

THE ALTUS INTERNATIONAL SCHOOL

SYLLABUS BOOK 2023-24

CLASS – XII SCIENCE

S. No.	Book Name	Subject	Publisher
1.	Vistas Flamingo	English	NCERT
2.	Physics NCERT Physics Helping Book Physics Practical Book	Physics Physics Physics	NCERT S L Arora Arihant
4.	Chemistry NCERT Chemistry Helping Book Chemistry Practical Book	Chemistry Chemistry Chemistry	NCERT Modern's ABC Arihant
5.	Biology NCERT Biology Practical Book	Biology Biology Biology	NCERT Arihant Modern's ABC
6.	Information practice	CS / IP	DhanpatRai PreetiArora
7.	Physical Education	Physical Education	Full Marks
8.	Home Science	Home Science	-
9.	Painting	Painting	-

S. No.	Stationery	Quantity
1.	English- Register	2
2.	Mathematics- Register	1
3.	Physics- Register	1
4.	Physics Practical File	1
5.	Chemistry - Register	1
6.	Chemistry Practical File	1
7.	Biology- Register	1
8.	Biology- Practical File	1
9.	Computer - Register	1
10.	IP- Register	1
11.	Physical Education Register	1
12.	Home Science Register	1
13.	Painting-Drawing File	1

SUBJECT: ENGLISH

S. No.	Month	Syllabus to be covered	
1.	April	Flamingo Vistas Grammar -	Chapter 1- The last lesson, Chapter 2-The lost spring Chapter 1 the third level Writing skills- Job application writing & Resume making Class test - Syllabus covered in April
2.	May	Flamingo Vistas Poetry Grammar	Chapter 3- Deep water, Chapter 2- The Tiger king My Mother at sixty –six, Article writing Pre-Test-1 Begin. Syllabus covered from April to May.
3.	June	Poetry Grammar	Keeping quiet Formal and Informal letters, Report writing Summer Vacations
4.	July	Flamingo Vistas Poetry Grammar-	Chapter 4-Rattrap Chapter 5- Indigo, Chapter 3-Journey to the end of the earth The Thing of beauty Periodic Test I Begin Syllabus covered from April to July
5.	August	Flamingo Vistas Poetry Grammar -	Chapter 6 –Poets and Pancakes Chapter 7 – The Interview Chapter 4- The enemy A roadside stand Letters to the editor (giving suggestions or opinion on issues of public interest) Class test - Syllabus covered from April to August
6.	September	Half Yearly Examination Begin Syllabus covered from April to September.	
7.	October	Flamingo Vistas Poetry - Grammar- -	Chapter 8 –Going places Chapter 5- On the face of it Chapter 6- Memories of childhood Aunt Jennifer’s Tiger Analytical paragraph Class Test- Syllabus covered in the month of October
8.	November	Vistas	Chapter 5- On the face of it Revision and class tests Periodic Test II Begin Syllabus covered in the month of October and November.
9.	December	Revision and class tests.	
10.	January	Revision Pre Board I begins Syllabus covered from April to January	
11.	February	Pre Board II begins Syllabus covered from April to January.	
12.	March	Board Exams Begin.	

SUBJECT: PHYSICS

S. No.	Month	Syllabus to be covered	
1.	April	Chapter 1	Electric Charges and Fields
		Chapter 2	Electrostatic Potential and Capacitance
		Class Test-	Syllabus covered in the month of April
2.	May	Chapter 3	Current Electricity
		Practical -1	To determine resistivity of two / three wires by plotting a graph for potential difference versus current.
		Practical -2	To find resistance of a given wire / standard resistor using metre bridge.
		Practical -3	To verify the laws of combination (series) of resistances using a metre bridge.
		Chapter 4	Moving Charges and Magnetism
		Class Test-	Syllabus covered in the month of May
3.	June	Pre -Test – 1 Begin	
		Extra Classes	
		Chapter-5	Magnetism and Matter
		Chapter-6	Electromagnetic Induction
Summer Vacations			
4.	July	Chapter-7	Alternating Current
		Practical-4	To find the frequency of AC mains with a sonometer.
		Chapter-8	Electromagnetic Waves
Periodic Test I Begin			
Syllabus covered from April to July			
5.	August	Chapter-9	Ray Optics and Optical Instruments
		Practical-5	To find the value of v for different values of u in case of a concave mirror and to find the focal length.
		Practical-6	To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.
		Practical-7	To find the focal length of a concave lens, using a convex lens.
		Class Test-	Syllabus covered in the month of August

