NOPANY HIGH

(I.C.S.E. & I.S.C Affiliated)
2-C, Nando Mullick Lane, Kolkata – 700006

Syllabus for Unit-I

Academic Session: (2025-2026)

Class: XII (Sci)

SUBJECT : ENGLISH LANGUAGE			
Textbook Name : Total English **Publisher : Morning Star**			
MONTH	**TOPIC**	**NO. OF PERIODS**	**WORKSHEETS/ACTIVITY**
April'25	1. Statement of Purpose	4	
	2. Class Test	1	
	3. Test paper 2 (grammar)	1	Worksheet
May'25	1. Film Review	4	Worksheet
June'25	1. Cultural review	3	Worksheet
July'25	1. Test paper 3	1	
	2. Test paper 4	1	
	3. Test paper 5	1	
	4. Test paper 6	1	Worksheet
	5. Class test	1	
	6. Proposal writing (revision)	2	
	7. Article writing (revision)	2	
Aug'25	1. Report writing (revision)	2	Worksheet
	2. Speech Writing (revision)	2	
	3. Test paper 7 and 8	2	
Oct'25	1. Test paper 9	1	
	2. Test paper 10	1	
	3. Class test	1	Worksheet
	4. Test paper 11	1	
	5. Test paper 12	1	
Nov'25	1. Test paper 13	1	
	2. Test paper 14	1	
	3. Test paper 15	1	
	4. Class test	1	Worksheet
	5. Revision	2	
Project	An Autobiographical experience		Submission date - 31st July 2024
Note: The above mentioned no. of periods may vary			

SUBJECT : ENGLISH LITERATURE (SCIENCE, HUMANITIES AND COMMERCE)

Textbook Name : **Prism, Rhapsody and Macbeth**

Publisher : **Evergreen Publication and Oxford**

MONTH	TOPIC	NO. OF PERIODS	WORKSHEETS/ACTIVITY
Unit I April 25	Atithi	8	
	Indigo	5	
May 25	Small Towns and Rivers	3	
	Tithonus		
June 25	There Will Come Soft Rains	5	
	The Cookie Lady	5	
July 25	Death Not be Proud	2	
	Macbeth Act III	5	
August 25	Macbeth Act IV	5	
			Sample Questions
Unit II October 24	Macbeth Act V	8	
	Telephonic Conversation	3	
November 24	Beethoven	3	
	The Medicine Bag	5	
	Revision		ISC Paper Solve
Project	To be discussed in class		Submission Date - 1st August 2025

SUBJECT : Hindi

Textbook 1. Name : व्याकरण मंजूषा
Publisher : एवरग्रीन पब्लिकेशन
Text book 2. Name : गद्य संकलन
Publisher : एवरग्रीन पब्लिकेशन
Text book 3. Name : काव्य मंजरी
Publisher : एवरग्रीन पब्लिकेशन
Text book 4 . Name : सारा आकाश (उपन्यास)
Publisher : राजेन्द्र प्रसाद

MONTH	TOPIC	NO. OF PERIODS	WORKSHEETS/ACTIVITY
April 25	1.दासी	5	Worksheet will be provided
	Class Test	1	
	2. नदी के द्वीप	5	Worksheet will be provided
	Class Test	1	
	3. मुहावरे	2	
May'25	Class Test	1	
	1. साराआकाश (उत्तरार्द्ध) भाग 1 - 3	4	Worksheet will be provided
	Class Test	1	
	2. अशुद्ध वाक्यों को शुद्ध करिए	2	
	Class Test	1	
Jun'25	1. क्या निराश हुआ जाए	5	Worksheet will be provided
	Class Test	1	
	2. सारा आकाश भाग 4 - 6	4	Worksheet will be provided
	Class Test	1	
	3. अपठित गद्यांश	2	
July'25	1. जाग तुझको दूर जाना	5	Worksheet will be provided
	Class Test	1	
	सारा आकाश भाग 7 - 10	4	Work sheet will be provided
	Class test	1	
	निबंध लेखन	2	
Aug 25	अपठित गद्यांश	2	
	अशुद्ध वाक्यों को शुद्ध करिए	2	
	निबंध लेखन	2	
	HindiProject परियोजना कार्य	2	
Sep 25	1.भक्तिन	5	Work sheet will be provided
	Class Test		
	2. उद्यमी नर	5	
	Class Test	1	
Octo	निबंध	2	
	1. संस्कृति क्या है	5	
	Class Test	1	
Nov 25	2 . मुहावरे	2	
	बादल को घिरते देखा है	5	
Dec 25	Class Test	1	
	अपठित गद्यांश	2	
	सारा आकाश	2	
	अशुद्ध वाक्यों को शुद्ध करिए	2	
	निबंध	2	
	मुहावरे	2	
Revision			

