Dear Parents,

Greetings to you for the new academic session and congratulations for successfully elevating yourself to the next higher class! I am very optimistic that you will continue your good work with same enthusiasm and strive hard to achieve better on the dint of your hard work.

This syllabus is a comprehensive guideline comprising of scholastic and co-scholastic goals set by the school to be accomplished in the session 2026-27. This has been designed with an objective to assist you in getting an overall idea about the series of activities, observations, celebrations and assessments going to take place in the academic year.

So, prepare yourself taking guidance from the syllabus and your teachers for your holistic development. Perfecting yourself with proper planning to achieve short-term goals will surely help you in attaining your ultimate milestone.

Best Wishes

Sambit Sukumar Chinara

Principal

SYLLABUS 2026-27: A LEAD-IN

"The syllabus is a small place that brings students and teachers together."

Sharon Rubin

A syllabus is a formal statement of what the course is about, where it is going, what students are being asked to do, how their performance is evaluated and what is required for them to be successful in the academic year. So a great way to start the academic year is to begin by properly going through the syllabus in detail.

This syllabus sets forth what is expected to happen during the academic year 2026-27 in both scholastic and co-scholastic domains for the class and delineates the responsibilities of students and those of the teachers. It gives a clear and accurate course structure, course calendar, attendance and grading policies etc. It is a permanent record that serves accountability and documentation functions. It contains information useful for evaluation of teachers for academic session as it mentions required textbooks and other materials, the subjects and topics to be covered at the level for various examination schedules (Periodic Tests, Pre-Board) and the rubrics for evaluation. This is a learning tool that helps students become more effective learners in the class. It places the course in context and informs students of the teachers' procedures to evaluate their learning, the coverage of the content area and what they need to be effective learners.

The syllabus also presents the co-curricular planner that guides the students through various seminars, activities to be held in the academic session.

The syllabus in your hands is prepared strictly under the guidelines of CBSE. It is necessary for all the stakeholders to go through the pages in detail as the institution expects the teachers and the students to abide by it throughout the session. It is needless to say by this time that this Syllabus is going to provide you a solid beginning to the session 2026-27 as a resource to be referred over the academic year setting the tone and providing a conceptual framework to be successful in the ensuing academic session.

GUIDELINES FOR PARENTS

1. Please take out time to read school circulars, notes and remarks sent by teachers carefully.
2. Encourage your ward to participate in curricular and co-curricular activities with enthusiasm.
3. Do intimate any change in residential address or telephone number to your ward's class teacher at the earliest.
4. Taking leave during working days is strongly discouraged. Parents are responsible to make up for the loss in studies in case of leaves taken. The school will expect these students to be at par with his/her classmates in every way & that has to be ensured by the parents.
5. Students returning to school after recovery from a disease should procure a doctor's certificate permitting the ward to do so.
   Kindly adhere to the prescribed quarantine period to return to class
   CHICKEN POX – Till complete falling of scabs
   MEASLES – 2 weeks after the rashes disappear
   MUMPS – Until the swelling has gone
   JAUNDICE – Six weeks after the recovery
   COVID-19- After Quarantine period of 7 days.
6. Missing out any written tests or activity based evaluation directly affects the promotion of the students to the next class. A ward has to take all the periodic tests; failing which, we are constrained to repeat or reschedule the test.
7. Encourage your ward to speak in English only.
8. Motivate your ward to maintain a proper code of conduct. Damaging school property, using unparliamentarily / foul language in the school premises, any act of violence, rude behavior towards teachers, non-teaching staff and friends will be viewed seriously.
9. Please ensure that your ward does not wear gold jewellery to school. Wearing any kind of make-up, henna decoration is prohibited.
10. Bringing electronic gadgets like mobile; camera etc. is not permitted inside the school premises as per the CBSE rules. If found, the gadgets will be confiscated by the authority.

PARENTS-TEACHER MEETING

In the aim of reinforcing students' learning, progress and further development, the school organizes Parent-Teacher Interaction Meetings in regular intervals. The school acquaints the parents regarding the latest CBSE directives, changes in school rules and activities and offers individual feedback on students through class teachers. The class teachers also note constructive suggestions from the parents to improve the performance of the students.

Parents are requested to attend the meetings as the information is sent to them through notices from time to time.

EXAMINATION TIMELINE

EXAM	WINDOW TIME	SYLLABUS (DURATION) FOR THE TEST	MARKS	TIME ALLOWED
PeriodicTest - I	27. 07.26 to 01.08.26	Syllabus covered from 1st week of April to 3rd week of July	40/35/30	1 ½ Hours
Half Yearly Examination	06.10.26 to 16.10.26	Syllabus covered till last week of September 2026	80/70	3 Hours
Pre Annual Examination	15.01.27 to 21.01.27	Syllabus covered after Half Yearly till PA-II	80/70	3 Hours
Annual Examination	2nd week of February 2027	Syllabus for Annual Examination	80/70	3 Hours

The Sustainable Development Goals (SDGs),

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

The 17 SDGs are integrated—they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. These SDGs have been specifically created to draw attention to some of the biggest environmental challenges in the world today.

- Educators can use these sub-targets to show their students the ways in which they can make an impact on improving theworld that they live in.
- Students will get a greater knowledge of challenges faced not only in their own lives but also in the lives of others allaround the world.
- They teach empathy to students-They give students an awareness of the wider world, and its values and identities.
- Empowers children to construct knowledge, explore values and develop respect towards Nature, which lays thefoundations for an environmentally responsible adulthood in the next future.
- It helps in ensuring a better life for present and future generations.

CONTENT

SL NO.	SUBJECT	PAGE NO.
01	English	06
02	Mathematics	12
03	Physics	15
04	Chemistry	20
05	Biology	24
06	Computer Science	28
07	Physical Education	32
08	Hindi	35
09	Hindustan Music	37
10	Activities Round the Year	39
11	CCA Schedule	42

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ENGLISH CORE (301)

TIME: 3 Hours F M: 80+20=100

PRESCRIBED BOOKS-

1. **HORNBILL BY NCERT**
2. **SNAPSHOTS BY NCERT**

QUESTIONWISE BREAK-UP

Section	Areas of Learning	PT	Marks	H.Y. Pre-Annual & Annual
A	Reading Skills (Three)	8	10+8+8	26
B	Grammar & Creative Writing Skills	11	7+3+3+5+5	23
C	Literature (Textbook &Supplementary Reader)	3+3+ 6(3+3)+3+6	3+3+4+6+ 3+6+6	31
	Assessment of Listening Assessment of Speaking Project Work		5 5 10	20
	TOTAL	40	100	100

DIFFICULTY LEVEL

1. Difficult Questions- 15 %
2. Moderate Questions- 70%
3. Easy Questions- 15%

QUESTION PAPER DESIGN		
Section	**Competencies**	**Total Marks**
Reading Skills	conceptual understanding, decoding, analyzing, inferring, interpreting, appreciating, literary conventions and vocabulary, note making and summarizing and using appropriate format/s.	26
Creative Writing Skills	conceptual understanding, application of rules, analysis, reasoning, appropriacy of style and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity.	23
Literature Text Books And Supplementary Reading Texts	Recalling, reasoning, appreciating literary convention, inference, analysis, creativity with fluency, critical thinking.	31
	TOTAL	80
	Internal Assessment Listening Speaking Project Work	5 5 10
	GRAND TOTAL	100

SECTION – A (READING SKILLS – 26 Marks)

Typology – Reading Skills - Conceptual Understanding, Decoding, Analysing, Inferring, Interpreting, appreciating literary conventions and vocabulary, Summarising and using appropriate format/s.)

UNSEEN PASSAGE	NO. OF WORDS	TEXTING AREAS	MARKS ALLOTED
1	The combined word limit for both the passages will be 600-750.	One unseen passage to assess Comprehension, interpretation and inference. Vocabulary and inference of meaning will also be assessed. The passage may be factual, descriptive or literary. (5 MCQs and 5 OTQs)	**10**
2		One unseen case-based passage with verbal/visual inputs like statistical data, charts etc. to assess comprehension, interpretation, analysis, inference & evaluation. Multiple Choice Questions/Objective Type Questions will be asked. (4 MCQs and 4 OTQs)	**8**
3	Note Making and Summarization based on a passage of approximately 200-250 words.	i. Note Making: 5 Marks Title: 1 Numbering and indenting: 1 Key/glossary: 1 Notes: 2 ii. Summary (up to50 words): 3 Marks Content: 2 Expression: 1	**8**

SECTION – B (GRAMMAR & CREATIVE WRITING SKILLS – 23 Marks)

Typology – Grammar & Creative Writing Skills - conceptual understanding, application of rules, analysis, reasoning, appropriacy of style and tone, using appropriate format and fluency, inference, evaluation and creativity.

GRAMMAR **7 Marks**

4. Questions on **Gap filling** (**Tenses, Clauses)** **4 Marks**

5. Questions on re-ordering/ transformation of sentences
3 Marks

(Total seven questions to be done out of eight given).

CREATIVE WRITING SKILLS **16 Marks**

6. Short writing task - **Classified Advertisements** within 50 words. One out of the two given questions to be answered
(**3 Marks**: Format: 1/Content: 1/Expression: 1)

7. Short writing task - **Poster Making** within 50 words. One out of the two given questions to be answered.
(**3marks**: Format: 1/Content: 1/Expression:1)

8. Writing a **Speech** in 120-150 words based on verbal / visual cues related to some contemporary/ age-appropriate topic.
(**5 Marks**: Format: 1/Content: 2/Expression: 2)

9. Writing a **Debate** based on visual/verbal inputs in 120-150 words.
The theme should be of contemporary topical issues. One out of the two given questions to be answered.
(**5 Marks** Format: 1/Content: 2/Expression: 2)

SECTION – C (LITERATURE – 31 Marks)

Typology – Literature - Recalling, Reasoning, Appreciating, Literary Conventions, Inference, Analysis, Creativity with Fluency and critical thinking.

This section will have variety of assessment items including Multiple Choice Questions, Objective Type Questions, Short Answer Type Questions and Long Answer Type Questions to assess comprehension, analysis, interpretation and extrapolation beyond the text.

