handling using Pandas – I
May	8	Chapter 2: Data Handling using Pandas – I
June	8	Chapter 1: Database Query using SQL
July	16	Chapter 1: Database Query using SQL Chapter 5: Introduction to Computer Networks
August	16	Chapter 3: Data Handling using Pandas – II
September	Revision + Half Yearly Exam (Term-1)	
October	12	Chapter 4: Plotting Data using Matplotlib Chapter 6: Societal Impacts
PT -1	Ch-2 : Data Handling using Pandas – I	
PT-2	Ch-1 : Database Query using SQL	
PT -3	Ch-3 : Data Handling using Pandas – II Ch-5 : Introduction to Computer Networks	
PRE- BOARD -1		
PRE – BOARD - 2		

SYLLABUS FOR PHYSICAL EDUCATION (048)
(2024-2025)

CLASS- XII

<i>MONTHS</i>	<i>PERIODS</i>	<i>CHAPTER NAMES</i>
April	15	11. Management of Sporting Events
April	10	12. Children and Women in sports
May	10	13. Yoga as Preventive measures
June	12	14. Physical Education and Sports for CWSN
June	15	15. Sports and Nutrition
July	10	16. Test and Measurements in Sports
July	15	17. Physiology and Injuries in Sports
August	12	18. Biomechanics and Sports
September	-----	Revision
October	08	19. Psychology and Sports
October	10	20. Training in Sports
November	-----	Revision
December	-----	Pre- Board

Periodic Test-1:- Ch.1. Management of Sporting events

Ch.2. Children and Women in sports

Periodic Test-2:- Ch.3. Yoga

Ch.4. Physical Education and Sports for CWSN

Ch.5. Sports and Nutrition

Periodic Test-3:- Ch.8. Biomechanics and Sports

Ch.9. Psychology and Sports

TERM-1:- Ch.1. Management of Sporting events

Ch.2. Children and Women in sports

Ch.3. Yoga

Ch.4. Physical Education and Sports for CWSN

Ch.5. Sports and Nutrition

Ch.6. Test and Measurements in Sports

Ch.7. Physiology and Injuries in sports

PRE- BOARD:- Whole Syllabus