SUBJECT : Bengali (2nd language)			
Textbook Name : ISC প্রবন্ধ ও গদ্য সংকলন, ISC কবিতা সংকলন Publisher : Power Publishers & Cambridge Educational Publishers			
MONTH	TOPIC	NO.OF PERIODS	WORKSHEETS/ACTIVITY
April'25	আদাব	2	Classnotes
	লছমনের মা	8	Classnotes
	যদি নির্বাসন দাও	2	Classnotes
May'25	একটি তুলসি গাছের কাহিনী Project Explanation	6 1	Classnotes
June'25	রাস্তা কারোর একার নয়	4	Classnotes
	স্বাধীনতা তুমি	4	Classnotes
July'25	কোনি (chapter ৭-১১)	18	Classnotes
Aug'25	না-পাহারার পরীক্ষা	4	Classnotes
	নুন	2	Classnotes
	কোনি (chapter ১২-১৩)	7	Classnotes
	বোধ পরীক্ষন	2	Worksheet
Oct'25	কোনি (chapter ১৪)	5	Classnotes
	গল্প লিখন	2	Worksheet
Nov'25	ব্যাকরণ	8	Worksheet
	Revision	6	
Dec'25	Revision		

SUBJECT :BIOLOGY

Text Book : ISC Nootan Biology XII
Publisher Nageen Prakashan
Author : V. Singh, D.K Jain, Ajay Kumar Bhattacharya.

MONTH	TOPIC	NO.OF PERIODS	WORKSHEETS/ACTIVITY
April'24	UNIT 1: Reproduction Chapter 2: Sexual Reproduction in Flowering plants Chapter 3: Human Reproduction Chapter 4: Reproductive Health	 3 4 3	Worksheets will be provided
	Class Test	1	
May'24	UNIT 3: Biology and Human Welfare Chapter 8: Human Health and Diseases Chapter 10: Microbes in Human Welfare	 3 3	Worksheets will be provided
	Class Test	1	
Project	Topics will be given from ISC class XI syllabus and will be discussed in class.	1	
June'24	UNIT 2: Genetics And Evolution Chapter 5: Principles of Inheritence. Chapter 6: Molecular Basis of Inheritence.	 5 6	Worksheets will be provided
	Class Test	1	
	UNIT 4: Biotechnology and its Applications Chapter 11: Biotechnology-Principles and Processes	 2	
July'24	UNIT 4: Biotechnology and its Applications Chapter 11: Biotechnology-Principles and Processes Chapter 12: Biotechnology and its Applications	 3 4	Worksheets will be provided
	Class Test	1	
	UNIT 5: Ecology and Environment Chapter 13: Organisms and Population Chapter 14: Ecosystems. Chapter 15: Biodiversity and Conservation	 4 3 3	Worksheets will be provided
	Class test	1	
August'24	Revisions	15	Worksheets will be provided
Practical	Will be conducted as per ISC guidelines		
	PREBOARD SYLLABUS		
Oct'24	UNIT 2: Genetics And Evolution		Worksheets will be provided

	Chapter 7: Origin of life. Chapter 8: Evidences and theories of Biological Evolution. Chapter 9: Human Evolution.	2 4 3	
Practical	Will be conducted as per ISC guidelines		
	Class test	1	
Nov'24	Revisions	10	Worksheets will be provided
PLEASE NOTE THAT ALL CHAPTERS OF UNIT I ARE INCLUDED IN PREBOARD.* **Please note that the no. of periods mentioned here are approximate.			