Reference to the Context:

10. One Poetry extract out of two from the book Hornbill to assess comprehension, interpretation, analysis and appreciation. **(3x1=3 Marks)**

11. One Prose extract out of two from the book Hornbill to assess comprehension, interpretation, analysis and appreciation. **(3x1=3 Marks)**

12. One prose extract out of two from the book Snapshots to assess comprehension, interpretation and analysis. **(4x1=4Marks)**

13. One Short answer type question each (one from Prose and one from Poetry from Hornbill), out of the two given options in each question, to be answered in 40-50 words. Questions should elicit inferential responses through critical thinking. **(3x2=6Marks)**

14. One Short answer type question out of the two given options, (from Snapshots), to be answered in 40-50 words. Questions should elicit inferential responses through critical thinking. **(3x1-3Marks)**

15. One Long answer type question out of two based on the chapters from the book Prose/Poetry Hornbill, to be answered in 120-150 words. Questions can be based on incident/theme/passage/extract/event/s as reference points to assess extrapolation beyond and across the text. The question will elicit analytical and evaluative response from the student. Any 1 out of 2 questions to be attempted. **(1x6-6Marks)**

16. One Long answer type question, based on the chapters from the book Snapshots to be answered in 120-150 words to assess global comprehension and extrapolation beyond the text. Questions to provide evaluative and analytical responses using incidents, events, themes as reference points. Any 1 out of 2 questions to be done. **(1x6-6Marks)**

PRESCRIBED BOOKS

1. Hornbill: English Reader published by National Council of Education Research and Training, New Delhi

- The Portrait of a Lady
- "We're Not Afraid to Die... if we can be together
- The Laburnum Top (Poem)
- Childhood(Poem)
- Silk Road
- A Photograph (Poem)
- Discovering Tut: The Saga Continues
- The Voice of the Rain (Poem)
- The Adventure
- Father to Son (Poem)

2. Snapshots: Supplementary Reader published by National Council of Education Research and Training, New Delhi

- The Summer of the Beautiful White Horse (Prose)
- Mother's Day (Play)
- The Address (Prose)
- The Tale of Melon City
- Birth (Prose)

INTERNAL ASSESSMENT

Assessment of Listening Skills - 05 Marks

Assessment of Speaking Skills - 05 Marks

Project Work -10 Marks

Seminar may be presented in any format such as PPT, report, poster, demonstration, or video, and will be evaluated based on content quality, creativity, and clarity of communication.

- Half-yearly-Project topic assignment, planning and presentation on project layout (September-October, 2026)
- Annual Examination-Project report submission and Visa-voce (January-February 2027)

GUIDELINES FOR INTERNAL ASSESSMENT

ALS must be seen as an integrated component of all four language skills rather than a compartment of two. Suggested activity therefore, take into consideration an integration of the four language skills but during assessment, emphasis will be given to speaking and listening, since reading and writing are already being assessed in the written exam.

Assessment of Listening and Speaking Skills: (5+5-10 Marks)

i. **Activities:**

- Subject teachers must refer to books prescribed in the syllabus,
- In addition to the above, teachers may plan their own activities and create their own material for assessing the listening and speaking skills.

ii. **Parameters for Assessment**: The listening and speaking skills are to be assessed on the following parameters

a. Interactive competence (Initiation & tum taking, relevance to the topic)

b. Fluency (cohesion, coherence and speed of delivery)

c. Pronunciation

Language (grammar and vocabulary) A suggestive rubrics is given below

	1.	2.	3.	4.	5.
Interaction	• Contributions are mainly unrelated to those of other speakers • Shows hardly any initiative in the development of conversation • Very limited interaction	• Contributions are often unrelated to those of the other speaker • Generally passive in the development of conversation	• Develops interaction adequately, makes however minimal effort initiate conversation • Needs constant prompting to take turns	• Interaction is adequately initiated and develop • Can take turn but needs little prompting	• Can initiate & logically develop simple conversation on familiar topics • Can take turns appropriately
Pronunciation	• Insufficient accuracy in pronunciation; many grammatical errors. • Communication is severely affected	• Frequently unintelligible articulation. • Frequent phonological errors. • Major communication problems.	• Largely correct pronunciation & clear articulation except occasional errors. • Some expressions cause stress without compromising with understanding of spoken discourse	• Mostly correct pronunciation & clear articulation • Can be clearly understood most of the time; very few phonological errors	• Can pronounce correctly & articulate clearly. • Is always comprehensible, uses appropriate intonation

Fluency & Coherence	• Noticeably/long pauses; rate of Speech is slow • Frequent repetition and/yourself-correction • Links only basic sentences; breakdown of coherence evident	• Usually fluent; produces simple speech fluently, but loses coherence in complex communication • Often hesitates and/or resorts to slow speech • Topics partly developed; not always concluded logically	• Is willing to speak at length, however repetition is noticeable • Hesitates and/or self corrects; occasionally loses coherence • Topics mainly developed, but usually not logically concluded	• Speaks without noticeable effort, with a little repetition • Demonstrates hesitation to find words or use correct grammatical structures and/or self-correction • Topics not fully developed to merit	• Speaks fluently almost with no repetition & minimal hesitation • Develops topic fully & coherently
Vocabulary & Grammar	• Demonstrates almost no flexibility, and mostly struggles for appropriate words • Uses very basic vocabulary to express view-points	• Communicates with limited flexibility and appropriacy on some of the topics • Complex forms and sentence structures are rare, exhibits limited vocabulary to express new ideas	• Communicates with limited flexibility and appropriacy on most of the topics • Sometimes uses complex forms and sentence structures, has limited vocabulary to describe express new points.	• Can express with some flexibility and appropriacy on most of the topics • Demonstrates ability to use complex forms and sentence structures most of the time; expresses with adequate vocabulary	• Can express with some flexibility and appropriacy on a variety of topics such as family, hobbies, work, travel and current events • Frequently uses complex forms and sentence structures, has enough vocabulary to express himself/herself

iii. **Schedule**:

- The practice of listening and speaking skills should be done throughout the academic year.
- The final assessment of the skills is to be done as per the convenience and schedule of the school.

Project Work + Viva: 10 Marks

Out of ten marks, 5 marks will be allotted for the project report / script/ essay etc. and 5 marks for the viva.

Schedule:

- Schools may refer to the suggestive timeline given in these guidelines for the planning, preparation and viva-voice of ALS based projects.
- The final assessment of the skills may be done on the basis of parameters suggested by the Board. Language teachers, however, have the option to adopt/ modify these parameters according to their school specific requirements.
- Competency Focused Questions in the form of MCQs/ Case Based Questions, Source-based Integrated Questions or any other type = 60%
- Select response type questions (MCQ) = 20%
- Constructed response questions (Short Answer Questions/Long Answer type Questions, as per existing pattern) = 20%

COURSE STRUCTURE

	PT	HALF YEARLY EXAM (80 marks + 20 marks ASL)	ANNUAL (BOARD) (80 marks + 20 marks ASL)
A	**READING SECTION : 08 marks** Case based Comprehension passage **1X8=8 Marks**	**READING SECTION : 26 marks** Comprehension & Vocabulary Case based Comprehension passage Note Making & Summarization	**READING SECTION : 26 marks** Comprehension & Vocabulary Case based Comprehension passage Note Making & Summarization
B	**Grammar & Writing Skills: 11 marks** **Grammar:** Gap filling **3 Marks** **Creative Writing:** Poster **3 Marks** Speech **5 Marks**	**Grammar & Writing Skills : 23 marks** **Grammar:** 07 marks i. Gap filling (Tenses, Clauses) ii. Re-ordering/ Transformation of sentences **Creative Writing:** i Classified Advertisements ii Poster iii Speech iv Debate	**Grammar & Writing Skills : 23 marks** **Grammar:** 07 marks i. Gap filling (Tenses, Clauses) ii. Re-ordering/ Transformation of sentences **Creative Writing:** i Classified Advertisements ii Poster iii Speech iv Debate
C	**LITERATURE: 21 Marks** **HORNBILL (PROSE)** The Portrait of a Lady We're Not Afraid To Die… If We Can All Be Together **Extract: 3X1 = 3 Marks** **POETRY** A Photograph The Laburnum Top **Extract: 3X1 = 3 Marks** **SAQ from HORNBILL 3X2=6 Marks** **SNAPSHOTS** The Summer of the Beautiful White Horse **Extract: 3X1 = 3 Marks** **LAQ from HORNBILL/ SNAPSHOTS: 6X1= 6 Marks**	**LITERATURE: 31 Marks** **HORNBILL (PROSE)** The Portrait of a Lady We're Not Afraid To Die… If We Can All Be Together Discovering Tut : The Saga Continues The Adventure **POETRY** A Photograph The Laburnum Top The Voice of the Rain Childhood **SNAPSHOTS** The Summer of the Beautiful White Horse The Address Mother's Day	**LITERATURE: 31 Marks** **HORNBILL (PROSE)** The Portrait of a Lady We are not Afraid To Die… If We Can All Be Together Discovering Tut : The Saga Continues The Adventure Silk Road **POETRY** A Photograph The Laburnum Top The Voice of the Rain Childhood Father to Son **SNAPSHOTS** The Summer of the Beautiful White Horse The Address Mother's Day The Tale of the Melon City

MATHEMATICS (041)

TIME: 3Hours **F.M.: 80 + 20 = 100**

PRESCRIBED BOOKS:

1. Mathematics Textbook for Class XI, (NCERT Publication)
2. Mathematics Exemplar Problems for Class XI,(NCERT Publication)
3. Mathematics Lab Manual for Class XI, Published by NCERT

QUESTION PAPER DESIGN

Duration: 3 Hrs. **Maximum Marks: 80**

SL.	Typology of Questions	Total Marks	Approximate Percentage
1.	Remembering & Understanding	44	55 %
2.	Applying	20	25 %
3.	Analyzing, Evaluating, Creating	16	20 %
	Total Marks	**80**	**100%**
	Practical	**20**	
	Gross Total	**100**	

NB: Competency Focused Questions in the form of MCQs/ Case Based Questions, Source-based Integrated Questions or any other type = 50%.