6.	September	Chapter-10	Wave Optics(Begins)
		Half Yearly Examination Begin	
		Syllabus covered from April to September.	
7.	October	Chapter-10	Wave Optics(Continue)
		Practical-8	To find the refractive index of a liquid using a concave mirror and a plane mirror.
		Practical-9	To find the refractive index of a liquid using convex lens and plane mirror.
		Chapter-11	Dual Nature of Radiation and Matter
		Class Test-	Syllabus covered in the month of October
8.	November	Chapter-12	Atoms
		Chapter-13	Nuclei
		Chapter-14	Semiconductor Electronics: Materials, Devices and Simple Circuits
		Practical-10	To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias.
		Periodic Test II Begin	
		Syllabus covered in the month of October and November.	
9.	December	Revision and Chapter wise Test series.	
10.	January	Pre Board I begins	
		Syllabus covered from April to January	
11.	February	Practical Exams Begin	
		Pre Board II begins	
		Syllabus covered from April to January.	
12.	March	Board Exams Begin.	

SUBJECT: CHEMISTRY

S. No.	Month	Syllabus to be covered
1.	April	Ch – Solution Ch – Electrochemistry Class Test- Syllabus covered in the month of April.
2.	May	Ch – Chemical Kinetics Ch – (Solutions) Pre-Test-1 Begin. Syllabus covered from April to May.
3.	June	Summer vacation
4.	July	Ch – D – F - Block Elements Ch – Coordination compound Practical :- (a) Effect of concentration and temperature on the rate of reaction between Sodium Thiosulphate and Hydrochloric acid. (b) Study of reaction rates of any one of the following: (i) Reaction of Iodide ion with Hydrogen Peroxide at room temperature using different concentrations of Iodide ions. (ii) Reaction between Potassium Iodate, (KIO ₃) and Sodium Sulphite: (Na ₂ SO ₃) using starch solution as an indicator (clock reaction). Periodic Test I Begin Syllabus covered from April to July.
5.	August	Ch Biomolecules Practical :- Thermochemistry- Any one of the following experiments (a) Enthalpy of dissolution of Copper Sulphate or Potassium Nitrate. (b) Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH). (c) Determination of enthalpy change during interaction (Hydrogen bond formation) between Acetone and Chloroform. Class Test- Syllabus covered in the month of August.
6.	September	Practical :- Chromatography- (a) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of R _f values. (b) Separation of constituents present in an inorganic mixture containing two cations only (constituents having large difference in R _f values to be provided). Revision Half Yearly Examination Begin Syllabus covered from April to September.

7. **October** Ch - Coordination Compounds
 Ch - Haloalkanes and Haloarenes
 Ch - Alcohol, Phenolm Ether
Practical :-
 (a) Preparation of Inorganic Compounds Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum. Preparation of Potassium Ferric Oxalate.
 (b) Preparation of Organic Compounds Preparation of any one of the following compounds i) Acetanilide ii) Di -benzal Acetone iii) p-Nitroacetanilide iv) Aniline yellow or 2 - NaphtholAnilinedye.
Class Test- Syllabus covered in the month of October.
8. **November** Ch - Aldehyde, Ketones and Carboxylic acid
 Ch - Amines
Practical :-Tests for the functional groups present in organic compounds: Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.
Periodic Test II Begin
Syllabus covered in the month of September to November
9. **December** **Revision**
Practical :-
 1- Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.
 Determination of concentration/ molarity of KMnO_4 solution by titrating it against a standard solution of:
 (a) Oxalic acid
 (b) Ferrous Ammonium Sulphate
 2- Qualitative analysis Determination of one anion and one cation in a given salt Cation: Pb^{2+} , Cu^{2+} As^{3+} , Al^{3+} , Fe^{3+} , Mn^{2+} , Zn^{2+} , Ni^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Mg^{2+} , NH_4^+
 (CO₃)²⁻, S²⁻, (SO₃)²⁻, (NO₂)⁻, (SO₄)²⁻, Cl⁻, Br⁻, I⁻, (PO₄)³⁻, (C₂O₄)²⁻, CH₃COO⁻, NO₃⁻ (Note: Insoluble salts excluded).
Class Test- Syllabus covered in the month of August.
10. **January** **Revision**
Pre Board I begins
Syllabus covered from April to January
11. **February** **Practical Exams Begin**
Pre Board II begins
Syllabus covered from April to January.
12. **March** **Board Exams Begin.**

