

SURENDRANATH CENTENARY SCHOOL
ANNUAL PEDAGOGICAL PLAN SESSION – 2026-27
CLASS X

Subject : English Book: First Flight Foot Prints Without Feet Words and Expressions II					
Month	Chapter	No. of pr.	Topics	Learning Objective	Learning Outcome
April	First Flight- 1.A Letter to God 2.Dustof Snow(Poem) 3.Fire and Ice (Poem) F.W.F- A Triumph of Surgery Gr – Modals, Tenses, Determiners (Revision of previous knowledge) Writing- 1. Letter to the Editor 2.Analytical Paragraph Words and Expressions- The process Approach, Trader and the tailor	21	<ul style="list-style-type: none"> • Story line, chapter highlights of the chapter A letter to God • Poem: The Dust of Snow-About the poet, Reference to the context, symbolism, nature – a perennial source of joy • Poem-The Fire & Ice-Reference to the context; discussion of contemporary social issues The Triumph of Surgery-Different shades of the word SURGERY <ul style="list-style-type: none"> • Review of the uses of tense • Application of the Present, Past and Future tense Irregular verbs • Usage and application of auxiliaries, common errors while using Modals • Editorial Letter following the CODER. <p>ACTIVITY- 1 Experiential Learning: Comparative study between the two stories ‘A letter to God & Trader and the tailor’ Skills: Problem solving and critical thinking</p> <p>ART INTEGRATED: Write a poem using other elements(e.g. storm and fog)</p>	To help the learners <ul style="list-style-type: none"> ➤ Read to appreciate the use of expressions in the text ➤ Respond to the picturesque details ➤ Reason and empathize with the problems faced by the farmers ➤ Understand the concept and correct usage of CODER in writing editorial letters ➤ Inspect the fact that nature treats every creature and object impartially ➤ Deduce that both fiery and cold temperaments have the power to destroy the world ➤ Develop ability to infer answers to questions ➤ Use grammatical items in speech and writing in order to demonstrate knowledge 	Learners will be able to: <ul style="list-style-type: none"> ➤ Read, comprehend, and respond to complex texts independently in order to demonstrate transition from learning to read to reading to learn. ➤ Identify and appreciate significant literary elements such as figurative language – metaphor, imagery, symbol, simile, intention / point of view, rhyme scheme, etc. Talks on key contemporary issues like social justice, environment, gender, etc.

<p>May</p>	<p>First Flight – 1.Nelson Mandela- Long Walk to Freedom 2.Two Stories About Flying 3.A Tiger in the Zoo(Poem)</p> <p>F.W.F- The Thief’s Story</p> <p>Writing-Letter of Inquiry</p>	<p>14</p>	<ul style="list-style-type: none"> ● Autobiography- A touching account of horrible atrocities and oppression on the blacks. ● Adopted policy- Apartheid: one of the harshest systems of racial discrimination ● Inhibition and fear of Young Seagull ● Difficulties should be taken by horns and hope should not be abandoned ● Contrast between Tiger confined in zoo and natural habitat ● - The thief's story: story line, question framing ● Format of letter <p>ACTIVITY -II EXPERIENTIAL LEARNING:ROLE PLAY Radio Show- (Words & Expressions) Interview of Nelson Mandela. Speaking Activity- SUBJECT ENRICHMENT Debate</p>	<ul style="list-style-type: none"> ➤ Infer that the oppressed and the oppressor alike are robbed of their humanities ➤ execute the use of expressions in the text. ➤ discuss and make use of experiences in order to relate with those of learning to ride a bicycle ➤ respond to the role of parents in preparing their children to face the challenges of the world. ➤ respond to the proverb-Where there's a will there's a way in the context of the story and life ➤ identify the actions of a tiger in jungle, ➤ Understand how a person can motivate others to change his or her nature ➤ Evaluate the importance of education in one’s life ➤ develop writing skill 	<ul style="list-style-type: none"> ➤ Reads, comprehends, and responds to complex texts independently in order to demonstrate transition from learning to read to reading to learn. ➤ Appreciates nuances and shades of literary meanings, talks about literary devices like onomatopoeic sounds, symbols, metaphors, alliterations, comparisons, allusions, poet’s / writer’s point of view, etc. In order to demonstrate understanding of their significance in literature and narratives. ➤ develop familiarity with social issues and participate in group discussion ➤ Writes letter in order to demonstrate creativity, critical thinking, correspondence and research skills.
<p>June</p>	<p>First Flight- 1. From the Diary of Anne Frank 2.How to tell Wild Animals (Poem)</p> <p>F.W.F- The Midnight Visitor</p>	<p>15</p>	<ul style="list-style-type: none"> ● Anne Frank- One of the most renowned and discussed, Holocaust victims ● Record of her relationship shared by teachers and students ● Description of animals in a humorous manner ● Poetic and literary devices(Humour and Irony, Paradox) ● Chapter highlights of The Midnight Visitor ● Comprehension Check 	<ul style="list-style-type: none"> ➤ Develop an understanding about the horrors of Nazi rule witnessed by a Jewish girl ➤ respond to the humour inherent in the close proximity with wild animals ➤ use the literary and poetic devices. ➤ Enable the students to think quickly and act wisely and calmly in a situation of danger or surprise ➤ infer answers 	<ul style="list-style-type: none"> ➤ develop familiarity with social issues and participate in group discussion ➤ Appreciates nuances and shades of literary meanings, talks about literary devices like onomatopoeic sounds, symbols, metaphors, alliteration etc. ➤ Reads, comprehends, and responds to complex texts independently in order to demonstrate transition from learning to read to reading to learn.

<p>July</p>	<p>First Flight- 1.Glimpses of India 2.Mijbil the Otter 3. The Ball Poem(Poem) 4..Amanda(Poem)</p> <p>F.W.F- A Question of Trust</p> <p>Gr – Subject Verb Agreement</p> <p>Writing- Letter of complaint,placement of order and cancellation.</p>	<p>28</p>	<ul style="list-style-type: none"> ● Pen- Portrait of traditional Goan Village ● Coorg- a coffee country famous for rain forests and spices ● Anecdotes related to tea ● The bond of love between the author and Mijbil ● Grief stricken- helpless, The epistemology of loss. ● Talks about Amanda’s need for freedom ● A Question of trust - story line, Thinking about the text, Short and Long Answer questions ● Subject Verb agreement <p>ACTIVITY III (SUBJECT ENRICHMENT) Listening activity based on audio script</p> <p>ART INTEGRATED PROJECT: Advertisement Making (Words and Expressions, Pg 97)</p>	<ul style="list-style-type: none"> ➤ analyse the importance of the role of bakers ➤ identify details about the location and geographical details about Coorg. ➤ appreciate the legends connected with tea and its journey ➤ learn to take care about animals and be responsible towards other life forms. ➤ Infer the message embedded-- to move forward in life. ➤ evaluate Amanda’s situation and suggest solutions. ➤ Derive the message of the story that it is important to gauge the person before trusting him or her ➤ Develop the understanding of subject-verb agreement 	<ul style="list-style-type: none"> ➤ Reads, comprehends, and responds to complex texts independently in order to demonstrate transition from learning to read to reading to learn. ➤ Uses grammatical items in speech and writing in order to demonstrate knowledge and understanding of its appropriate use in relation to the context.
<p>August</p>	<p>First Flight- 1.Madam Rides the Bus 2.The Trees (Poem)</p> <p>F.W.F- 1.Footprints Without Feet 2. The Making of a Scientist</p> <p>Gr- Reported Speech</p> <ul style="list-style-type: none"> ● Assertive sentences ● Interrogative 	<p>28</p>	<ul style="list-style-type: none"> ● About Valli and her intent desire to ride the bus. ● Trees symbolises womanhood, Freedom of trees- Women at large ● Comprehension Check ● Reading of the chapter footprints without feet using stress and intonation ● Short question answers and HOTS ● Time line of Richard Ebright’s Achievements ● Statements and 	<ul style="list-style-type: none"> ➤ Recognize the importance of being sensitive towards an individual’s feelings ➤ Evaluate the lesson and Valli’s experiences through travelling ➤ reiterate the importance of trees for life to survive ➤ analyze the symbolism that establishes a relation between the trees and womanhood. ➤ infer answers ➤ Read to appreciate the use of expressions in the text ➤ Understand one’s strength and weaknesses 	<ul style="list-style-type: none"> ➤ Recognize the importance of being sensitive towards an individual’s feelings ➤ Speaks with coherence and cohesion while participating in interactive tasks in order to demonstrate fluency in the language. ➤ Identifies and appreciates significant literary elements such as figurative language. ➤ Able to complete the dialogues. ➤ Writes various pieces of writing in order to demonstrate creativity, critical thinking,