COURSE STRUCTURE (THEORY)

Sl. NO	Units	TYPES OF TEST / Name of the Topics	PT-I (40 marks)	Half Yearly (80 marks)	Pre Annual Examination (80 Marks)	Annual Examination (80 Marks)
1	I Sets & Functions	Sets	10	12	23	23
2		Relations & Functions	10	14		
3		Trigonometric Function	20	20		
4	II Algebra	Complex Numbers & Quadratic Equations		06	25	25
5		Linear Inequalities		05		
6		Permutations and Combinations		10		
7		Binomial Theorem		07		
8		Sequence & Series		06		
9	III Coordinate Geometry	Straight lines			12	12
10		Conic sections				
11		Introduction to Three-Dimensional geometry				
12	IV Calculus	Limits & Derivatives			08	08
13	V Statistics & Probability	Statistics			12	12
14		Probability				
		TOTAL	40	80	80	80

SYLLABUS DETAILS

UNIT-I: SETS AND FUNCTIONS

1. **Sets:** Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real numbers especially intervals (with notations). Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement.
2. **Relations & Functions:** Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself (up to R x R x R). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions with their graphs . Sum, difference, product and quotients of functions.
3. **Trigonometric Functions:** Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $sin^2x + cos^2x = 1$, for all x. Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing *sin (x±y)* and *cos (x ± y)* in terms of sin *x*, sin *y*, cos*x* & cos*y* and their simple applications. Deducing identities like the following:

   $\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}$,

   $\cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\cot y \pm \cot x}$

   $\sin\alpha \pm \sin\beta = 2\sin\frac{1}{2}(\alpha \pm \beta)\cos\frac{1}{2}(\alpha \mp \beta)$

   $\cos\alpha + \cos\beta = 2\cos\frac{1}{2}(\alpha + \beta)\cos\frac{1}{2}(\alpha - \beta)$,

   $\cos\alpha - \cos\beta = -2\sin\frac{1}{2}(\alpha + \beta)\sin\frac{1}{2}(\alpha - \beta)$

   Identities related to $\sin 2x, \cos 2x, \tan 2x, \sin 3x, \cos 3x$ and $\tan 3x$

UNIT –II: ALGEBRA

1. **Complex Numbers and Quadratic Equations:** Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane.
2. **Linear Inequalities:** Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.
3. **Permutations and Combinations:** Fundamental principle of counting. Factorial *n* (n!) .Permutations and combinations, derivation of formulae ^{n}Pr and ^{n}Cr and their connections, simple applications.
4. **Binomial Theorem:** Historical perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, simple applications.
5. **Sequence and Series:** Sequence and Series. Arithmetic Mean (A.M.), Geometric Progression (G.P.), general term of a GP., sum of *n* terms of a G.P., Infinite G.P. and its sum, Geometric mean (G.M.), relation between A.M. and G. M.

UNIT-III: COORDINATEGEOMETRY

1. **Straight Lines:** Brief recall of two-dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form, two-point form, intercept form, Distance of a point from a line.
2. **Conic Sections:** Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

3. **Introduction to Three - dimensional Geometry:** Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points.

UNIT – IV: CALCULUS

1. **Limits and Derivatives:** Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definitions of derivative relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

UNIT-V: STATISTICS AND PROBABILITY

1. **Statistics:** Measures of Dispersion: Range, Mean deviation, variance and stand and deviation of ungrouped/grouped data.

2. Probability: Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.

INTERNAL ASSESSEMENT	**20 MARKS**
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematical Activities	10 Marks

- 20 % weightage questions will be asked from the exemplar text book in all the examinations.
- No chapter wise weightage
- There will be no overall choice in the question paper; however, 33% internal choices will be given in each section.

NB: Question wise break up and typology of questions shall be done at par with the sample paper to be released by DAV CAE.

ACTIVITY (10 MARKS)		
Sl No	**LIST OF ACTIVITIES**	
1	ACTIVITY 1 (To find number of subsets of a given set)	Half yearly
2	ACTIVITY 2 (To represent set theoretic operations by using Venn Diagram)	
3	ACTIVITY 3(To verify for any two sets A and B , if n(A) = p, n(B) = q, then total number of relations from A to B is 2^{pq})	
4	ACTIVITY 4(To distinguish between a Relation and a Function)	
5	ACTIVITY 5 (To plot the graph of sin x, sin 2x, 2 sin x, sin $\frac{x}{2}$)	
6	ACTIVITY 6 (Pascal's triangle)	Annual (Including Half yearly)
7	ACTIVITY 7 (To demonstrate that the arithmetic mean of two different positive numbers is always greater than their geometric mean)	
8	ACTIVITY 8 (Construct of parabola)	
9	ACTIVITY 9(To find analytically $\lim_{x\to c} f(x)$, where $f(x) = \frac{x^2-c^2}{x-c}$)	
10	ACTIVITY 10(To write the sample space when a die is rolled once, twice)	

NB: (i) (a) One activity (3 marks) out of first 5 will be asked in the half yearly exam and one activity (3 marks) will be asked out of 10 activities for annual activity test. (b) Maintenance of record carries 5 marks and viva voce 2 marks which is in total 10 marks.

ASSESSMENT OF ACTIVITIES

Half Yearly	**Annual**
Record – 5 Marks	Record – 5 Marks
Viva voce - 2 Marks	Viva voce - 2 Marks
Activity – 3 Marks (Out of first 5 activities)	Activity – 3 Marks (Out of 10 activities)

ii) Periodic test (PT-1, HY, Pre Board / Pre Annual) out of these 3, two best marks to be taken for calculating for another 10 weightage.

iii) Total Internal Assessment will be done for 20 marks (10 from activity and 10 from periodic test)

PHYSICS (042)

Duration: 3 Hrs. **Maximum Marks: 70**

PRESCRIBED BOOKS:

1. Physics Part-I, Published by NCERT
2. Physics Part-II, Published by NCERT
3. Exemplar Physics, Published by NCERT
4. Laboratory Manual of Physics, Class XI Published by NCERT
5. Any related books and manuals brought out by NCERT (Also consider multimedia)

QUESTION PAPER DESIGN

SL.	Typology of Questions	Total Marks	Approximate Percentage
1.	Remembering, Understanding	27	38 %
2.	Applying	22	32 %
3.	Analying, Evaluating, Creating	21	30 %
	Total Marks	**70**	**100**
	Practical	**30**	
	Gross Total	**100**	

NOTE:

- The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.
- Question wise break up shall be followed as per the sample paper to be released by DAV CAE.
- Competency Focused Questions in the form of MCQs/ Case Based Questions, Source-based Integrated Questions or any other type = 50%
- Select response type questions (MCQ) = 20%
- Constructed response questions (Short Answer Questions/Long Answer type Questions, as per existing pattern) = 30%

COURSE STRUCTURE (THEORY)

TIME : 3 HOURS **F.M. : 70**

Sl. NO	TYPES OF TEST	PT (35 Marks)	Half Yearly (70 marks)	Pre Annual / Annual (70 Marks)
Unit – I	**Physical world and measurement**	10	40	23
	Chapter 1: Units and Measurement			
Unit– II	**Kinematics**	25		
	Chapter 2: Motion in a straight line			
	Chapter 3: Motion in a plane			
Unit -III	**Laws of Motion**			
	Chapter 4: Laws of Motion			
Unit – IV	**Work, Energy and Power**		30	17
	Chapter 5: Work, Energy and Power			
Unit – V	**Motion of system of particles and rigid body**			
	Chapter 6: Motion of system of particles and rigid body			
Unit – VI	**Gravitation**			
	Chapter 7: Gravitation			

Sl. NO	TYPES OF TEST	PT (35 Marks)	Half Yearly (70 marks)	Pre Annual / Annual (70 Marks)
Unit –VII	**Properties of bulk matter**			
	Chapter 8: Mechanical Properties of solids Chapter 9: Mechanical Properties of Fluids Chapter 10 :Thermal Properties of Matter			
Unit –VIII	**Thermodynamics**			20
	Chapter 11: Thermodynamics			
Unit – IX	**Behavior of perfect gases and kinetic theory of gases**			
	Chapter12: Kinetic Theory			
Unit – X	**Oscillations and Waves**			
	Chapter 13: Oscillations Chapter 14: waves			10
	TOTAL	**35**	**70**	**70**

N.B. : 20% weightage questions may be asked from Exemplar Text book in all the examination.

SYLLABUS DETAILS

UNIT – I : PHYSICAL WORLD AND MEASUREMENT

Chapter – 1 : Units and Measurement : Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures, Determining the uncertainty in result. Dimensions of physical quantities, dimensional analysis and its applications.

UNIT – II : KINEMATICS

Chapter – 2 : Motion in a straight line : Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non- uniform motion, average speed and average velocity and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical and calculus treatment).

Chapter – 3 : Motion in a Plane: Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform acceleration- projectile motion, uniform circular motion.

UNIT – III : LAWS OF MOTION

Chapter – 4 : Laws of Motion:

Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion.

Law of conservation of linear momentum and its applications.

Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road).

UNIT – IV : WORK, ENERGY AND POWER

Chapter – 5 : Work, Energy and Power: Work done by a constant force and a variable force; kinetic energy, work energy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces: non-conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

UNIT – V : MOTION OF SYSTEM OF PARTICLES AND RIGID BODY

Chapter – 6 : System of Particles and Rotational Motion: Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of mass of a rigid body; centre of mass of a uniform rod.

Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications.

Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions.

Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation).

UNIT –VI : GRAVITATION

Chapter – 7 : Gravitation:

Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential, escape speed, orbital velocity of a satellite, energy of an orbiting satellite.

UNIT –VII : PROPERTIES OF BULK MATTER

Chapter – 8 : Mechanical Properties of Solids : Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio, elastic energy. Application of elastic behaviour of materials (qualitative idea only).

Chapter – 9 : Mechanical Properties of Fluid : Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure.

Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications. (Torricelli's law and Dynamic lift)

Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.

Chapter – 10 : Thermal Properties of Matter :

Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; C_p, C_v - calorimetry; change of state - latent heat capacity.

Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law.

UNIT –VIII : THERMODYNAMICS

Chapter – 11 : Thermodynamics : Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: Thermodynamic state variable and equation of state. Change of condition of gaseous state isothermal, adiabatic, reversible, irreversible, and cyclic processes.

UNIT –IX : BEHAVIOR OF PERFECT GASES AND KINETIC THEORY OF GASES

Chapter – 12 : Kinetic Theory : Equation of state of a perfect gas, work done in compressing a gas.

Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

UNIT –X : OSCILLATIONS AND WAVES

Chapter – 14 : Oscillation

Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications. Simple harmonic motion (S.H.M), uniform circular motion and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.

Chapter – 15 : Waves : Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.

PRACTICALS

The record, to be submitted by the students, at the time of their examination, has to include:

- Record of at least 08 Experiments [4 from each section], to be performed by the students.
- Record of at least 06 Activities [with 3 each from Sections A & B], to be performed by the students.
- Report of the project carried out by the students.