SUBJECT: BIOLOGY

S. No.	Month	Syllabus to be covered	
1.	April	Chapter 1	Sexual reproduction in flower
		Chapter 3	Sexual reproduction in Human
		Class Test-	Syllabus covered in the month of April
2.	May	Chapter 4	Reproductive health
		Chapter 5	Principal of inheritance and Variation
		Pre-Test-1 Begin.	Syllabus covered from April to May.
3.	June	Summer vacation	
4.	July	Chapter 6	Molecular basis of inheritance
		Chapter 7	Evolution
		Chapter 8	Human health and disease
		<u>Practical :- 1</u>	Prepare a temporary mount to observe pollen germination.
		<u>Practical :-2</u>	Study the plant population density by quadrat method
			Periodic Test I Begin
			Syllabus covered from April to July.
5.	August	Chapter 9	Strategies for enhancement in food production
		Chapter 10	Microbes in human welfare
		Class Test-	Syllabus covered in the month of August
		<u>Practical :- 3</u>	Study the plant population frequency by quadrat method.
		Practical :- 4	Prepare a temporary mount of onion root tip to study mitosis.
6.	September	<u>Practical :-5</u>	Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc
			Revision
			Half Yearly Examination Begin
			Syllabus covered from April to September
7.	October	Chapter 1	Biotechnology : principles and processes
		Chapter 12	Biotechnology and its application
		Class Test	Syllabus covered in the month of October

Spotting:-

- 1- Flowers adapted to pollination by different agencies (wind, insects and birds).
- 2- Pollen germination on stigma through a permanent slide or scanning electron micrograph.
- 3- Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
- 4- Meiosis in onion bud cell or grasshopper testis through permanent slides.

8.	November	Chapter 13	Organisms and populations
		Chapter 14	Ecosystem
		Chapter 15	Biodiversity and conservation
Periodic Test II Begin			
Syllabus covered in the month of			
September to November			

9.	December	Chapter 16	Environmental
		Revision	
Spotting:-			
5- T.S. of blastula through permanent slides (Mammalian).			
6- Mendelian inheritance using seeds of different colour/sizes of any plant.			
7- Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.			
8- Controlled pollination - emasculation, tagging and bagging.			
9- Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause.			

Class Test- Syllabus covered in the month of December

10.	January	Pre Board I begins	
		Syllabus covered from April to January.	
11.	February	Practical Exams Begin	
		Pre Board II begins	
		Syllabus covered from April to January.	
12.	March	Board Exams Begin.	

SUBJECT: MATHEMATICS

S. No.	Month	Syllabus to be covered
1.	April	Chapter 1 Relations and Functions
2.	May	Chapter 2 Inverse Trigonometric Functions Chapter 3 Matrices Chapter 4 Determinants
3.	June	Summer Vacations
4.	July	Chapter 5 Continuity and Differentiability Chapter 6 Applications of Derivatives Syllabus covered from April to July
5.	August	Chapter 7 Integrals Chapter 8 Applications of Integrals Class Test- Syllabus covered in the month of July & August
6.	September	Chapter 9 Differential Equations Chapter 10 Vector Algebra Half Yearly Examination Begin Syllabus covered from April to September.
7.	October	Chapter 11 Three dimensional Geometry Chapter 12 Linear Programming Chapter 13 Probability Class Test- Syllabus covered in the month of September & October=
8.	November	Revision
9.	December	Revision Class Test- Chapterwise
10.	January	Revision Pre Board I begins Syllabus covered from April to November.
11.	February	Practical Exams Begin Pre Board II begins Syllabus covered from April to January.
12.	March	Board Exams Begin.