	<p>sentences</p> <ul style="list-style-type: none"> ● Imperative sentences ● Exclamatory sentences <p>Writing-Analytical Paragraph</p>		<p>interrogative sentences</p> <ul style="list-style-type: none"> ● analytical paragraph through pie chart, bar graphs, etc. <p>ACTIVITY IV (SUBJECT ENRICHMENT) SPEAKING ACTIVITY – Dialogue writing and enacting(Words and expressions II) PROJECT WORK – Comic Strip on Madam Rides the Bus.</p>	<p>➤ Change sentences to indirect speech</p>	<p>correspondence and research skills.</p>
September	<p>First Flight- 1. The Sermon at Benaras 2. Fog(Poem)</p> <p>.F.W.F- The Necklace</p> <p>Gr- Integrated Grammar</p> <p>Writing- Letter for placing order</p>	14	<ul style="list-style-type: none"> ● Budha's first Sermon ● Understands that change is an unavoidable and natural process ● Enhances his vocabulary and comprehension of the poem. ● Discuss the satirical importance of the chapter “Everyone need to be content in life with whatever little he / she has (HOTS) ● Gap filling ● Letter writing <p>SKILLS – Writing Skills (Creative and critical thinking) COMPREHENSION CHECK- Reading passage from the Words and Expressions. SUBJECT ENRICHMENT – Listening Activity(British Council)</p>	<p>➤ Discuss death as the ultimate truth</p> <p>➤ Identify emotions with reference to the event</p> <p>➤ analyse the poem through appropriate inferential questions.</p> <ul style="list-style-type: none"> ➤ Identify the use of situational irony in a short story ➤ Learn the use of tenses. ➤ Writes a letter for placing order. 	<p>➤ Reads, comprehends, and responds to complex texts independently in order to demonstrate transition from learning to read to reading to learn.</p> <p>➤ critically analyse the theme, moral value imparted through the poem</p> <p>➤ Interpret the various virtues of - being brave, help others, not to boast, develop compassion, infer that good deeds are rewarded.</p> <p>➤ Uses grammatical items in speech and writing in order to demonstrate knowledge and understanding of its appropriate use in relation to the context.</p>
October	<p>First Flight- 1.The Proposal</p> <p>F.W.F- Bholi</p> <p>Gr – Reported Speech</p> <p>Writing- Letter for order cancellation.</p>	20	<ul style="list-style-type: none"> ● Lomov is received in Chubukov's house with the purpose of his visit. ● The talk on the ' land' and the sudden sprouting of arguments and conflict between Lomov and Natalya. ● Mind mapping of the chapter Bholi 	<p>➤ demonstrate ability to discuss elements of drama as a form of literature.</p> <p>➤ identify the different types of conflict within the story</p> <p>➤ Indicate the need of love, encouragement and education for the disabled to fight against</p>	<p>➤ Reads stories and literary texts - both fiction and nonfiction with understanding for pleasure and enjoyment in order to demonstrate ability to discuss about these with comprehension and reasoning skills.</p>

			<ul style="list-style-type: none"> • Theme of the chapter and character sketch • Script writing and narration <p>ACTIVITY V ART INTEGRATED PROJECT on “Cultural differences between weddings in Telangana and Jharkhand”</p>	<p>the odds</p> <ul style="list-style-type: none"> ➤ Recall the uses of reported speech 	<ul style="list-style-type: none"> ➤ Uses grammatical items in speech and writing in order to demonstrate knowledge and understanding of its appropriate use in relation to the context
November	<p>First Flight-</p> <p>1. The Tale of Custard the Dragon (Poem)</p> <p>2. For Anne Gregory (Poem)</p> <p>F.W.F-</p> <p>The Book that saved the Earth</p> <p>Gr- Integrated grammar</p> <p>Writing-Analytical paragraph</p>	26	<ul style="list-style-type: none"> • Comprehends The story of a little girl and her pets and understands the genre of the poem • Comprehends the concern of the poet • The concept of Divine and Platonic Love • Introduce the concept of aliens and martians • Discussion the usage of wit and humour in the story • Discussion of H.O.T.S “Cultural differences between various races can cause confusion and conflict” • Determiners,modals,tenses • Analytical paragraph writing 	<ul style="list-style-type: none"> ➤ classify the different types of poems (sonnet, ballad, parable, Acrostic) and specifically detailing about Ballads ➤ infer the contextual meaning. ➤ analyse the poem in real life situation and infer the essence <ul style="list-style-type: none"> ➤ Help the students to think futuristically ➤ Able to apply the grammatical knowledge ➤ Able to analyze the given data. 	<ul style="list-style-type: none"> ➤ Listens for information, gist and details and responds to questions accordingly in order to demonstrate comprehension and ability to infer ➤ Comprehend the text to infer answers. ➤ Able to do the exercises. ➤ Writes an analytical paragraph.
December	Revision				

SURENDRANATH CENTENARY SCHOOL

SESSION – 2026-27

ANNUAL PEDAGOGICAL PLAN

CLASS X

Subject- हिंदी

Book- क्षितिज भाग-2, कृतिका भाग-2, नवयुग हिंदी व्याकरण

Month	Chapter	No. of pages	Topics	Learning Objective	Learning Outcome
		20			
	क्षितिज:- पद- सुरदास, नेताजी का चश्मा कृतिका:- माता का अँचल व्याकरण:- वाक्यभेद- रचना के आधार पर, औपचारिक पत्र		क्षितिज:-पद- सुरदास कृतिका:- माता का अँचल व्याकरण:- वाक्यभेद- रचना के आधार पर क्षितिज:- नेताजी का चश्मा • कृतिका:- माता का अँचल • व्याकरण:- वाक्यभेद- वाक्य परिवर्तन व्याकरण:- औपचारिक पत्र	सूर साहित्य के बारे में जानेंगे देशभक्ति की भावना जगेगी देश के शहीदों के प्रति सम्मान बचपन की क्रियाशीलता से परिचय वात्सल्य भाव का ज्ञान वाक्य भेद एवं वाक्य की बनावट से परिचय औपचारिक पत्र	प्राचीन साहित्य एवं सूरदास के साहित्य को समझ सकेंगे देशभक्ति के सही रूप का आकलन कर सकेंगे शहीदों के प्रति सम्मान की भावना का जागरण होगा वाक्य की बनावट को पहचान सकते हैं