EVALUATION SCHEME

Time Allowed : 3hrs **Max Marks : 30**

Topic	Annual (Marks)
Two experiments one from each section	7+7
Practical record (experiment and activities)	5
One activity from any section	3
Investigatory Project	3
Viva on experiments, activities and projects	5
Total	**30**

SECTION-A

Experiments

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorie meter using Vernier Calipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given spherical surface by a spherometer.
5. To determine the mass of two different objects using a beam balance.
6. To find the weight of a given body using parallelogram law of vectors.
7. Using a simple pendulum, plot its graph and use it to find the effective length of second's pendulum.
8. To study variation of time period of a simple pendulum of a given length by taking bobs of same size but different masses and interpret the result.
9. To study the relationship between force of limiting friction and normal reaction and to find the co-efficient of friction between a block and horizontal surface.
10. To find the downward force, along an inclined plane, acting on a roller due to Gravitational pull of the earth and study its relationship with the angle of inclination (θ) by plotting graph between force and $\sin\theta$.

Activities

1. To make a paper scale of given least count e.g. 0.2cm, 0.5cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of projectile with angle of projection.

6. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane)
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

SECTION-B

Experiments

1. To determine Young's modulus of elasticity of the material of a given wire.
2. To find the force constant of a helical spring by plotting a graph between load and extension.
3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and 1/V.
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. To determine specific heat capacity of a given solid by method of mixtures.
8. To study the relation between frequency and length of a given wire under constant tension using sonometer.
9. To study the relation between the length of a given wire and tension for constant frequency using sonometer.
10. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

Activities

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To note the change in level of liquid in a container on heating and interpret the observations.
4. To study the effect of detergent on surface tension of water by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped meter scale loaded at (i) its end (ii) in the middle.
7. To observe the decrease in pressure with increase in velocity of a fluid.

CHEMISTRY (043)

Duration: 3 Hrs **Maximum Marks: 70**

PRESCRIBED BOOKS:

1. Chemistry Part-I, Published by NCERT
2. Chemistry Part-II, Published by NCERT
3. Exemplar Chemistry, Published by NCERT
4. Laboratory Manual of Chemistry, Class XI Published by NCERT
5. Any related books and manuals brought out by NCERT (Also consider multimedia)

QUESTION PAPER DESIGN

SL.	Typology of Questions	Total Marks	Approximate Percentage
1.	**Remembering and Understanding:** Exhibit memory of previously learned material by recalling facts, terms, basic concepts and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.	28	40 %
2.	**Applying:** Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	21	30 %
3.	**Analysing, Evaluating and Creating:** Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	21	30 %
	Total Marks	**70**	**100**
	Practical	**30**	
	Gross Total	**100**	

N.B.: 20% weightage questions may be asked from Exemplar Text book in all the examination.

- Competency Focused Questions in the form of MCQs/ Case Based Questions, Source-based Integrated Questions or any other type = 50%
- Suitable internal variations may be made for generating various templates.
- There will be no overall choice in the question paper.
- However, 33% internal choices will be given in all the sections.

COURSE STRUCTURE (THEORY)

SL NO	UNITS	TYPE OF TEST / NAME OF THE UNIT	PT	HALF YEARLY	PRE ANNUAL / ANNUAL (BOARD)
1	UNIT-1	Some basic concepts of chemistry	15	12	7
2	UNIT-2	Structure of atom	20	14	9
3	UNIT-3	Classification of elements and periodicity of properties		10	6
4	UNIT-4	Chemical bonding and molecular structure		15	7
5		Gaseous State			

SL NO	UNITS	TYPE OF TEST / NAME OF THE UNIT	PT	HALF YEARLY	PRE ANNUAL / ANNUAL (BOARD)
6	UNIT-5	Chemical Thermodynamics		12	9
7	UNIT-6	Equilibrium			7
8	UNIT-7	Redox reactions		7	4
9		s & p – Block elements			
10	UNIT-8	Organic chemistry : Some basic principles & techniques			11
11	UNIT-9	Hydrocarbons			10
		TOTAL MARKS	**35**	**70**	**70**

Unit 1: Some Basic Concepts of Chemistry

Importance of Chemistry, Nature of Matter, Properties of Matter and their Measurement, Uncertainty in Measurement, Laws of Chemical Combination, Dalton's Atomic Theory, Atomic and Molecular Masses, Mole Concept and Molar Masses, Percentage Composition, Stoichiometry and Stoichiometric Calculations.

Unit 2: Structure of Atom

Discovery of Sub-atomic Particles, Atomic Models, Developments Leading to the Bohr's Model of Atom, Bohr's Model for Hydrogen Atom, Towards Quantum Mechanical Model of the Atom, Quantum Mechanical Model of Atom.

Unit 3: Classification of Elements and Periodicity in Properties

Why we Need to Classify Elements? Genesis of Periodic Classification, Modern Periodic Law and the Present Form of Periodic Table, Nomenclature of Elements with Atomic Number > 100, Electronic Configuration of Elements and the Periodic Table, Electronic Configuration of Elements and Types of Elements: s-, p-, d-, f-Blocks, Periodic Trends in Properties of Elements.

Unit 4: Chemical Bonding and Molecular Structure

Kossel-Lewis Approach to Chemical Bonding, Ionic or Electrovalent Bond, Bond Parameters, The Valence Shell Electron Pair Repulsion (VSEPR) Theory, Valence Bond Theory, Hybridisation, Molecular Orbital Theory, Bonding in Some Homonuclear Diatomic Molecules, Hydrogen Bonding.

Unit 5: Thermodynamics

Thermodynamic Terms, Applications, Measurement of ΔU and ΔH: Calorimetry, Enthalpy Change, and ΔH of a Reaction – Reaction Enthalpy, Enthalpies for Different Types of Reactions, Spontaneity, Gibbs Energy Change and Equilibrium.

Unit 6: Equilibrium

Equilibrium in Physical Processes, Equilibrium in Chemical Processes – Dynamic Equilibrium, Law of Chemical Equilibrium and Equilibrium Constant, Homogeneous Equilibria, Heterogeneous Equilibria, Applications of Equilibrium Constants, Relationship between Equilibrium Constant K, Reaction Quotient Q and Gibbs Energy G, Factors Affecting Equilibria, Ionic Equilibrium in Solution, Acids, Bases and Salts, Ionization of Acids and Bases, Buffer Solutions, Solubility Equilibria of Sparingly Soluble Salts.

Unit 7: Redox Reactions

Classical Idea of Redox Reactions – Oxidation and Reduction Reactions, Redox Reactions in Terms of Electron Transfer Reactions, Oxidation Number, Redox Reactions and Electrode Processes.

Unit 8: Organic Chemistry – Some Basic Principles and Techniques

General Introduction, Tetravalence of Carbon: Shapes of Organic Compounds, Structural Representations of Organic Compounds, Classification of Organic Compounds, Nomenclature of Organic Compounds, Isomerism, Fundamental Concepts in Organic Reaction Mechanism, Methods of Purification of Organic Compounds, Qualitative Analysis of Organic Compounds, Quantitative Analysis

Unit 9: Hydrocarbons

Classification, Alkanes, Alkenes, Alkynes, Aromatic Hydrocarbon, Carcinogenic and Toxicity.

Note: The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. This reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

1. s & p Block Elements

Electronic configuration, atomic & Ionic radii, Ionization Enthalpy, Hydration Enthalpy and general trends in physical and chemical properties of s and p block elements across the periods and down the groups; unique behavior of the first element in each group.

2. The Gaseous State

Qualitative treatment of Gas laws, Ideal gas equation and deviations from it.

PRACTICALS

EVALUATION SCHEME FOR EXAMINATION	HALF YEARLY	ANNUAL
VOLUMETRIC ANALYSIS	10	8
SALT ANALYSIS	-	8
CONTENT BASED EXPERIMENT	6	6
PROJECT WORK	4	4
CLASS RECORD AND VIVA	10	4
Total	**30**	**30**

PRACTICAL SYLLABUS

Micro-chemical methods are available for several of the practical experiments. Wherever possible such techniques should be used:

A. Basic Laboratory Techniques

1. Cutting glass tube and glass rod
2. Bending a glass tube
3. Drawing out a glass jet
4. Boring a cork

B. Characterization and Purification of Chemical Substances

1. Determination of melting point of an organic compound.
2. Determination of boiling point of an organic compound.
3. Crystallization of impure sample of any one of the following: Alum, Copper Sulphate, Benzoic Acid.

C. Experiments based on pH

(a) Any one of the following experiments:

- Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
- Comparing the pH of solutions of strong and weak acids of same concentration.
- Study the pH change in the titration of a strong base using universal indicator.

(b) Study the pH change by common-ion in case of weak acids and weak bases.

D. Chemical Equilibrium

One of the following experiments:

a) Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.

b) Study the shift in equilibrium between $[Co(H_2O)_6]^{2+}$ and chloride ions by changing the concentration of either of the ions.

E. Quantitative Estimation

i) Using a chemical balance / Electronic balance.

ii) Preparation of standard solution of Oxalic acid.

iii) Determination of strength of a given solution of Sodium Hydroxide by titrating it against standard solution of Oxalic acid.

iv) Preparation of standard solution of Sodium Carbonate.

v) Determination of strength of a given solution of Hydrochloric acid by titrating it against standard Sodium Carbonate solution.

F. Qualitative Analysis

(a) Determination of one anion and one cation in a given salt

Cation - Pb^{2+}, Cu^{2+}, Al^{3+}, Fe^{3+}, Mn^{2+}, Zn^{2+}, Ni^{2+} , Co^{2+} , Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, $(NH_4)^+$

Anions – $(CO_3)^{2-}$, S^{2-}, $(SO_3)^{2-}$, $(SO_4)^{2-}$, $(NO_2)^-$, Cl^-, Br^-, I^-, $(PO_4)^{3-}$, CH_3COO^- , NO_3^-

(Note: Insoluble salts excluded)

(b) Detection of -Nitrogen, Sulphur, Chlorine in organic compounds.

PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested Projects

- Checking the bacterial contamination in drinking water by testing sulphide ion.
- Study of the methods of purification of water.
- Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).
- Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium Carbonate on it.
- Study the acidity of different samples of tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study of acidity of fruit and vegetable juices.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

Links for NCERT textbooks:

- **https://ncert.nic.in/textbook.php?lech1=0-5**
- **https://ncert.nic.in/textbook.php?lech2=0-5**
- **https://ncert.nic.in/division/dek/pdf/Manual_01.pdf**

BIOLOGY (044)

TIME: 3 Hours **F.M.: 70+30=100**

PRESCRIBED BOOKS:

1. Text book of biology for Class-XI (NCERT).
2. Exemplar Biology-Class-XI (NCERT).
3. Biology supplementary material (revised), available on CBSE website.
4. Other related books and manuals brought out by NCERT (including multimedia).
5. Laboratory Manual in Biology – XI (Published by NCERT).