SUBJECT : CHEMISTRY

Textbook Name : ISC CHEMISTRY
Author : K.L.CHUGH
Publisher : KALYANI PUBLISHERS

MONTH	TOPIC	NO.OF PERIODS	WORKSHEETS/ACTIVITY
April'25	1. Haloalkane and Haloarenes	10	Worksheet will be provided
	Class Test	1	
	2. Alcohol ,Phenols and Ethers	10	Worksheet will be provided
	Class Test	1	
May'25	3.Aldehydes,Ketones and Carboxylic Acids	10	Worksheet will be provided
	Class Test	1	Worksheet will be provided
	Project		Topic Will be discussed in Class
June'25	4. Solutions	10	Worksheet will be provided
	Class Test	1	
July'25	5. Coordination Compounds	**6**	Worksheet will be provided
	Class Test	1	
	6. Electrochemistry	10	Worksheet will be provided
	Class Test	1	
August'25	7. d and f block Elements	6	Worksheet will be provided
	Class Test	1	

Note

- **The above mentioned periods are approximate.**
- **The last week before exam will be a revision**
- **week.**

Unit II

October25	8.Organic Compounds Containing Nitrogen	**9**	Worksheet will be provided
	Class Test	**1**	
	9. Chemical Kinetics	**5**	Worksheet will be provided
	Class Test	**1**	
November25	10. Chemical Kinetics	**5**	
	Class Test	**1**	

	4. Biomolecules	**5**	Worksheet will be provided
	Class Test	**1**	

SUBJECT: PHYSICS

Text Book : Nootan ISC Physics for Class-XII
Publisher : Nageen Prakashan
Text Book for Physics Practical: ISC Practical Physics (Vol-I) for Class XII

MONTH	TOPIC	NO.OF PERIODS	WORKSHEETS/ACTIVITY
April'25	❖ ELECTROSTATICS 1.Electric charges and field 2.Gauss' Theorem 3.Electric potential 4.Capacitors and Dielectrics	 4 4 4 4	Worksheets on individual sub-units will be provided
	Class Test	2	
May'25	❖ CURRENT ELECTRICITY 5. Electric Resistance and Ohm's Law 6.DC Circuits and Measurements 7.Kirchhoff's Law and Wheatstone bridge ❖ MAGNETIC EFFECTS OF CURRENT AND MAGNETISM 8.Moving Charges and Magnetic Field	 5 2 2 5	Worksheets on individual sub-units will be provided
	Class Test	1	
June'25	9.Torque on a Current-Loop : Moving-Coil Galvanometer 10. Magnetic field and Earth's Magnetism 11. Magnetic Classification of Substances	4 5 5	Worksheets on individual sub-units will be provided
	Class Test	1	
July'25	❖ ELECTROMAGNETIC INDUCTION AND ALTERNATING CURRENTS 12. Electromagnetic Induction 13. Alternating Current	 6 7	Worksheets on individual sub-units will be provided
	✞ ELECTROMAGNETIC WAVES 14. Basic Ideas and Displacement Current 15. Electromagnetic Spectrum	 2 1	
	Class Test	1	

August'25	❖ <u>OPTICS</u> 16. Reflection of Light : Spherical M 17.Refraction of Light at a Plane I Total Internal Reflection : Optical F 18.Refraction of Light at Spherical : Lenses of Light 19.Refraction and Dispersion through a Prism 20.Optical Instruments Huygens' 21.Wave nature of Light : Principle 22.Interference of Light 23.Diffraction of Light	 3 3 3 3 3 2 3 3	Worksheets on individual sub-units will be provided
	Class Test	3	
Sept'25	Revision	5	
Oct'2	❖ Dual Nature Of Radiation 24. Photoelectric Effect 25.Matter Waves ❖ Atoms And Nuclei 26.Atom,origin of Spectra: Bohr's Theory 27.Nuclear Structure 28.Radioactivity 29.Mass Energy Equivalence 30.Nuclear Fission and Nuclear Fusion	 3 2 2 2 2 2 2	Worksheets on individual sub-units will be provided
Nov'25	❖ Electronics Device 31.Semiconductor Electronics 32.Junction Diode Revision	 4 4 8	Worksheets on individual sub-units will be provided
Practical Project	As per ISC guidelines. Will be discussed in class.		
**(The above mentioned periods are approximate)			