ACTIVITY- 1
Experiential Learning:
Skills:. आपका बचपन
शीर्षक पर साक्षात्कार

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May '26

1
2

क्षितिज:- राम
लक्ष्मण परशुराम
सम्वाद, कृतिका:-
माता का अँचल

व्याकरण:-वाच्य

- क्षितिज:- राम लक्ष्मण
परशुराम संवाद
- कृतिका:- माता का अँचल
- व्याकरण:- वाच्य की पहचान

जीवन मूल्यों का विकास
राम के चरित्र से मर्यादा एवं
विनम्रता की सीख
बचपन के आनंद को अनुभव
करेंगे
वाच्य के रूपों का परिचय वीथ
मूल्यों के प्रति जागरूक

जीवन मूल्यों के साथ साथ बड़े-गुरुजनों के प्रति
कर्तव्यों को जीवन में उतार सकेंगे
राम के चरित्र से जीवन की मर्यादा का आकलन करने
में समर्थ होंगे
बचपन के आनंद का अनुभव करेंगे
रचनात्मक लेखन करने में समर्थ हो सकेंगे

June '26

1
2

क्षितिज:- राम
लक्ष्मण परशुराम
संवाद, बालगोबिन
भगतकृतिका:-
माता का अँचल

- क्षितिज:- राम लक्ष्मण
परशुराम संवाद
- कृतिका: माता का अँचल
- व्याकरण :-वाच्य परिवर्तन
- क्षितिज:- बालगोबिन भगत
- व्याकरण:- वाच्य परिवर्तन,
औपचारिक पत्र अनुच्छेदलेखन

लक्ष्मण के चरित्र से वीरता,
साहस, निडरता आदि गुणों को
ग्रहण करेंगे
खेल - खेल में सीखने की
क्षमता बढ़ेगी
रचनात्मक लेखन का विकास

वीरता, साहस, निडरता आदि गुणों के महत्त्व को
समझ सकेंगे

खेल से भी जीवन मूल्यों का विकास होता है, ये
समझेंगे

व्याकरण:-
वाच्य, अनौपचारिक
पत्र,
अनुच्छेदलेखन

ACTIVITY -2
Art Integrated:

Skills: राम चरित मानस की चौपाई को
सुर- लय के साथ प्रस्तुति

रचनात्मक लेखन कार्य कर सकते हैं

July '26

क्षितिज:- बाल
गोबिन भगत,
लखनवी अंदाज़,
उत्साह, अट नहीं
रही है

कृतिका:- साना-
साना हाथ जोड़ि

व्याकरण:-
पदपरिचय,
अलंकार,
विज्ञापनलेखन

2
0

- क्षितिज:- बालगोबिन भगत
- कृतिका:- साना- साना हाथ जोड़ि
- व्याकरण:- पदपरिचय
- क्षितिज:- बाल गोबिन भगत
- कृतिका:- साना- साना हाथ जोड़ि
- क्षितिज:- उत्साह, अट नहीं रही है

- व्याकरण:- विज्ञापनलेखन
 - क्षितिज:- लखनवी अंदाज़
 - व्याकरण:- अलंकार
- अलंकार की पहचान, विज्ञापनलेखन

सादगी एवं निष्ठापूर्ण जीवन
की प्रेरणा
मेहनती जीवन की प्रेरणा

जीवन के आनंद का अनुभव
सामाजिक बदलाव के लिए
क्रांति के महत्त्व को जानेंगे
बनावटी जीवन की कमियों
को जानेंगे

सादगीपूर्ण जीवन के प्रति प्रेरित होंगे

जीवन में परिश्रम के महत्त्व को समझेंगे

सामाजिक बदलाव के लिए क्रांति की भूमिका समझेंगे

बनावटी जीवन की कमियों को समझ सकते
हैं

रचनात्मक लेखन कार्य कर सकते हैं

August '26

क्षितिज:-
आत्मकथम्,
दंतुरित मुस्कान,
फसल

व्याकरण :-
अलंकार
सन्देशलेखन,
औपचारिक पत्र,
निबंध

2
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- आत्मकथम्
- व्याकरण :- अलंकार की पहचान
- क्षितिज:- मानवीय करुणा की दिव्य चमक
- व्याकरण :- अलंकार की पहचान
- क्षितिज:- दंतुरित मुस्कान,

जयशंकर प्रसाद के मानवीय
मूल्यों एवं गुणों के महत्त्व को
जानेंगे

वात्सल्य प्रेम का प्रदर्शन
ग्रामीण संस्कृति से लगाव
बच्चों के प्रति वात्सल्य को
जानेंगे

रचनात्मक लेखन में रुचि

जयशंकर प्रसाद के जीवन से मानवीय मूल्यों को
समझ सकते हैं

वात्सल्य के महत्त्व को जानेंगे

ग्रामीण संस्कृति से परिचित होंगे

फसल

- व्याकरण:-अलंकार की पहचान
- क्षितिज:- फसल

रचनात्मक लेखन में रुचि होगी

- व्याकरण:- औपचारिक पत्र,

September '26

6

क्षितिज:- एक कहानी यह भी,
व्याकरण:- वाक्यभेद
अनुच्छेदलेखन

एक कहानी यह भी
वाक्यभेद- परिवर्तन
अनुच्छेदलेखन

अपने जीवन का मूल्यांकन कर सकेंगे
व्यक्तित्व विकास के प्रति जागरूक होंगे
वाक्यों की बनावट को जानेंगे
रचनात्मक लेखन कर सकेंगे

अपने जीवन का स्मूल्यांकन कर सकते हैं

प्रकृति की सुंदरता एवं प्रकृति सुरक्षा के लिए चिन्तनशील होंगे

वाक्य की अवधारणा को समझ सकते हैं

आत्मपरिचय लिख सकते हैं

October '26

1
2

क्षितिज:- संगतकार
व्याकरण:- वाक्य
स्मृत लेखन,
कृतिका:- साना-साना हाथ जोड़ें

- संगतकार
- वाक्यपरिवर्तन/ पहचान
- स्मृत लेखन अभ्यास
साना-साना हाथ जोड़ें

जीवन में सहयोगी की भूमिका

प्रकृति की सुंदरता से लगाव

हिंदी के वाक्यों में वाक्य की अवधारणा का ज्ञान

जीवन में सहयोगी की भूमिका को चिह्नित कर पाएंगे

प्रकृति की सुंदरता एवं सुरक्षा के प्रति जागरूक होंगे

वाक्य की अवधारणा को समझेंगे

November
'26

क्षितिज:- यह
दंतुरित मुस्कान,
फसल, नौबत
खाने में इबादत

व्याकरण:-
पदपरिचय

साना-साना हाथ
जोड़ि

1
6

● यह दंतुरित मुसकान
फसल
नौबत खाने में इबादत
पद परिचय
साना-साना हाथ जोड़ि
Art Integrated:बिस्मिल्लाह खान की
संगीत साधना के सम्बंध में एक
परियोजना तैयार करेंगे

बच्चे के प्रति माँ बाप के
वात्सल्य को जानेंगे
फसल के उत्पादन में मनुष्य
की कर्मठता के महत्त्व को जान
सकेंगे
शहनाई वादक बिस्मिल्लाह
खान की मनुष्यता को समझ
सकते हैं
वाक्य में प्रयुक्त शब्दों का
सम्पूर्ण व्याकरणिक परिचय
का ज्ञान
प्रकृति की विराटता को जानेंगे