QUESTION PAPER DESIGN

TYPOLOGY	MARKS(PERCENTAGE)
Demonstrate Knowledge and Understanding	**35(50%)**
Application of Knowledge / Concepts	**21(30%)**
Formulate, Analyse, Evaluate and Create	**14(20%)**
Total Marks	**70**

NOTE:

- Question wise break up shall be followed as per the sample paper to be released by DAV CAE.
- Competency Focused Questions in the form of MCQs/ Case Based Questions, Source-based Integrated Questions or any other type = 50%
- Select response type questions (MCQ) = 20%
- Constructed response questions (Short Answer Questions/Long Answer type Questions, as per existing pattern) = 30%

COURSE STRUCTURE (THEORY)

UNIT	NAME OF THE UNIT	PT	Half Yearly Exam	Pre Annual Exam	Annual Exam
		27.7.2026 to 1.8.2026	**6.10.2026 to 16.10.2026**	**15.01.2027 to 21.01.2027**	**2ND WEEK OF FEB 2026**
1	Diversity of Living Organisms	35	25	15	15
2	Structural Organisation in Plants and Animals		20	10	10
3	Cell: Structure and Function		25	15	15
4	Plant Physiology		-	12	12
5	Human Physiology		-	18	18
	Total Marks	**35**	**70**	**70**	**70**

SYLLABUS DETAIL

UNIT-I DIVERSITY OF LIVING ORGANISMS

Chapter-1: The Living World : Biodiversity ; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature

Chapter-2 : Biological Classification : Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.

Chapter-3 : Plant Kingdom : Classification of plants into major groups; Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnospermae, Angiosperms.

Chapter-4 : Animal Kingdom : Salient features and classification of animals, non-chordates up to phyla level and chordates up to class levels (salient features and few examples of each category). (No live animals or specimen should be displayed.)

UNIT-II STRUCTURAL ORGANIZATION IN PLANTS AND ANIMALS

Chapter-5: Morphology of Flowering Plants : Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed. Description of family Solanaceae.

Chapter-6: Anatomy of Flowering Plants : Anatomy and functions of tissue systems in dicots and monocots.

Chapter-7: Structural Organisation in Animals : Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of frog.

UNIT- III CELL: STRUCTURE AND FUNCTION

Chapter-8: Cell-The Unit of Life : Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system, endoplasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultra structure and function); nucleus.

Chapter-9: Biomolecules : Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids; Enzyme-types, properties, enzyme action. (Topics excluded: Nature of Bond Linking Monomers in a Polymer, Dynamic State of Body Constituents Concept of Metabolism, Metabolic Basis of Living, The Living State)

Chapter-10: Cell Cycle and Cell Division : Cell cycle, mitosis, meiosis and their significance

UNIT-IV PLANT PHYSIOLOGY

Chapter-11: Photosynthesis in Higher Plants : Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photo phosphorylation; chemiosmotic hypothesis; photorespiration; C3 and C4pathways; factors affecting photosynthesis.

Chapter-12: Respiration in Plants : Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient.

Chapter-13: Plant-Growth and Development : Seed germination; phases of plant growth and plant growth rate; conditions of growth; differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; growth regulators-auxin, gibberellin, cytokinin, ethylene, ABA;

UNIT-V HUMAN PHYSIOLOGY

Chapter-14: Breathing and Exchange of Gases : Respiratory organs in animals (recall only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration-asthma, emphysema, occupational respiratory disorders.

Chapter-15: Body Fluids and Circulation : Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac

output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system-hypertension, coronary artery disease, angina pectoris, heart failure.

Chapter-16: Excretory Products and their Elimination : Modes of excretion- ammonotelism, ureotelism, uricotelism; human excretory system–structure and function; urine formation, osmoregulation; regulation of kidney function - renin -angiotensin, atrial natri uretic factor, ADH and diabetes insipidus; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant.

Chapter-17: Locomotion and Movement : Types of movement - ciliary, flagellar, muscular; skeletal muscle, contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal systems -myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.

Chapter-18: Neural Control and Coordination : Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse

Chapter-19: Chemical Coordination and Integration : Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goitre, diabetes, Addison's disease.

The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. The reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

Digestion and Absorption (Please Refer to CBSE Reading Material) Alimentary canal and digestive glands, role of digestive enzymes and gastrointestinal hormones; Peristalsis, digestion, absorption and assimilation of proteins, carbohydrates and fats; calorific values of proteins, carbohydrates and fats; egestion; nutritional and digestive disorders - PEM, indigestion, constipation, vomiting, jaundice, diarrhea.

HALF YEARLY PRACTICAL SYLLABUS

A: List of Experiments

1. Study and describe locally available common flowering plants, from family Solanaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams),type of root(tap and adventitious); type of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.

B. Study and Observe the following (spotting):

1. Parts of a compound microscope.
2. Specimens/slides/models and identification with reasons - Bacteria, *Oscillatoria ,Spirogyra, Rhizopus*, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.
3. Virtual specimens/slides/models and identifying features of - *Amoeba, Hydra,* liver fluke, *Ascaris*, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
4. Mitosis in onion root tip cells and animals cells (grasshopper) from permanent slides.
5. Different types of in florescence (cymose and racemose).

ANNUAL PRACTICAL SYLLABUS (HALF YEARLY SYLLABUS INCLUDED)

Evaluation Scheme	**Marks**
One Major Experiment Part A (Experiment No-1,3,7,8)	5Marks
One Minor Experiment Part A (Experiment No-6,9,10,11,12,13)	4Marks
Slide Preparation Part A (Experiment No-2,4,5)	5Marks
Spotting Part B	7Marks
Practical Record + Viva Voce (Credit to the students' work over the	4Marks
Project Record + Viva Voce academic session may be given)	5Marks
Total	30Marks

A:List of Experiments

1. Study and describe locally available common flowering plants, from family Solanaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formula and floral diagrams),type of root (tap and adventitious); type of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study of osmosis by potato osmometer.
4. Study of plasmolysis in epidermal peels (e.g. Rhoeo /lily leaves or flashy scale leaves of onion bulb).
5. Study of distribution of stomata on the upper and lower surfaces of leaves.
6. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.
7. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.
8. Separation of plant pigments through paper chromatography.
9. Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.
10. Test for presence of urea in urine.
11. Test for presence of sugar in urine.
12. Test for presence of albumin in urine.
13. Test for presence of bile salts in urine.

B. Study and Observe the following (spotting):

1. Parts of a compound microscope.
2. Specimens/slides/models and identification with reasons-Bacteria, *Oscillatoria, Spirogyra, Rhizopus*, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.
3. Virtual specimens/slides/models and identifying features of - *Amoeba, Hydra,* liver fluke, *Ascaris*, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
4. Mitosis in onion root tip cells and animals cells(grasshopper) from permanent slides.
5. Different types of inflorescence (cymose and racemose).
6. Human skeleton and different types of joints with the help of virtual images/models only.

COMPUTER SCIENCE (083)

REFERENCE BOOK :

Computer Science with Python (Dhanpat Rai Publication by Sumita Arora)

QUESTION PAPER DESIGN

SL.	Typology of Questions	Total Marks	Approximate Percentage
1.	Remembering, Understanding	17	25 %
2.	Applying	23	33 %
3.	Analyzing, Evaluating, Creating	30	42 %
	Total Marks	**70**	**100**
	Practical	**30**	
	Gross Total	**100**	

NOTE:

- The above template is only a sample. Suitable internal variations may be made for generating similar templates keeping the overall weightage to different form of questions and typology of questions same.
- Question wise break up shall be followed as per the sample paper to be released by DAV CAE.
- Competency Focused Questions in the form of MCQs/ Case Based Questions, Source-based integrated Questions or any other type = 50%
- Select Response type questions(MCQ) & Objective type questions = 20%
- Constructed response questions (Short Answer Questions/Long Answer type Questions, as per existing pattern) = 30%

QUESTION WISE BREAK-UP

Periodic Test						
Forms of Questions	**VSA**	**SA – I**	**SA-II**	**LA-I**	**LA-II**	**TOTAL**
No. of Questions	12	04	02	01	01	**20**
Marks	01	02	03	04	05	
Total	12	08	06	04	05	**35**
Half Yearly / Pre Board						
Forms of Questions	**VSA**	**SA – I**	**SA-II**	**LA-I**	**LA-II**	**TOTAL**
No. of Questions	21	07	03	04	02	**37**
Marks	01	02	03	04	05	
Total	21	14	09	16	10	**70**

DIFFICULTY LEVEL :

1. Difficult questions - 15 %
2. Average questions - 70%
3. Easy questions - 15%

COURSE STRUCTURE (THEORY)

NAME OF THE TEST		PT	Half Yearly		PRE ANNUAL / ANNUAL (BOARD)
1	**Computer Systems and Organisation (CSO)**	25		**15**	10
	Basic computer organization		03		
	Types of software				
	Operating System		02		
	Boolean logic		04		
	Number System		04		
	Encoding Schemes		02		
2	**Computational Thinking and Programming-1**	10		**15**	45

	NAME OF THE TEST	PT	Half Yearly		PRE ANNUAL / ANNUAL (BOARD)
	Introduction to Problem Solving		4		
	Familiarization with the basics of Python programming		3		
	Knowledge of data types and operators, Expressions		6		
	Types of Errors		2		
	Flow of control				
	Conditional statements		10		
	Notion of iterative computation		15	**40**	
	String Manipulations		15		
	List		--		
	Tuples		--		
	Dictionaries		--		
	Introduction to Python modules		--		
3	**Society, Law and Ethics (SLE-1)**				
	Digital Footprints				
	Digital Society and Netizen				
	Data Protection				
	Cyber Crime		--		15
	Cyber Safety				
	Safely accessing web sites				
	E-waste Management				
	Indian Information Technology Act				
	Technology and Society				
	TOTAL	**35**	**70**		**70**

SYLLABUS DETAILS

UNIT 1: Computer Systems and Organisation (10 Theory+10 Practical)