SUBJECT: ENVIRONMENTAL SCIENCE

Text book Name: ISC ENVIRONMENTAL SCIENCE Author : AMITA GANGULY

Publisher : MARINA

MONTH	TOPIC	NO.OF PERIODS	WORKSHEETS/ACTIVITY
April'25	1.HUMAN BEINGS	4	Worksheet will be provided
	Class Test	1	
	2.POPULATION ECOLOGY	6	Worksheet will be provided
	Class Test	1	
May'25	3.CONSERVATION ECOLOGY	6	Worksheet will be provided
	Class Test	1	
June'25	4.CONSERVATION ECOLOGY	8	Worksheet will be provided
	Class Test	1	
			Worksheet will be provided
July'25	5.POLLUTION MONITORING	6	Worksheet will be provided
	Class test	1	
August25	6. THE THIRD WORLD DEVELOPMENT	6	Worksheet will be provided
	Class test	1	
Sept'25	REVISION		Worksheet will be provided
Oct'25	7. ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS	8	Worksheet will be provided
	Class test	1	
Nov'25	8.INTERNATIONAL RELATIONS AND THE ENVIRONMENT	8	Worksheet will be provided
	Class test	1	
	REVISION		
Dec'24	PRE-BOARD		

SUBJECT: PHYSICAL TRAINING (P.T.) & GAMES.

MONTH	TOPIC	NO. OF PERIODS	ACTIVITY
April'24	1. FITNESSGRAM	3	• FREE HAND EXERCISES
	Class Test	1	
	2. CRICKET	3	• RULES RAGULATIONS • TECHNIQUES AND SKILLS
	Class Test	1	
May'24	1. FITNESSGRAM	3	• FREE HAND EXERCISES
	Class Test	1	
	2. BADNINTON	3	• RULES RAGULATIONS • TECHNIQUES AND SKILLS
	Class Test	1	
June'24	1. MASS DRILL & FITNESSGRAM	3	• CALLISTHENICS, AEROBICS & YOGA.
	Class Test	1	
	2. BASKET BALL	3	• RULES RAGULATIONS • TECHNIQUES AND SKILLS
	Class Test	1	
July'24	1. MASS DRILL & FITNESSGRAM	3	• CALLISTHENICS, AEROBICS & YOGA.
	Class Test	1	
	2. FOOTBALL	3	• RULES RAGULATIONS • TECHNIQUES AND SKILLS
	Class Test	1	
August'24	1. MASS DRILL & FITNESSGRAM	3	• CALLISTHENICS, AEROBICS & YOGA.
	Class Test	1	
	2. TABLE TENNIS, CHESS & CARROM	3	• RULES RAGULATIONS • TECHNIQUES AND SKILLS
	Class Test	1	

SUBJECT : MATHEMATICS

Textbook Name : *ISC Mathematics (XII) (Volume I & II)*
Author : *M L AGGARWAL*
Publisher : *Avichal Publishing Company*

MONTH	TOPIC	NO.OF PERIODS	WORKSHEETS /ACTIVITY
April'25	SECTION - A 1. Relations and Functions • *Relations as:* ➢ *Relation on a set A* ➢ *Identity relation, empty relation, universal relation.* ➢ *Types of Relations: reflexive, symmetric, transitive and equivalence relation.* • *Binary Operation: all axioms and properties* • *Functions:* ➢ *As special relations, concept of writing "y is a function of x" as y = f(x).* ➢ *Types: one to one, many to one, into, onto.* ➢ *Real Valued function.* ➢ *Domain and range of a function.* ➢ *Conditions of invertibility.* ➢ *Composite functions and invertible functions (algebraic functions only).*	5	Worksheet will be provided
	Class Test	1	
	2. Inverse Trigonometric Functions Definition, domain, range, principal value branch. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions. ➢ *Principal values.* ➢ *$sin^{-1}x$, $cos^{-1}x$, $tan^{-1}x$ etc. and their graphs.* ➢ *-Formulae for $2sin^{-1}x$, $2cos^{-1}x$, $2tan^{-1}x$, $3tan^{-1}x$ etc. and application of these formulae.*	5	Worksheet will be provided
	Class Test	1	
	3. Matrices Concept, notation, order, equality, types of matrices, • zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. • Operation on matrices:	6	Worksheet will be provided

	Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order upto 3). • Concept of elementary row and column operations. • Invertible matrices and proof of the uniqueness of inverse, if it exists (here all matrices will have real entries).		
May'25	• Determinants • Determinant of a square matrix (up to 3 x 3 matrices), • Properties of determinants, minors, co-factors and applications of determinants in finding the area of a triangle. • Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix. • *Types of matrices (m × n; m, n ≤3), order; Identity matrix, Diagonal matrix.* • *Symmetric, Skew symmetric.* • *Operation – addition, subtraction,* 3.*multiplication of a matrix with scalar, multiplication of two matrices (the compatibility).* • *Singular and non-singular matrices.* • *Existence of two non-zero matrices whose product is a zero matrix.* • *Inverse (2×2, 3×3)* • *Martin's Rule (i.e. using matrices)* • *Problems based on above.* *NOTE 1: The conditions for consistency of equations in two and three variables, using matrices, are to be covered.* *NOTE 2: Inverse of a matrix by elementary operations to be covered.* *Determinants - Order.* ➢ *Minors.* ➢ *Cofactors.* ➢ *Expansion.* ➢ *Applications of determinants in finding the area of triangle and collinearity.*	8	Worksheet will be provided

	• *Properties of determinants. Problems based on properties of determinants.*		
	Class Test	1	
May '25	5. Continuity & Differentiability Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretation. • *Continuity* ➢ *Continuity of a function at a point x = a.* ➢ *Continuity of a function in an interval.* ➢ *Algebra of continues function.* ➢ *Removable discontinuity.* • *Differentiation* ➢ *Concept of continuity and differentiability of x , [x], etc.* ➢ *Derivatives of trigonometric functions.* ➢ *Derivatives of exponential functions.* ➢ *Derivatives of logarithmic functions.* ➢ *Derivatives of inverse trigonometric functions - differentiation by means of substitution.* ➢ *Derivatives of implicit functions and chain rule.* ➢ *e for composite functions.* ➢ *Derivatives of Parametric functions.* ➢ *Differentiation of a function with respect to another function e.g. differentiation of $\sin x^3$ with respect to x^3.* ➢ *Logarithmic Differentiation* - N *Finding dy/dx when $y = x^{xx}$.* ➢ *Successive differentiation up to 2^{nd} order.* *NOTE 1: Derivatives of composite functions using chain rule.* *NOTE 2: Derivatives of determinants to be covered.* • *L' Hospital's theorem.* • *Rolle's Mean Value Theorem - its geometrical interpretation.* • *Lagrange's Mean Value Theorem - its geometrical interpretation .*	15	Worksheet will be provided
	Class Test	1	
June'25	6. Integrals *Indefinite integral* ➢ *Integration as the inverse of differentiation.*	15	Worksheet will be provided