बच्चे के प्रति मां-बाप के लगाव को महसूस करेंगे
फसल के उत्पादन में कर्मठ लोगों की भूमिका को
समझेंगे
वाक्य में प्रयुक्त शब्दों का सम्पूर्ण व्याकरणिक परिचय
दे सकेंगे

December
'26

क्षितिज:- संस्कृति,

संगतकार

व्याकरण:-
अलंकार

कृतिका:- मैं क्यों
लिखता हूँ

1
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संस्कृति
संगतकार
अलंकार
मैं क्यों
लिखता हूँ
सन्देशले
खन
विज्ञापन

सभ्यता एवं संस्कृति के
अंतर समझ सकेंगे
जीवन में सहयोगी की
भूमिका के महत्त्व को जानेंगे
काव्य में अलंकार को
समझेंगे और अपनी कविता
में अलंकार का प्रयोग कर
सकेंगे
कवि या लेखकों के
लिखने के उद्देश्य को जानेंगे
रचनात्मक लेखन में दक्षता

सभ्यता एवं संस्कृति के अंतर को समझेंगे
जीवन में सहयोगी की भूमिका को चिह्नित कर पाएंगे
अलंकार प्रयोग एवं पहचान में समर्थ हो पाएंगे
रचनात्मक लेखन में दक्षता प्राप्त कर सकते हैं

सन्देशलेखन,

January '27

पुनरावृत्ति

February '27

March '27

SURENDRANATH CENTENARY SCHOOL
SESSION – 2026-27
ANNUAL PEDAGOGICAL PLAN
CLASS X

Subject संस्कृतम्					
Books -मणिका भाग 2 , मणिका अभ्यासपुस्तिका भाग 2,व्याकरण भाग 2 ।					
Month	Chapter	No. of pr.	Topics	Learning Objective	Learning Outcome
April '26	स्वपरिचयः 1)वाङ्मयंत पः (श्लोकाः) 2)नास्ति त्यागसमं सुखम् व्याकरणम्	21	<ul style="list-style-type: none"> ❖ स्वपरिचयः ❖ प्रश्नपत्रानुसारम् चर्चा । ❖ वाङ्मयं तपः (श्लोकाः) ❖ श्लोकों से अर्थ,भाव और प्रश्नोत्तराणि । ❖ नास्ति त्यागसमं सुखम् (कथा) ❖ अर्थ तथा भाव । ❖ पाठ में प्रयुक्त व्याकरण। ❖ अर्थात् संधि, समास, प्रत्यय एवं अव्ययों की पहचान। ❖ व्याकरणम् - संधि प्रकरण समास-प्रकरण,वाच्य प्रकरण,अव्यय 	<p>विद्यार्थियों को ज्ञान-बोध- विद्यार्थी अपना परिचय देते समय- वाक्य - निर्माण करने ,कर्तृपद क्रियापद इत्यादि का ज्ञान-बोध ।</p> <p>विद्यार्थियों को ज्ञान-बोध विद्यार्थी श्लोकों को पढ़कर विभिन्न प्रश्नों और उनके उत्तर एवं व्याकरण अंश का बोध प्राप्त करने में समर्थ होंगे।</p> <p>विद्यार्थियों को ज्ञान-बोध विद्यार्थी संधि, समास, प्रत्यय एवं अव्ययों की पहचान में सक्षम होंगे ।</p>	<p>विद्यार्थी सक्षम हुए – आत्म परिचय माध्यमेन वाक्य निर्माण में समक्ष होंगे।</p> <p>प्रत्यय का समुचित प्रयोगकरने में।</p> <ul style="list-style-type: none"> •शुद्ध वाचन - कौशल का विकास। •लकार परिवर्तन में परिपक्वता। •नैतिकता का विकास। <p>विद्यार्थी श्लोकों को पढ़कर विभिन्न प्रश्नों और उनके उत्तर एवं व्याकरण अंश का बोध प्राप्त करने में समर्थ।</p> <p>विद्यार्थी संधि, समास, प्रत्यय एवं अव्ययों की पहचान में सक्षम हुए।</p> <p>वाच्यपरिवर्तनम् प्रकार-परिवर्तन में सक्षम हुए।</p>

May '26	3)रमणीया हि सृष्टिः एषा । व्याकरण पत्र-लेखनम्	7	<ul style="list-style-type: none"> ❖ रमणीया हि सृष्टिः एषा ❖ (पाठ के व्याकरण का अंश) ❖ समासप्रकरण संधिप्रकरण ❖ प्रत्यय ❖ पत्र लेखन का अभ्यास-कार्य। 	<p>विद्यार्थी पाठ के अन्तर्गत</p> <p>समासप्रकरण, अनुवाद, रूप, उपपद विभक्ति, अनुच्छेद, लेखन का ज्ञान प्राप्त करेंगे।</p>	<p>विद्यार्थी पाठ के अन्तर्गत</p> <p>समासप्रकरण, अनुवाद, रूप, उपपद विभक्ति, अनुच्छेद, लेखन का ज्ञान प्राप्त करने में समर्थ।</p>
June '26	4) आज्ञा गुरुणाम् हि अविचारणीया मणिका अभ्यास पुस्तिका।	14	<ul style="list-style-type: none"> ❖ पाठ से अर्थ, भाव और प्रश्नोत्तराणि। ❖ पाठ में प्रयुक्त व्याकरण। ❖ अर्थात् संधि, समास, प्रत्यय एवं अव्ययों ❖ अनुवाद, रूप, उपपद विभक्ति। ❖ अनुच्छेदे रिक्तस्थाननि पूर्ति। ❖ अनुवाद, रूप, उपपद विभक्ति। ❖ अनुच्छेदे रिक्तस्थाननि पूर्ति। ❖ कथापूर्ति। 	<p>विद्यार्थी पाठ से अर्थ, भाव और प्रश्नोत्तराणि समास-प्रकरण द्वन्द्व एवं अव्ययीभाव समास)संधि-प्रकरण पाठ्यक्रम में सम्मिलित सभी संधियों के नियमों की आवृत्ति।</p>	<p>विद्यार्थी पाठ से अर्थ, भाव और प्रश्नोत्तराणि समास-प्रकरण द्वन्द्व एवं अव्ययीभाव समास)संधि-प्रकरण पाठ्यक्रम में सम्मिलित सभी संधियों को सीखा।</p>
July '26	5)अभ्यासव शगं मनः चित्रवर्णनम् पत्रलेखनम् मणिका अभ्यास पुस्तिका	25	<ul style="list-style-type: none"> ❖ पाठ का प्रश्नोत्तराणि ❖ पाठ का अर्थ भाव और प्रश्ननिर्माण। ❖ पत्रलेखनम्- प्रश्न पढ़कर, पत्र लिखकर, अर्थ स्पष्ट करके, शब्दों को समझकर और विभक्ति, वचन, लिंग के अनुसार पत्रलेखनम्। ❖ चित्रवर्णनम् के आधार पर 	<p>विद्यार्थी को रमणीया हि सृष्टिः एषा पाठ का प्रश्नोत्तराणि करने का ज्ञान-बोध होगा।</p>	<p>विद्यार्थी को रमणीया हि सृष्टिः एषा पाठ का प्रश्नोत्तराणि करने का ज्ञान-बोध हुआ।</p>