SUBJECT: PAINTING

S. No.	Month	Syllabus to be covered
1.	April	UNIT-1 (a) Six Limbs of Indian Painting & Fundamentals Of Visual Art CH.1 Indian Miniature Painting 1.1 Pal School 1.2 Western Indian Painting or Jain School 1.3 Central Indian School Activity- still life (coloring and shading)
2.	May	Ch.2 (b) The Rajsthani School 2.1 Origin and development 2.2 Sub Schools :Mewar ,Bundi, Jodhpur,Bikaner Kishan garh and Jaipur 2.3 Main features of Rajsthani School Activity- plate -5
3.	June	Summer Vacations
4.	July	Revision for Periodic I Periodic I Begin Syllabus covered from April to July 2.4 Study of the following Rajasthani Paintings (i) Maru Ragini (ii) Chaugan Players (iii) Krishna on Swing (iv) Radha (Bani – Thani) (v) Bharat Meets Rama At Chitrakut Activity- land escape
5.	August	Ch.3 The Pahadi School 3.1 Origin And Development 3.2 Sub Schools : Basohli, Guler, Kangra, Chamba and Garhwal 3.3 Main Feature of the Pahari School 3.4 Study of the following Pahari Paintings (i) Krishna With Gopis – Basohli (ii) Nand Yashoda and Krishna with Kinsmen Going to Vrindavana Activity- nature painting
6.	September	Half Yearly Examinations Begin Syllabus covered from April to September UNIT-2 The Mughal School and The Deccan Schools of Miniature Paintings. Ch.1- The Mughal School Activity- plate-11
7.	October	CH-2 The Deccan School Activity- festival painting

- 8. November Unit -3 The Bengal School Of Painting**
(a) National Flag of India and the Symbolic significance of its forms and the colors.
(b) Introduction to the Bengal School of Painting.
Activity- plate 17,18 and 21
Periodic II Begins
Syllabus covered from October to November
- 9. December Unit- 4 Modern Trends in Indian Art.**
(a) Paintings
(b) Graphic Prints
Activity- plate-25
- 10. January (C) Sculptures.**
Activity- plate- 27
- 11. February Revision for Annual Exam**
- 12. March Annual Examinations Begins**
Syllabus covered from April to February.

SUBJECT: PHYSICAL EDUCATION

S. No.	Month	Syllabus to be covered
1.	April	Ch – 1 (Planning in Sports) Class Test- Syllabus covered in the month of April.
2.	May	Ch – 2 (Children & Women in Sports) Pre-Test-1 Begin. Syllabus covered from April to May.
3.	June	Ch – 3 (Yoga as Preventive measure for Lifestyle Disease) Summer Vacations.
4.	July	Ch – 3 (Yoga as Preventive measure for Lifestyle Disease) Periodic Test I Begin Syllabus covered from April to July
5.	August	Ch – 4 (Physical Education & Sports for CWSN) Ch – 5 (Sports & Nutrition) Class Test- Syllabus covered in the month of August.
6.	September	Ch – 6 (Test & Measurement in Sports) Revision. Half Yearly Examination Begin Syllabus covered from April to September
7.	October	Ch – 7 (Physiology & Injuries in Sports) Class Test- Syllabus covered in the month of October.
8.	November	Ch – 8 (Biomechanics & Sports) Ch – 9 (Psychology & Sports) Revision. Periodic Test II Begin Syllabus covered in the month of October and November.
9.	December	Ch – 10 (Training in Sports) Revision all work (April to December) Class Test- Syllabus covered in the month of December.
10.	January	Pre Board I begins Syllabus covered from April to December.
11.	February	Practical Exams Begin Pre Board II begins Syllabus covered from April to December.
12.	March	Board Exams Begin.