	➢ *Anti-derivatives of polynomials and functions* $(ax+b)^n$ *,* $\sin x$*,* $\cos x$*,* $\sec^2 x$*,* $\operatorname{cosec}^2 x$ *etc .* ➢ *Integrals of the type* $\sin^2 x$*,* $\sin^3 x$*,* $\sin^4 x$*,* $\cos^2 x$*,* $\cos^3 x$*,* $\cos^4 x$*.* ➢ *Integration of* $1/x$*,* e^x*.* ➢ *Integration by substitution.* ➢ *Integrals of the type* $f'(x)[f(x)]^n$ ➢ *Integration of tanx, cotx, secx, cosecx.* ➢ *Integration by parts.* ➢ *Integration using partial fractions.*		
	Class Test	1	
July , 25	7. Application of Derivatives Equation of a tangent and normal Rate measure Increasing and decreasing function Maxima and minima . --stationary / turning points --Absolute maxima / minima --local maxima / minima --First derivative test and second derivative test --Application problems based on maxima and minima .	15	
	Class Test	1	
August'25	SECTION B Vectors ➢ *As directed line segments.* ➢ *Magnitude and direction of a vector.* ➢ *Types: equal vectors, unit vectors, zero vector.* ➢ *Position vector.* ➢ *Components of a vector.* ➢ *Vectors in two and three dimensions.* ➢ $\hat{i}$, $\hat{j}$, $\hat{k}$ *as unit vectors along the x, y and the z axes; expressing a vector in terms of the unit vectors.* ➢ *Operations: Sum and Difference of vectors; scalar multiplication of a vector.* ➢ *Section formula.* ➢ *Triangle inequalities.* ➢ *Scalar (dot) product of vectors and its geometrical significance.* ➢ *Cross product - its properties - area of a triangle, area of parallelogram, collinear vectors.* ➢ *Scalar triple product - volume of a parallelepiped, co-planarity.* *NOTE: Proofs of geometrical theorems by using Vector algebra are excluded.*	10	Worksheet will be provided
	Class Test	1	
August'25	SECTION C Application of Calculus Application of Calculus in Commerce and Economics in the following: ➢ Cost function,	8	Worksheet will be provided

	➢ average cost, ➢ marginal cost and its interpretation ➢ demand function, ➢ revenue function, ➢ marginal revenue function and its interpretation, ➢ Profit function and breakeven point. ➢ Rough sketching of the following curves: AR, MR, R, C, AC, MC and their mathematical interpretation using the concept of maxima & minima and increase- decreasing functions . NOTE: Application involving differentiation, integration, increasing and decreasing function and maxima and minima to be covered.		
	Class Test	1	

SUBJECT :Computer Science

Textbook Name : Understanding ISC Computer Science (Java with BlueJ) Class XII
Publisher : Arya Publishing Company
Author Name : **Vijay Kumar Pandey and Dilip Kumar Dey**

MONTH	TOPIC	NO.OF PERIODS	WORKSHEETS/ACTIVITY
April'25	**Chapter 1:** Boolean Algebra	10	**Worksheet**
May'25	**Chapter 1:** Boolean Algebra(Cont.)	12	**Worksheet**
	Class Test (Theory)	1	
June'25	**Chapter 2:** Computer Hardware	9	**Worksheet**
July'25	**Chapter 2:** Computer Hardware(Cont.)	15	
	Class Test (Theory)	1	
	Chapter 3: Implementation of Algorithms to Solve Problems	3	
	Chapter 4: Objects and classes	1	**Worksheet**
	Chapter 5: Data Types and Variables	1	**Lab Activity**
	Chapter 6: Statements and Scope	2	
Aug'25	**Chapter 7:** String Manipuations	7	**Lab Activity**
	Chapter 7: Arrays	7	**Lab Activity**
	Chapter 8: Methods	7	**Lab Activity**

Sept'25	Revision	5	
Oct'25	**Chapter 12:** Inheritance, Interfaces and Polymorphism	10	
Nov'25	**Chapter 13:** Data Structure **Chapter 14:** Computational Complexity	8 2	
Dec'25	**Class Test** (Theory)	1	
	Revision	4	
Project			**Total 15 programs to be done as a part of Unit I project. List of programs will be provided later.** **Total 15 programs to be done as a part of Unit II project. List of programs will be provided later.**
*** Note: No. of Periods mentioned may vary**			

SUBJECT : SUPW			
Textbook Name : No Book			
MONTH	**SUPW**	**NO.OF PERIODS**	**WORKSHEETS/ACTIVITY**
April'25 to	**Project 1**	**6**	To Make a Fridge magnet in the shape of school logo.
July' 26			