August '26	चित्रवर्णनम् कथापूर्ति मणिका अभ्यास पुस्तिका	21	<ul style="list-style-type: none"> ❖ रचनात्मक कार्य ❖ पत्रलेखनम्, 	विद्यार्थी रचनात्मक कार्य ,पत्रलेखनम्, चित्रवर्णनम् और अनुच्छेद लेखन में दक्षता हासिल हुई।	<ul style="list-style-type: none"> ❖ रचनात्मक कार्य ❖ पत्रलेखनम्, चित्रवर्णनम् ❖ अनुच्छेद लेखनम्
Septemb er '26	6)राष्ट्रं संरक्ष्यमेव		<ul style="list-style-type: none"> ❖ पाठ का अर्थ,भाव और प्रश्नोत्तराणि प्रश्नपत्रम् अभ्यास करवाना। ❖ प्रश्नपत्रम् अभ्यास करवाना। 	विद्यार्थी अर्थ,भाव और प्रश्नोत्तराणि प्रश्नपत्र हल करने में समर्थ होंगे।	विद्यार्थी अर्थ,भाव और प्रश्नोत्तराणि प्रश्नपत्र हल करने में समर्थ हुए।
October '26	6)राष्ट्रं संरक्ष्यमेव हि 7)साधुवृत्तिं समाचरेत्	14	<ul style="list-style-type: none"> ❖ पाठ से अर्थ,भाव और प्रश्नोत्तराणि । 	विद्यार्थियों को ज्ञान-बोध- अर्थ,भाव और प्रश्नोत्तर तथा व्याकरण ज्ञान ग्रहण करेंगे।	विद्यार्थी अर्थ,भाव और प्रश्नोत्तर तथा व्याकरण समझने में सक्षम हुए।
Novemb er '26	8)तिरुक्कुर ल सूक्तिःसौर भः। 9)सुस्वागतं भो!अरुणाच लेऽस्मिन्	20	<ul style="list-style-type: none"> ❖ पाठ का अर्थ भाव और प्रश्ननिर्माण। ❖ पत्रलेखनम्- प्रश्नोत्तर। 	विद्यार्थी पाठों को समुचित रूप से समझने में समर्थ होंगे ।	विद्यार्थी अर्थ,भाव और प्रश्नोत्तर तथा व्याकरण समझने में सक्षम हुए।

December '26	आवृत्ति प्रश्ननिर्माण तथा अशुद्धिशोध नम्	20	<ul style="list-style-type: none"> ❖ अनुवाद ❖ रूप ❖ उपपद विभक्ति ❖ अनुच्छेद लेखनम् 	विद्यार्थी व्याकरण समुचित रूप से समझने में समर्थ होंगे। प्रश्नोत्तर हल करने में समर्थ होंगे।	विद्यार्थी को व्याकरण समझने में सक्षम हुए।
January '27	आवृत्ति अभ्यास प्रश्न पत्रों को हल करवाना। अभ्यास-कार्य	18	खण्ड क,ख,ग,घ का एकसाथ अभ्यास-कार्य करेंगे।	विद्यार्थी क,ख,ग,घ का एकसाथ अभ्यास-कार्य करके पूरे प्रश्न पत्र हल करने में दक्षता हासिल करेंगे।	विद्यार्थी खण्ड क,ख,ग,घ का एकसाथ अभ्यास-कार्य अर्थ,भाव और प्रश्नोत्तर तथा व्याकरण समझने में सक्षम हुए।
February '27	आवृत्ति व्याकरणम्	26	<ul style="list-style-type: none"> ❖ आवृत्ति व्याकरण। ❖ अर्थात् संधि, समास, प्रत्यय एवं अव्ययों की पहचान। ❖ व्याकरण - समास-प्रकरण ❖ (द्वन्द्व एवं अव्ययीभाव समास) ❖ व्याकरण ❖ संधि-प्रकरण पाठ्यक्रम में सम्मिलित सभी संधियों की 	विद्यार्थी अर्थ,भाव और प्रश्नोत्तर तथा पाठ में प्रयुक्त व्याकरण।।अर्थात् संधि, समास, प्रत्यय एवं अव्ययों की पहचान में सक्षम होंगे।	विद्यार्थी अर्थ,भाव और प्रश्नोत्तर तथा व्याकरण समझने में सक्षम हुए।

SURENDRANATH CENTENARY SCHOOL, RANCHI
SESSION – 2025 - 2026
ANNUAL PEDAGOGICAL PLAN
CLASS - X

SUBJECT: MATHEMATICS			BOOKS: 1. MATHEMATICS FOR CLASS X, NCERT 2. MATHEMATICS FOR CLASS X EXEMPLAR. 3. MATHEMATICS CLASS X, R S AGARWAL. 4. LABORATORY MANUAL – MATHEMATICS CLASS X			
MONTH	CHAPTER	No. of Periods	TOPICS	LEARNING OBJECTIVES	LEARNING OUTCOMES	
APRIL	<p>CH – 8 Introduction to Trigonometry and Identities</p> <p>CH – 5 Arithmetic Progressions</p>	13+ 10 = 23 Periods	<p>Revision:</p> <ul style="list-style-type: none"> • Real Numbers • Polynomials • Basic Geometrical terms and definitions. <p>CH- 8: Introduction to Trigonometry:</p> <ul style="list-style-type: none"> • Trigonometry ratios of an acute angle of a right-angled triangle. • Proof of their existence. • The ratios whichever are defined at 0° and 90°. And values of the trigonometric ratios of 30°, 45° and 60°. • Relationships between the ratios. • Trigonometric Identities. • Summary (Concept Map). <p>Skills:</p> <ul style="list-style-type: none"> • Quality Education. • Develop critical thinking/ problem solving skills by analysing and applying 	<p>Revision: To help the learners</p> <ul style="list-style-type: none"> • Reinforce learning. • Improve retention and reduce anxiety. • Assess and gauge knowledge and practice and apply knowledge. <p>CH – 8 Introduction to Trigonometry To help the learners</p> <ul style="list-style-type: none"> • Describe trigonometry and study the relationship between side and angle of a triangle. • Define and distinguish various trigonometric ratios and describe and verify sine, cosine, tangent, cosecant, secant, cotangent of the angle. • Use given trigonometric ratios and find and verify other trigonometric ratios/angles of the triangle. • Compute the T- Ratios of specific angles and use these for different angles. • Compute and apply trigonometric identities and simplify and solve mathematical identities. 	<p>Learners will be able to:</p> <ul style="list-style-type: none"> • Remember important concepts, figures, formulas and methodologies that studied in the previous classes. <p>CH- 8: Introduction to Trigonometry: Learners will be able to</p> <ul style="list-style-type: none"> • Determines all trigonometric ratios with respect to a given acute angle (of a right triangle) in order to use them in solving problems based on T- Ratios and Identities. 	