- Basic Computer Organisation: Introduction to computer system, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB,GB,TB,PB)
- Types of software: system software (operating systems, system utilities, device drivers),programming tools and language translators (assembler, compiler & interpreter), application software
- Operating system(OS) : functions of operating system, OS user interface
- Boolean logic : NOT, AND, OR, NAND, NOR, XOR, truth table, DeMorgan's laws and logic circuits
- Number system: Binary, Octal, Decimal and Hexa decimal number system; conversion between number systems.
- Encoding schemes : ASCII, ISCII and UNICODE (UTF8, UTF32)

UNIT 2 : Computational Thinking & Programming-1(80 Theory+60 Practical)

- **Introduction to problem solving:** Steps for problem solving (analysing the problem, developing algorithm, coding, testing and debugging). representation of algorithms using flow chart and pseudocode, decomposition
- **Familiarization with the basics of Python programming**: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments
- **Knowledge of data types:** number (integer, floating point, complex), boolean, sequence (string, list, tuple), None, mapping (dictionary), mutable and immutable data types.
- **Operators:** arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in)

- **Expressions, statement, type conversion & input/output**: precedence of operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output.
- **Errors :** syntax errors, logical errors, run time errors
- **Flow of control**: introduction, use of indentation, sequential flow, conditional and iterative flow control
- **Conditional statements:** if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number
- **Iterative statements**: for loop, range function, while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number etc
- **Strings:** introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops, built-in functions: len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), Istrip(), rstrip(), strip(), replace(), join(), partition(), split().
- **Lists:** introduction, indexing, list operations (concatenation, repetition, membership & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list
- **Tuples :** introduction, indexing, tuple operations (concatenation, repetition, membership & slicing),built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple, suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple.
- **Dictionary :** introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions :len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(),copy(); suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them
- **Introduction to Python modules:** importing module using 'import <moduIe>' and using from statement, importing math module (pi, exp, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median, mode)

UNIT 3 : Society, Law and Ethics (SLE-1) (20 Theory)

- Digital Footprints ; Digital society and Netizen : net etiquettes, communication etiquettes, social media etiquettes
- Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache)
- Cyber-crime : definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime
- Cyber safety : safely browsing the web, identity protection, confidentiality, cyber troll sand bullying.
- Safely accessing websites : malware, viruses, trojans, adware
- E-waste management : proper disposal of used electronic gadgets.
- Indian Information Technology Act (IT Act)
- Technology & Society : Gender and disability issues while teaching and using computers

PRACTICAL (HALF YEARLY)

Duration : 3 hours **Total Marks : 30**

1. Programming (Two Python programs allotted on the following basis) **[8+8]**
   Logic : 4 Marks
   Indentation : 2 Marks
   Output : 2Marks
2. Practical File **[8]**
   Record must have 15 Python programs consisting expressions (3 nos.), conditional statements (4 nos.), loops (4 nos.) , strings (4nos.) from the topic covered during half yearly syllabus along with configuration of the system.
3. Viva voce (Based on Practical File) **[6]**

PRACTICAL (ANNUAL)

Duration : 3 hours **Total Marks : 30**

S.No	Unit Name	Marks (Total=30)
1	**Lab Test (12 marks)**	
	Python program (60% logic + 20% documentation + 20% code quality)	**12**
2	**Report File + Viva (10 marks)**	
	Report file: Minimum 20 Python programs	**7**
	Viva voce	**3**
3	Project(that uses most of the concepts that have been learnt)	**8**

Python Programming

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loop.

Pattern-1	Pattern-2	Pattern-3
*	1234	A
**	123	AB
***	12	ABC
****	1	ABCD

- Write a program to input the value of x and n and print the sum of the following series:
  1+x+x2+x3+x4+.....xn
  1-x+x2-x3+x4-.....xn
  x + x2/2 - x3/3 + x4/4 - .....xn/n
  x + x2/2! - x3/3! + x4/4! - .....xn/n!
- Determine whether a number is a perfect number, an armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have scored marks above 75.

GUIDELINES FOR PROJECTS

The aim of the class project is to create something that is tangible and useful using Python/ Python and SQL connectivity. This should be done in groups of two to three students and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve. Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, of course to do some of these projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves. The students should be sensitized to avoid plagiarism and violations of copyright issues while working on projects. Teachers should take necessary measures for this.

PHYSICAL EDUCATION (048)

PRESCRIBED BOOK : Health & Physical Education by Dr. V.K. Sharma by Saraswati Publication

REFERENCE BOOK : Physical Education Hand Book. Central Board Of Secondary Education Publication

COURSE STRUCTURE (THEORY)

Unit	TYPE OF TEST / NAME OF THE UNIT	PA-1 (35 Marks)	HALF-YEARLY (70 marks)	PRE ANNUAL / ANNUAL (BOARD) (70 Marks)
1	Changing Trends & Career in Physical Education	13	14	09
2	Olympism Value Education	12	14	07
3	Yoga	10	12	08
4	Physical Education & Sports for CWSN (Children with Special Needs – Divyang)		14	08
5	Physical Fitness, Wellness & Life Style		12	08
6	Test, Measurement & Evaluation		14	04
7	Fundamentals of Anatomy, Physiology in Sports.		-	07
8	Fundamentals of kinesiology & Biomechanics in Sports.		-	08
9	Psychology & Sports		-	09
10	Training and Doping in Sports		-	12
	Total	**35**	**70/80**	**70/80**

- The question paper consists of 5 sections and there will be 37questions including the internal choices out of which 34 questions to be attempted
- Scheme of Sections – A, B, C, D & E, Section-A – MCQ (1Mark) Section-B (2 Marks), Section-C 3 marks) Section-D-CBQ (4 Marks) Section-E (5 Marks)
- Competency Focused Questions in the form of MCQs/ Case Based Questions, Source-based Integrated Questions or any other type = 50%
- Select response type questions (MCQ) = 20%, Constructed response questions (Short Answer Questions/Long Answer type Questions, as per existing pattern) = 30%

However, the unit wise mark distributions and scheme of sections for the Pre-Annual Examination & Annual Examination to be followed as per the DAV Board Sample paper.

SYLLABUS DETAILS

Unit-I : Changing Trends and Careers in Physical Education

- Concept, Aims & Objectives of Physical Education
- Development of Physical Education in India – Post Independence
- Changing Trends in Sports- playing surface, wearable gear and sports equipment, technological advancements
- Career options in Physical Education
- Khelo-India Program and Fit – India Program

Unit-II : Olympism Value Education

- Olympism- Concept and Olympics Values(Excellence, friendship and Respect)
- Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind

- Ancient and Modern Olympics
- Olympics - Symbols, Motto, Flag, Oath, and Anthem
- Olympic Movement Structure - IOC, NOC, IFS, Other members

Unit-III : Yoga

- Meaning and importance of Yoga
- Introduction to Ashtanga Yoga
- Yogic Kriyas (Shat Karma)
- Pranayama and its types
- Active Lifestyle and stress management through Yoga

Unit-IV : Physical Education and Sports for Children with Special Needs

- Concept of Disability and Disorder
- Types of Disability, its causes & nature (Intellectual disability, Physical disability).
- Disability etiquette
- Aim and objectives of Adaptive Physical Education.
- Role of various professionals for children with special needs (Counselor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist, and Special Educator)

Unit-V : Physical Fitness, Wellness, and Lifestyle

- Meaning & Importance Of Wellness, Health & Physical Fitness
- Components/Dimension of Wellness, Health & Physical Fitness
- Traditional Sports & Regional Games for promoting wellness
- Leadership through Physical Activity and Sports
- Introduction to First Aid – PRICE

Unit-VI : Test, Measurement & Evaluation

- Define Test, Measurements and Evaluation.
- Importance of Test, Measurements and Evaluation in Sports.
- Calculation of BMI, Waist – Hip Ratio, Skin fold measurement (3-site)
- Somato Types (Endomorphy, Mesomorphy & Ectomorphy)
- Measurements of health-related fitness

Unit-VII : Fundamentals of Anatomy, Physiology in Sports

- Definition and importance of Anatomy and Physiology in Exercise and Sports.
- Functions of Skeletal System, Classification of Bones, and Types of Joints.
- Properties and Functions of Muscles.
- Structure and Functions of Circulatory System and Heart.
- Structure and Functions of Respiratory System.

Unit-VIII: Fundamentals of Kinesiology and Biomechanics in Sports

- Definition and Importance of Kinesiology and Biomechanics in Sports.
- Principles of Biomechanics
- Kinetics and kinematics in sports
- Types of Body Movements - Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation
- Axis and Planes – Concept and its application in body movements

Unit-IX : Psychology and Sports

- Definition & Importance of Psychology in Physical Education & Sports;
- Developmental Characteristics at Different Stages of Development

- Adolescent Problems & their Management;
- Team Cohesion and Sports
- Introduction to Psychological Attributes: Attention, Resilience, Mental Toughness

Unit- X : Training & Doping in Sports

- Concept and Principles of Sports Training
- Training Load: Over Load, Adaptation, and Recovery
- Warming-up & Limbering Down – Types, Method & Importance
- Concept of Skill, Technique, Tactics & Strategies
- Concept of Doping and its disadvantages

		Max. Marks 30
01.	Physical Fitness Test : SAI Khelo India test, Brockport Physical Fitness Test (BPFT)*	06 Marks
02.	Proficiency in Games and Sports (Skill of any one IOA recognized sport/ games of choice)**	07 Marks
03.	Yogic Practices	07 Marks
04.	Record File***	05 Marks
05.	Viva Voice (Health / Games & Sports / Yoga)	05 Marks
		30 Marks

- *Test for CWSN (any 4 items out of 27 items but 1 item from each component: Aerobic function, Body Composition, Muscular strength & endurance, range of motion or flexibility)
- ** Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket.
- **CWSN (Children With Special Needs – Divyang): Bocce/Boccia , Sitting Volleyball, Wheel Chair Basketball, Unified Badminton, Unified Basketball, Unified Football, Blind Cricket, Goalball, Floorball, Wheel chair races and throws, or any other sport / games of choice.
- **Children With Special Needs may opt any one sport/game from the list as alternative for Yogic Practices. However, the sport / game must be different for skill of Game and alternate to yogic practices.