<p style="text-align: center;">April (Contd.) + May</p>	<p style="text-align: center;">CH – 1 Real Numbers</p>	<p style="text-align: center;">9 Periods</p>	<p>CH – 5 Arithmetic Progressions</p> <ul style="list-style-type: none"> • Introduction of Arithmetic Progression. • Derivation of nth term and sum of the first n terms of A.P. <ul style="list-style-type: none"> • Application of A.P and their application in solving daily life problem. • Summary (Concept Map). <p>Subject Enrichment</p> <p>Lab Activity 1 – Identify arithmetic progression in some given list of series.</p> <p>Lab Activity 2 – To find the sum of the first n natural numbers.</p> <p>CH – 1 Real Numbers:</p> <p>Introduction</p> <ul style="list-style-type: none"> • The Fundamental Theorem of Arithmetic, • Revisiting Irrational numbers. • Revisiting Rational Numbers and Their decimal Expansions. • Summary (Concept Map). <p>Skills:</p> <ul style="list-style-type: none"> • Quality Education. • Develop critical thinking/ problem solving skills by analysing and applying various mathematical concepts. 	<p>CH – 5 Arithmetic Progressions</p> <p>To help the learners</p> <ul style="list-style-type: none"> • Produce patterns and observe that succeeding terms are obtained by adding a fixed number to the preceding terms. • Distinguish between finite and infinite A.P and determine the nature and write the last term of the given A.P • Calculate the nth term of a given A.P and find its terms and their nature and solve real-life word problems. • Calculate the sum of a given A.P and get the solution of real-life word problems and solve contextual problems. • Calculate the last term of the given A.P and find solution of real-life word problems. <p>CH – 1 Real Numbers.</p> <p>To help the learners</p> <ul style="list-style-type: none"> • Use the Fundamental theorem of Arithmetic and calculate HCF and LCM of the given numbers in the context of the given problem. • Recall the properties of irrational number and prove that whether the sum / difference /product/quotient of two numbers is irrational or not. 	<p>CH – 5 Arithmetic Progressions</p> <p>Learners will be able to</p> <ul style="list-style-type: none"> • Develop strategies in order to apply the concept of AP to daily life situations. <p>CH – 1 Real Numbers.</p> <p>Learners will be able to</p> <ul style="list-style-type: none"> • Generalise properties of numbers and relations among them studied earlier, to evolve results, such as fundamental theorem of arithmetic in order to apply them to solve problems related to real life context.
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<p style="text-align: center;">JUNE</p>	<p style="text-align: center;">CH – 2 Polynomials CH – 4 Quadratic Equations</p>	<p style="text-align: center;">7 + 11 = 18 periods</p>	<p>CH – 2 Polynomials</p> <ul style="list-style-type: none"> • Zeros of a polynomial. • Relationship between zeros and coefficients of quadratic polynomials. • Summary (Concept Map). <p>Subject Enrichment</p> <p>Lab Activity 3: To draw and analyse the graph of a quadratic polynomial.</p> <p>CH – 4 Quadratic Equations</p> <ul style="list-style-type: none"> • Standard form of a quadratic equation. • Solutions of a quadratic equations by factorization, and by using quadratic formula. • Relationship between discriminant and nature of roots. • Situational problems based on quadratic equations related to day to day activities. • Summary (Concept Map). <p>Skills:</p> <ul style="list-style-type: none"> • Quality Education. • Develop critical thinking/ problem solving skills by analysing and applying various mathematical concepts. 	<p>CH – 2 Polynomials</p> <p>To help the learners</p> <ul style="list-style-type: none"> • Recall degree of Polynomials and find the number of zeroes of polynomial. • Analyse the graph of the polynomials and find the number of zeroes of polynomial. • Compute zeroes of the polynomials and verify the relationship between zeroes and the coefficients. • Compute the sum and product of zeroes of the polynomial and find the quadratic polynomial. <p>CH – 4 Quadratic Equations</p> <p>To help the learners</p> <ul style="list-style-type: none"> • In the form of Quadratic Equation represent the given situation algebraically. • Rewrite the given equations in the standard form and check whether they are quadratic or not. • Solve quadratic equations through factorisation and middle term splitting and find its roots. • Use the quadratic formula and find the roots of quadratic equation and find out the nature of its roots. 	<p>CH – 2 Polynomials</p> <p>Learners will be able to</p> <ul style="list-style-type: none"> • Use algebraic and graphical method of finding zeroes of a polynomial in order to establish a relationship between them. <p>CH – 4 Quadratic Equations</p> <p>Learners will be able to</p> <ul style="list-style-type: none"> • Demonstrates knowledge of application of various strategies in order to find roots and determine the nature of roots of a given

JULY

CH – 3 Pair of Linear Equations in two Variables.
CH- 6 Triangles

12 +10
= 22
Periods

CH – 3 Pair of Linear Equations in two Variables.

- Pair of linear equations in two variables and graphical method of their solution.
- Conditions of consistency/ inconsistency.
- Algebraic conditions for number of solutions.
- Solution of a linear equations in two variables algebraically by substitution and by elimination.
- Simple situational problems.
- Summary (Concept Map).

Subject Enrichment

Lab Activity 4 :

To obtain the conditions for consistency of a pair of linear equations in two variables.

CH- 6 Triangles

- Introduction, Similarity of Triangles, Basic Proportionality Theorem, Converse of basic proportionality theorem, Criteria for Similarity of Triangles, AAA, SAS and ASA Similarity criteria.
- Summary (Concept Map).

Lab Activity 5

To verify the basic proportionality theorem using activity method.

Art Integrated:

Modal of Similar triangles using card board.

Skills: Creative Thinking

CH – 3 Pair of Linear Equations in two Variables.

To help the learners

- State the properties of linear equation and classify the given equations as linear or non-linear.
- Interpret the concepts of linear equations and represent any given situation algebraically and graphically.
- Plot the lines corresponding to the given two linear equations and comment on the nature/behaviour of the lines representing the linear equations.
- Use different algebraic methods and solve a pair of linear equations.
- Use the most appropriate algebraic method and solve the given pair of linear equations.
- Rewrite the given equations which are reducible to a pair of linear equations and find the solutions and find the solution of those equations.

CH – 6 Triangles

To help the learners

- Distinguish between congruency and similarity and understand the concept of similar figures.
- Compute the angles and ratio of sides of polygons and determine their similarity.
- Compute the angles and ratio of sides of triangles in order to determine their similarity.

CH – 3 Pair of Linear Equations in two Variables.

Learners will be able to

- Use graphical and algebraic methods in order to find solutions of pairs of linear equations in two variables.

CH- 6 Triangles

Learners will be able to

- Use reasoning in order to differentiate between congruent and similar figures.
- Use different geometric criteria established such as basic proportionality theorem etc. In order to establish properties for similarity of two triangles.

<p style="text-align: center;">AUGUST</p>	<p style="text-align: center;"> CH – 7 Coordinate Geometry. CH – 14 Statistics CH – 15 Probability </p>	<p style="text-align: center;">9 +10 + 6 = 25 periods</p>	<p>CH – 7 Coordinate Geometry.</p> <ul style="list-style-type: none"> • Concepts of coordinate geometry. • Graphs of linear equations. • Distance formula and Section formula. • Summary (Concept Map). <p><u>Subject Enrichment</u> Lab Activity 6 : To derive the Distance formula using graph paper.</p> <p>CH – 14 Statistics</p> <ul style="list-style-type: none"> • Mean, median and mode of grouped data. • Summary (Concept Map). <p>CH – 15 Probability</p> <ul style="list-style-type: none"> • Classical definition of probability, problems on finding the probability of an event. • Summary (Concept Map). <p><u>Experiential Learning</u> Real – World Data Analysis Project – Students will collect data from their environment, such as classroom surveys or local weather patterns and find Mean, Median and mode of the data.</p> <p><u>Subject Enrichment</u> Lab Activity 7 : To determine experimental probability of 1, 2, 3, 4, 5 or 6 by throwing a die and compare them with their theoretical probability.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Quality Education. • Develop critical thinking/ problem solving skills by analysing and applying various mathematical 	<p>CH – 7 Coordinate Geometry. To help the learners</p> <ul style="list-style-type: none"> • Apply and derive distance formula and determine the distance between two coordinates on the graph. • Apply distance formula and solve various mathematical and real-life problems graphically. • Apply and derive section formula and divide the line segment in a given ratio. • Apply distance and section formula and determine the vertices /diagonal/mid-points of given geometrical shapes. <p>CH – 14 Statistics To help the learners</p> <ul style="list-style-type: none"> • Apply direct and assumed mean method to calculate the mean of grouped data. • Compute the mode of the given data. • Apply formula for the median of a given grouped data and calculate missing values of frequency. • Differentiate between mean, median and mode with examples and use most effective measure of central tendency in various cases <p>CH – 15 Probability To help the learners</p> <ul style="list-style-type: none"> • Find the classical definition of probability. • Simple problems on finding the probability of an event. 	<p>CH – 7 Coordinate Geometry. Learners will be able to</p> <ul style="list-style-type: none"> • Derive formulae to establish relations for geometrical shapes in the context of a coordinate plane, such as finding the distance between two given points, in order to determine coordinates of a point between any two given points and section formula and its uses in solving various problems. <p>CH – 14 Statistics Learners will be able to</p> <ul style="list-style-type: none"> • Calculate mean, median and mode in order to apply them to real life contexts. <p>CH – 15 Probability Learners will be able to</p> <ul style="list-style-type: none"> • Calculates in order to determine the probability of a given event.
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<p style="text-align: center;">SEPTEMBER</p>	<p style="text-align: center;">CH – 9 Some Applications of Trigonometry</p>	<p style="text-align: center;">10 Periods</p>	<p>Revision of CH – 1, CH -2, CH – 3, CH – 4, CH – 5, CH – 6, CH - 7 CH – 8, CH -14 and CH - 15</p> <p>CH – 9 Some Applications of Trigonometry</p> <ul style="list-style-type: none"> • Angle of elevation, Angle of Depression, problems on heights and distances. • Summary (Concept Map). <p><u>Experiential Learning :</u> Construct a Clinometre and measure the height of your school building.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Quality Education. • Develop critical thinking/ problem solving skills by analysing and applying various mathematical concepts. 	<p>CH – 9 Some Applications of Trigonometry</p> <p>To help the learners</p> <ul style="list-style-type: none"> • Identify line of sight and determine angle of elevation and angle of depression. • Apply trigonometric ratios and determine heights and distances of the objects in the real-life context. • Apply trigonometric ratios and determine heights and distances of the objects / structures in the real-life context. 	<p>CH – 9 Some Applications of Trigonometry</p> <p>Learners will be able to</p> <ul style="list-style-type: none"> • Determine all trigonometric ratios with respect to a given acute angle in order to use them in solving problems in daily life contexts like finding heights of different objects.
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<p style="text-align: center;">OCTOBER</p>	<p style="text-align: center;">CH – 10 Circles CH – 12 Areas Related to Circles</p>	<p style="text-align: center;">8 + 8 = 16 Periods</p>	<p>CH – 10 Circles</p> <ul style="list-style-type: none"> Tangent to a circle at a point of contact, Prove that the tangent at any point of a circle is perpendicular to the radius through the point of contact, Prove that the length of tangents drawn from an external point to a circle are equal. <ul style="list-style-type: none"> Summary (Concept Map). <p><u>Subject Enrichment</u> Lab Activity 8 – To verify the length of tangents from an external points are equal in length. Skills: Curiosity, Critical Thinking.</p> <p>CH – 12 Areas Related to Circles</p> <ul style="list-style-type: none"> Introduction, Perimeter and Area of a Circle, Circumference of a Circle. Areas of a Sector and Segment of a Circle, Areas of Combinations of Plane Figures. Summary (Concept Map). <p><u>Experiential Learning</u> Construct circular disc / Combination of figures using cardboard and find the area.</p>	<p>CH – 10 Circles To help the learners</p> <ul style="list-style-type: none"> Draw, Identify and differentiate between secant and tangent of a circle and prove and apply various theorems related to circles. Prove and apply theorems related to tangent of a circle and determine number of tangents from the given points and determine length of the tangents. <p>CH – 12 Areas Related to Circles To help the learners</p> <ul style="list-style-type: none"> Describe the relationship between circumference and diameter of a circle and define π. Apply the concepts of circumference and area of circles and solve in for various circular objects in real life. Describe sector and segment of a circle and differentiate between the two. Describe minor and major sector and minor and major segment of a circle and differentiate between two. Calculate the length of an arc of a circle and comment whether it is the major or minor arc. Calculate the area of various combinations of plane figures and apply the concepts of circles. 	<p>CH – 10 Circles Learners will be able to</p> <ul style="list-style-type: none"> Apply theorems related to tangent of a circle in order to determine number of tangents from the given point and determine the length of the tangent. <p>CH – 12 Areas Related to Circles Learners will be able to</p> <ul style="list-style-type: none"> Apply the concepts of Theorems in order to solve questions based on circumference and area of circles, sector and segment of a circle and differentiate between the two and solve in for various circular objects in real life.
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NOVEMBER

**CH – 13
Surface Areas
and Volumes**

10
Periods

CH – 13 Surface Areas and Volumes.

- Surface areas of combinations of cubes, cuboids, spheres, hemispheres and right circular cylinders and cones.
- Volumes of combinations of cubes, cuboids, spheres, hemispheres and right circular cylinders and cones.
 - Summary (Concept Map)

SDG 4 - Quality Education with case study based questions so that the students see the usefulness of Maths while instilling values and attitude towards it.

**CH – 13 Surface Areas and Volumes
To help the learners**

- Apply formulae of surface area and volume of 3D solids and derive the surface area of combination of solid shapes.
- Combine different solid shapes to create a new solid form and apply the formula to find the surface area and volume.
- Use concepts of surface areas and volumes for variety of 3-D objects and apply them into real life situations.

CH – 13 Surface Areas and Volumes.

Learners will be able to

- Visualize objects in surrounding as a combination of different solids like cylinder and a cone, cylinder and a hemisphere, combination of different cubes etc. In order to find their surface areas and volumes.

DECEMBER			Revision + 2 nd terminal examination			
JANUARY			SQP + Previous years board Question paper + pre-Board examination			
FEBRUARY			Remedial classes			

SURENDRANATH CENTENARY SCHOOL
SESSION – 2026-27
ANNUAL PEDAGOGICAL PLAN
CLASS X

Subject: PHYSICS					
Books:1) SCIENCE TEXTBOOK FOR CLASS X(NCERT)					
2) NUMERICAL PHYSICS-X (LAXMI PUBLICATIONS)					
3) LAB MANUAL SCIENCE-X (BLUE PRINT)					
Month	Chapter	No. of pr.	Topics	Learning Objectives	Learning Outcomes
April '26	RECAPITULATION CH-9 LIGHT-REFLECTION AND REFRACTION	12	<ul style="list-style-type: none"> ● Overview of full syllabus ● Fundamental and derived units of physical quantities to be dealt in the syllabus ● Definition of SI unit of physical quantities. ● Operations on numbers in standard form ● Revision of light, reflection and its types. ● Types of images(real and virtual) ● Plane mirror and spherical mirrors. ● Terms associated with spherical mirrors and image formation. <p style="text-align: center;">ACTIVITY-1</p> <p>Subject Enrichment:-</p> <p>Determination of focal length of a concave mirror by focusing a distant object.</p>	<p>Enable learners to:</p> <ul style="list-style-type: none"> ● define SI units ● operate large numbers easily ● recall concept of reflection ● differentiate real and virtual images ● State the laws of reflection of light, in order to understand how light travels in a medium when it encounters another object. ● Outline the rule of image formation by spherical mirrors in order to complete the ray diagrams by drawing reflected rays. ● represent the path of incident ray and reflected ray in order to decipher the position and nature of image formed 	<p>Learners will be able to :</p> <ul style="list-style-type: none"> ● define SI units ● operate large numbers easily ● recall concept of reflection ● differentiate real and virtual images ● State the laws of reflection of light, in order to understand how light travels in a medium when it encounters another object. ● Outline the rule of image formation by spherical mirrors in order to complete the ray diagrams by drawing reflected rays. ● represent the path of incident ray and reflected ray in order to decipher the position and nature of image formed