***Record File shall include:**

- Practical-1: Labelled diagram of 400 M Track & Field with computations.
- Practical-2: Describe Changing Trends in Sports in terms of change in playing surface, wearable gears and sports equipment, technological advancements.
- Practical-3: Labelled diagram of field & equipment of any one game of your choice out of the above list

(Practical-1 & Practical-2 has to be completed for Half Yearly/PA-II. However all three practical activities have to be completed for Annual Practical Examination)

HINDI

परीक्षा हेतु पाठ्यक्रम विनिर्देशन

- **प्रश्न -पत्र तीन खण्डों – खंड- क, ख और ग में होगा।**
- **खंड- क में अपठित बोध पर आधारित प्रश्न पूछे जाएँगे। सभी प्रश्नों के उत्तर देने होंगे।**
- **खंड- ख में अभिव्यक्ति और माध्यम पाठ्यपुस्तक के आधार पर प्रश्न पूछे जाएँगे। प्रश्नों में आंतरिक विकल्प दिए जाएँगे ।**
- **खंड- ग में आरोह भाग – 1 एवं वितान भाग – 1 पाठ्यपुस्तकों के आधार पर प्रश्न पूछे जाएँगे। प्रश्नों में आंतरिक विकल्प दिए जाएँगे ।**

भारांक-[illegible] **निर्धारित समय – 03 घंटे**

वार्षिक परीक्षा हेतु भार विभाजन

	खंड-क (अपठित बोध)	[illegible] अंक
1	[illegible] अपठित गद्यांश (लगभग [illegible]0 शब्दों का) पर आधारित बोध, चिंतन, विश्लेषण पर बहुविकल्पीय प्रश्न, अतिलघूत्तरात्मक प्रश्न, लघूत्तरात्मक प्रश्न पूछे जाएँगे I (बहुविकल्पीय प्रश्न 01 अंक x 03 प्रश्न = 03 अंक, अतिलघूत्तरात्मक प्रश्न 01 अंक x 01 प्रश्न = 1 अंक, लघूत्तरात्मक प्रश्न 02 अंक x 3 प्रश्न = 6 अंक)	[illegible] अंक
2	[illegible] अपठित पद्यांश (लगभग 100 शब्दों का) पर आधारित बोध, सराहना, सौंदर्य, चिंतन, विश्लेषण आदि पर बहुविकल्पीय प्रश्न, अतिलघूत्तरात्मक प्रश्न, लघूत्तरात्मक प्रश्न पूछे जाएँगे I (बहुविकल्पीय प्रश्न 01 अंक x 03 प्रश्न = 03 अंक, अतिलघूत्तरात्मक प्रश्न 01 अंक x 01 प्रश्न = 01 अंक, लघूत्तरात्मक प्रश्न 02 अंक x 02 प्रश्न = 04 अंक)	[illegible] अंक
	खंड- ख (अभिव्यक्ति और माध्यम पाठ्यपुस्तक के आधार पर) **पाठ संख्या [illegible] तथा [illegible] पर आधारित**	[illegible] अंक
3	दिए गए [illegible] अप्रत्याशित विषयों में से किसी [illegible] विषय पर **आधारित** लगभग 120 शब्दों में रचनात्मक लेखन ([illegible] अंक x 01 प्रश्न)	[illegible] अंक
4	औपचारिक पत्र लेखन। (विकल्प सहित[illegible] अंक [illegible] प्रश्न)	[illegible] अंक
5	**पाठ संख्या [illegible] [illegible] तथा [illegible] पर आधारित** [illegible] प्रश्न (विकल्प सहित) (02 अंक x [illegible] प्रश्न[illegible] अंक) (लगभग 40 शब्दों में) , (03 अंक x [illegible] प्रश्न [illegible] अंक) (लगभग 60 शब्दों में)	[illegible] अंक

	खंड- ग (आरोह भाग – 1 एवं वितान भाग-1 पाठ्य पुस्तकों के आधार पर)	40 अंक
6	पठित काव्यांश पर आधारित ८ बहुविकल्पी प्रश्न (01 अंक ४ प्रश्न)	८ अंक
7	काव्य खंड पर आधारित ६ प्रश्नों में से किन्हीं ४ प्रश्नों के उत्तर (लगभग ६ शब्दों में) (03 अंक x 02 प्रश्न)	६ अंक
8	काव्य खंड पर आधारित ६ प्रश्नों में से किन्हीं ४ प्रश्नों के उत्तर (लगभग ४ शब्दों में) (02 अंक x 02 प्रश्न)	४ अंक
9	पठित गद्यांश पर आधारित ८ बहुविकल्पी प्रश्न (01 अंक ४ प्रश्न)	८ अंक
10	गद्य खंड पर आधारित ६ प्रश्नों में से किन्हीं ४ प्रश्नों के उत्तर (लगभग ६ शब्दों में) (03 अंक x 02 प्रश्न)	६ अंक
11	गद्य खंड पर आधारित ६ प्रश्नों में से किन्हीं ४ प्रश्नों के उत्तर (लगभग ४ शब्दों में) (02 अंक x 02 प्रश्न)	४ अंक
12	वितान के पाठों पर आधारित ६ में से ४ प्रश्नों के उत्तर (लगभग ६ शब्दों में) (05 अंक x ४ प्रश्न)	१० अंक
13	**(अ) श्रवण तथा वाचन** **(ब) परियोजना कार्य**	+ = ४ अंक
कुल अंक		**1** अंक

निर्धारित पाठ्यपुस्तकें :

1. **आरोह, भाग-1,** एन.सी.ई.आर.टी, नई दिल्ली द्वारा प्रकाशित
2. **वितान भाग–1,** एन.सी.ई.आर.टी, नई दिल्ली द्वारा प्रकाशित
3. **अभिव्यक्ति और माध्यम,** एन.सी.ई.आर.टी, नई दिल्ली द्वारा प्रकाशित

नोट – पाठ्यक्रम के निम्नलिखित पाठ हटा दिए गए हैं I

आरोह भाग - 1	काव्य खंड	• कबीर (पद २ - संतो देखत जग बौराना • मीरा (पद २ - पग घुंगरू बांधि मीरा नाची • रामनरेश त्रिपाठी – पथिक (पूरा पाठ) • सुमित्रानंदन पंत - वे आँखें (पूरा पाठ)
	गद्य खंड	• कृष्णनाथ - स्पीति में बारिश (पूरा पाठ) • सैयद हैदर रज़ा - आत्मा का ताप (पूरा पाठ)

HINDUSTANI MUSIC - VOCAL

Assessment Design

S.No	Component	Marks
A	Theory	30
B	Practical	70

Curriculum & Examination Structure

(A) Theory **Max. Marks 30**

Time: 02 hours

1. Questions to be set with internal choice covering the entire syllabus

Sr. No.	Units	Marks
	Unit 1	
1.1	Brief study of the following: Nada, Shruti, Swar, Saptak, Thaat, Jati, Laya, Tala	06
1.2	Brief study of the following: Margi- Desi Sangeet, Raga,	
	Unit 2	
2.1	Brief History of the following Dhrupad, Khayal andTarana	06
	Unit 3	
3.1	Brief study of Musical Elements in Natya Shastra	06
3.2	Life sketch and contribution of Tansen, V.N. Bhatkhande and V.D.Paluskar	
	Unit 4	
4.1	Description of prescribed Talas along with Tala Notation with Thah, Dugun and Chaugun Teentala Ektala Chautala	06
4.2	Knowledge of the Structure of Tanpura	
	Unit 5	
5.1	Critical study of Prescribed Ragas. Recognizing Ragas from phrases of Swaras and elaborating them.	06
5.2	Writing in natation the compositions of prescribed Ragas • Bihag • Bhimpalasi • Bhairavi	

(B) Practical **Max. Marks 70**

(i)Topics

1.	One Vilambit Khayal with simple elaborations and few tanas in any one of the prescribed Ragas.
2.	One Drut Khayal with simple elaboration and few tanas in the following Ragas: Bihag, Bhairavi andBhimpalasi.
3.	One Dhrupad with Dugun in any one of theprescribed Ragas.
4.	One Devotional Song.
5.	Ability to recognize the prescribed Ragas from the phrases of Swaras rendered by the Examiner.
6.	Recitation of the Thekas of Teentala, Chautala and Ektala with Dugun and Chaugun, keeping Tala with hand beats.

(ii) Distribution of Marks

Time: 20-25 Minutes for each candidate

1. Examiners are requested to ask the questions directly related to the syllabus.
2. Marks should be awarded in accordance with the marking scheme.

S. No.	Value Points	Marks
1.	Choice Raga (Vilambit & Drut Khyal) any one of the following: • Bihag • Bhimpalasi • Bhairavi	15
2.	Examiner's Choice of Ragas	12
3.	1 Dhrupad with Dugun in any one of the prescribed Ragas	14
4.	Devotional Song.	06
5.	Ability to recognize the prescribed ragas from the phrases of swaras rendered by the examiner	08
6.	Recitation of Thekas of prescribed Talas with Thah, Dugun, Chaugun: • Teentala • Ektala • Chautala	05+05=10
7.	Practical File: • Analyse the style of any present day artis of classical vocal music. • Description and notation of all compositions in prescribed Ragas. • Description and Tala Notation with layakaris of all prescribed.	05

* Teachers will refer to the distribution of marks while examining the candidate for practical examination

IMPORTANT ACTIVITIES ROUND THE YEAR 2026-27

S.N	DATE	DAY	DAYS TO BE OBSERVED	DEPARTMENT /CLUB/HOUSE	GROUP	INTRAMURAL ACTIVITIES
			APRIL			
1.	01.04.26	WED	Utkal Diwas	Odia Dept &Function Dept, Music, Dance	STD VIII-X	Song, Speech, self-composed poem, short movie & guest speech
2.	14.04.26	TUE	Ambedkar Jayanti	Function Dept & Dept. of Social Science	_____ ____	Relevant Activities
3.	15.04.2026	WED	International Art Day	Art Dept.		
4.	19.04.26	SUN	Mahatma Hansaraj's Birthday	Havan Dept, Music & Function dept	STD VIII	Havan, Speech on Importance of the day .
5.	22.04.26	WED	Earth Day	SST club & Dept of Social Science	LKG TO STD-XII	Relevant Activities & Competitions to promote the theme 'Restore our Earth'
6.	23.04.26	THU	English Language Day/World Book &Copyright Day	Dept of English &Library	LKG TO STD-XII	Webinar, Seminar poster & write ups
7.	28.04.26	TUE	Swabhiman Divas	Odia Dept.	STD-III - X	Song, Skit, Speech
			MAY			
			JUNE			
8.	05.06.26	FRI	World Environment Day	Eco Club	LKG TO STD-XII	Plantation
9.	19.06.26 to 18.07.2026		National Reading Day, Week, Month			
10	21.06.26 SUN		International Yoga Day	Dept of Yoga & Phy. Education	LKG TO STD-XII	Yoga by students & teachers
11			World Music Day	Dept of Music	STD-III - X	Relevant Activities
12	26.06.26 FRI		International Day against Drug abuse & illicit trafficking	Civil Defence Dept (NCC,SCOUT)	STD VI-XII	Awareness program & Relevant Activities
13	30.06.26	TUE	IFFCO DAV Foundation Day	Havan Dept , Func. Dept., Music, Dance	STD VI-XII	Havan, Competition, Blood Donation Camp
			JULY			
	21 to 26 JULY 2026			**Periodic Assessment-1**		
14	01.07.26 To 07.07.26	WED TO TUE	Van Mahotsav Week	Eco club & NCC Dept.	Club Members & STD VI TO X	LKG J & UKG (Fancy Dress) I&II(III TO V Kitchen garden) VI TO IX(Plantation Drive)
15	19.06.26 to 18.07.2026		National Reading Day, Week, Month			
16	26.07.26	SUN	Vijay Divas/Kargil Victory Day	NCC Dept. , Music	STD VI TO IX	Observation in Assembly
17	29.07.26	WED	World Tiger Day	Teachers	LKG TO STD II	PPT on conservation on TIGER, Documentary, Slogan Writing, Poster Display, Speech
18	31.07.26	FRI	Prem Chand Jayanti	Hindi		
			AUGUST			
19	09.08.26	SUN	Gangadhar Meher Jayanti	Odia Dept., Music	STD III TO IX	Speech & Observation
20	17.08.26	MON	Sanskrit Divas	Dept of Sanskrit &Music	STD I – VI TO X	Shloka presentation in the assembly, speech on the importance of the day.
21	15.08.26	SAT	Independence Day	Sport Dept, Dance, Music,	STD I-XII	Celebration with all

S.N	DATE	DAY	DAYS TO BE OBSERVED	DEPARTMENT /CLUB/HOUSE	GROUP	INTRAMURAL ACTIVITIES
				NCC & Function Dept.		activities
22	17.08.26	MON	Raksha Bandhan Eve	Function Dept., Activity Dep, Music, Dance	Std I to XI	Celebrated in the morning assembly by the Cabinet Members. Rakhi will be prepared by Activity dept. before one week Speech & Observation
23	29.08.26	SAT	National Sports Day	Sports Dept.	STD VI TO XII	Mini Marathon, Junior girls KHO-KHO, Senior balls FOOTBALL
SEPTEMBER						
15 SEPTEMBER TO 27 SEPTEMBER 2026				**TERM-1/PERIODIC ASSESSMEII / HALF YEARLY**		
24	01.09.26 TO 07.09.26	TUE-MON	National Nutrition week Literacy week	Health &Wellness Club All Language Depts.	STD III to XII STD III to XII	Relevant Activities Relevant Activities
25	08.09.26	TUE	International literacy day	All Language Depts & Library	STD III TO XII	Relevant Activities
26	05.09.26	SAT	Teacher's Day	School cabinet, Music & Dance	STD XI & XII	Relevant Activities
27	14.09.26 to 30.09.26	MON-WED	Hindi Pakhwada	Dept of Hindi	STD-III to X	Relevant Activities 30 Sept Valedictory Ceremony)
28	28.09.26 to 02.10.26	MON - FRI	Swachhata Bharat Abhiyan	Dept of Civil Defence (NCC)	STD IX & X LKG TO STD II	Relevant Activities
29	28.09.26	MON	Lata Mangeshkar Jayanti	Music Dept.		
OCTOBER						
30	02.10.26	FRI	Gandhi & Shastri Jayanti	Function DEPT.& Music	Function Dept.	Observation & Cultural programme
31	Date will be notified latter		Joy of Giving Week	Joy of Giving Club	School Cabinet	To conduct activities of charity
32	09.10.26	FRI	Gopabandhu Jayanti	Odia & Music Dept.	Std III TO X	Song ,speech & floral tribute in the morning assembly
33	15.10.26	THU	Birth Anniversary of Dr. APJ Kalam'– ('World Students Day') & Global Handwashing day	Science Dept & Health & Wellness Club	Std III TO XII LKG TO STD II	Quiz competition ,Painting Competition & floral tribute
34	24.10.26	SAT	Diwali Eve	Function Dept & Activity Dept	LKG TO Std XII	Eco-friendly celebration
35	31.10.26	SAT	National Unity Day(Sardar Patel's Birthday)	Dept of Social Science	Std III TO XII	Observation with all decorum & speech
NOVEMBER						
36	31.10.26 To 05.11.26	SAT – THU	Vigilance Awareness Week	House Co-ordinators (House I/C & All Clubs)	Std III TO XII	. Relevant Activities
37		SAT	Boita bandana Utsav	KG WINGS , Music & Dance	Pre-LKG To Std -II	Celebration with all
38	14.11.26	SAT	Children's Day	Function Dept , Music & Dance	Teachers	Celebration with all decorum & Cultural

S.N	DATE	DAY	DAYS TO BE OBSERVED	DEPARTMENT /CLUB/HOUSE	GROUP	INTRAMURAL ACTIVITIES
						programme Innovative and working models
39	14.11.26 TO 20.11.26	SAT - FRI	National Book Week	Library I/C	Std VI -XII	Book Exhibition.
40	19.11.26	THU	International Gents DAY	By All lady Teachers		
41	30.11.2026	MON	National Computer Security Day	Computer Dept.		
42	Last week of November to first week of December	Date will be notified latter on	PICNIC	Picnic dept.	Picnic dept.	**
DECEMBER						
01 DECEMBER TO 06 DECEMBER 2026				**Periodic Test-II/Periodic Test-III**		
43	Last week of November to first week of December	Date will be notified latter on	National Mathematics Day	Picnic dept.	Picnic dept.	**
44	01.12.26	TUE	Worlds AIDS Day	Health & Wellness Club	STD III TO XII	SPEECH & BADGE
45	10.12.26	THU	Human Right's day	Social Science dept.	STD VI TO IX	Speech in the morning assembly
46	14.12.26	MON	National energy conservation day	Science Dept.	STD VI TO X	Awareness programme & Relevant Activities
47	22.12.26	TUE	National Mathematics Day	Dept. of Maths.	STD III TO XII	Celebration with all decorum & Cultural programme
48	24.12.26 THU		Christmas Eve	KG, Dance	Pre-LKG to STD -XII	Celebration with all decorum
49	Fourth week December		Annual Sports	Sports Dept. Function Dept, Music & Dance	LKG TO STD XII	Relevant Events as well as cultural programmes
JANUARY						
50	10.01.27 to 16.01.27	SUN – SAT	National Road Safety Week	Dept of Civil Defence (NCC)	Std VI to X	Awareness Programme & Relevant Activities
51	12.01.27	TUE	Swami Vivekanand's Birth Anniversary - (National Youth day)	Function DEPT.	Std VI to XII	Observation with all decorum & Awareness programme
52	23.01.27	SAT	* Netaji Jayanti / Veer Surendra Sai Jayanti *Potted Plant Exhibition *Mother's rangoli & petal Designing	SST Dept, MUsic Eco Club Std Prelkg to STd -II Eco Club	STD III TO XII Pre-LKG TO STD-II	Obsevation with relevant activities& Inter house quiz Traditional design (Rangoli & petal designing) competition for mothers. Potted plant competition for students.
53	26.01.27	TUE	Republic Day	Dept of Function, Civil defence, Phy. Education, Music & House Co-ordinator	STD III TO XII	March Past and other proceedings

S.N	DATE	DAY	DAYS TO BE OBSERVED	DEPARTMENT /CLUB/HOUSE	GROUP	INTRAMURAL ACTIVITIES
54	30.01.27	SAT	Martrys Day	Dept of NCC	NCC Cadets	Observation with Relevant Activities
FEBRUARY						
2nd WEEK OF FEBRUARY						**ANNUAL EXAMINATION**
54	12.02.27	FRI	Swami Dayanand's Birthday	Dept of Havan , Function & Dance	STD III TO XII	Havan & Prayer
55	14.02.27	SUN	Black Day	Dept of NCC	NCC Cadets	Observation with Relevant Activities
56	18.02.27	WED	Rishibodh Utsav	Dept of Havan &Function	Teachers	Hawan & Prayer
57	21.02.27	THU	International Mother Tongue Day	Dept of Odia & Music	Teachers	Observation with Relevant Activities
58	28.02.27	SUN	National Science Day	Dept of Science	TEACHERS	Observation with Relevant Activities
MARCH						
59	13.03.27	SAT	Holi Eve Celebration	Dept of Function Music	Teachers	Celebration with colours
60	08.03.27	MON	International Women's Day	By all Gen's Teachers	Teachers	Celebration with all decoum
61	22.03.27	MON	World Water Day	Dept of Civil Defence (NCC)	STD VI & X	Relevant Activities on Conservation of water

PRINCIPAL

CCA SCHEDULE

MONTH	DATES	LKG/UKG	I / II	III / IV / V	VI / VII / VIII	IX/ X / XI / XII
JUL	03.07.2026	-	-	Drawing & Colouring	Pencil Shading	-
	10.07.2026	-	-	-	-	Still Life Composition / Animal Shading
	17.07.2026	Colouring	Drawing & Colouring	-	Mime Act	-
AUG	07.08.2026	-	-	Pot Decoration	-	-
	14.08.2026	-	-	-	-	Innovative Idea Pitch (ATL)
	21.08.2026	-	-	One Act Play	-	Debate (English)
	28.08.2026	-	-	-	Speech (English / Odia)	-
SEPT	11.09.2026	Fance Dress (Excluding Mythological and Freedom Fighter)	-	-	-	-
	18.09.2026	-	Fance Dress (Scientist of India)	-	-	-
OCT	09.10.2026	Rhymes (Eng	-	-	Quiz	Live Commentary

		/ Hindi / Odia)				(Football / Cricket), Eng/Hindi
	16.10.2026	-	-	Quiz Current Affairs	Bluff Master	-
	30.10.2026	-	Story Telling (Eng / Hindi / Odia)	-	-	Quiz (Current Affairs)
NOV	06.11.2026	-	-	Autobiography (Eng/ Hindi / Odia)	-	-

Sl No	Special Events	III – XII	Date
1.	Inter House March Past & Drill Dance Competition	Annual Sports	3rd Week of December
2.	Annual Exhibition	Day before Children's Day	13 November 2026

CCA I/C Principal

NOTES