<p>May '26</p>	<p>CH-9 LIGHT-REFLECTION AND REFRACTION (Contd.)</p>	<p>6</p>	<ul style="list-style-type: none"> ● Uses of spherical mirrors. ● Sign convention for reflection by spherical mirrors. ● Mirror formula and magnification. ● Refraction of light. ● Refraction through a rectangular glass slab. 	<ul style="list-style-type: none"> ● express u, v, f in the mirror formula in order to apply sign convention in solving word problems to find the unknown variable. ● deduce the nature and size of image by magnification in order to relate height of object with height of image. ● demonstrate the path of light when it travels through a rectangular glass slab, in order to Formulate laws of refraction of light. 	<ul style="list-style-type: none"> ● express u, v, f in the mirror formula in order to apply sign convention in solving word problems to find the unknown variable. ● deduce the nature and size of image by magnification in order to relate height of object with height of image. ● demonstrate the path of light when it travels through a rectangular glass slab, in order to Formulate laws of refraction of light.
<p>June '26</p>	<p>CH-9 LIGHT-REFLECTION AND REFRACTION (Contd.)</p>	<p>12</p>	<ul style="list-style-type: none"> ● The refractive Index. ● Absolute refractive index and related numerical problems. ● Refraction by spherical lenses. ● Image formation by lenses. ● Image formation in lenses using ray diagrams. ● Sign convention for spherical lenses. ● Lens formula and magnification. ● Related numerical problems. ● Power of a lens and related numerical. 	<ul style="list-style-type: none"> ● Compare the speed of light in one medium with another in order to calculate refractive index. Represent the path of incident & reflected light rays from a concave lens ,in order to decipher the position and nature of the image formed. ● Illustrate the path of incident & reflected light Rays from a convex lens, in order to decipher the position and nature of the image formed. ● Construct the lens formula for a lens relating v, u, f; in order to find an unknown variable given 	<ul style="list-style-type: none"> ● identify the angle of incidence and the angle of refraction. The student should be able to relate the direction which light bends (towards or away from the normal) if given the relative speed of light in the two medium

			<p>ACTIVITY-2</p> <p><u>Subject Enrichment:</u></p> <p>i) Determination Of Focal length of a convex lens by focusing a distant object.</p> <p>ii) Tracing the path of the rays of light through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.</p> <p>ACTIVITY-3</p> <p><u>Experiential Learning:-</u> Activity to show what caused the objects to be visible in one kind of a liquid and not in others.</p> <p>Skills-Creative and critical thinking</p>	<p>the other two.</p> <ul style="list-style-type: none"> ● State the magnification- for a lens, in order to relate height of Object with height of image. ● Calculate the power of a lens, in order to determine its power to converge or diverge. 	<ul style="list-style-type: none"> ● relate magnification of image with object and image distance.
July '26	<p>CH- 10</p> <p>HUMAN EYE AND COLOURFUL WORLD</p>	12	<ul style="list-style-type: none"> ● The human eye. ● Power of Accommodation. ● Defects of vision and their correction ● Refraction of light through a prism. ● Dispersion of white light by a glass prism. ● Formation of Rainbow. ● Atmospheric Refraction. 	<ul style="list-style-type: none"> ● Illustrate the parts and function of the human eye, in order to understand how humans see the objects around them. ● Describe how focal length of eye changes, in order to understand how humans see close and far objects. 	<ul style="list-style-type: none"> ● Eye helps us in visualizing objects and also helps us in light perception, color, and depth perception. ● The human eye consists of the following parts: Sclera, cornea, iris, pupil, lens, retina, and optic nerve. ● When the atmosphere

	<p>SDG:-</p> <p>Good Health and-well Being</p>		<ul style="list-style-type: none"> ● Scattering of light. 	<ul style="list-style-type: none"> ● Identify the defects of vision in the human eye(myopia, hypermetropia, presbyopia) and their causes, in order to devise a correction method for them. ● Examine the path of light rays through a prism, in order to determine how light gets deviated when travelling through a prism. ● Trace the path of white light rays through a prism, in order to determine that white light is made of seven colours. ● Elaborate the process of atmospheric refraction, in order to understand natural phenomena like twinkling of stars and advance sunrise and delayed sunset. ● Explain the process of scattering of light, in order to understand natural phenomena, like the Tyndall effect, blue colour of the sky. 	<p>refracts more star-light towards us, the star appears to be bright and when the atmosphere refracts less star-light.</p> <ul style="list-style-type: none"> ● Scattering of light that we come across in day-to-day life are: Blue colour of the sky ● Out of the seven components present in sunlight, blue colour is scattered the most by the particles present in the atmosphere and hence, the sky appears blue.
August '26	<p>CH- 10</p> <p>HUMAN EYE AND COLOURFUL WORLD(Contd.)</p>	12	<p><u>Art Integrated Learning:-</u></p> <p>Trace the path of white light rays through a prism, in order to determine that white light is</p>		

	CH-11 ELECTRICITY		<p>made of seven colour.</p> <ul style="list-style-type: none"> ● Electric current and circuit. ● Electric potential and potential difference. ● Circuit diagram and Ohm's law <p>ACTIVITY</p> <p><u>Experiential Learning:</u></p> <p>Group activity to understand electric circuit, electric charge, electric current and electric potential by making a simple circuit containing wires, switch, cells and a torch bulb.</p> <p>Skills: Curiosity, Critical Thinking.</p>	<ul style="list-style-type: none"> ● Evaluate the charge flowing through a conductor in a given time, in order to calculate current flowing through it. ● Determine work done in moving a charge across two points, in order to calculate potential difference between two points ● Identify the electrical components and their functions, in order to build a functioning circuit. ● Plot a graph between voltage and current, in order to prove ohm's law & find resistance 	<ul style="list-style-type: none"> ● Define electric charge , electric current , electric circuit , one ampere etc. ● · Recall S I unit of physical quantities used, learn formula used. ● Draw different electric symbols and electric circuits. ● solve numerical problems given in the text books.
September '26	CH-9 & 10		<p>Revision of CH-9 & 10</p> <p>SA,LA and HOTS Questions</p> <p>Diagram practice.</p>		
October '26	CH-11 ELECTRICITY	9	<ul style="list-style-type: none"> ● Factors on which resistance of a conductor depends. ● Resistance of a system of resistors. 	<ul style="list-style-type: none"> ● Define resistivity and its range for different materials, in order to classify substances as conductors, alloys and insulators. 	<ul style="list-style-type: none"> ● Define resistivity and its range for different materials, in order to classify substances as conductors, alloys and insulators.

			<ul style="list-style-type: none"> ● heating effect of electric current ● electric power <p><u>Subject Enrichment-</u></p> <ul style="list-style-type: none"> ● Verification of ohm's law. ● equivalent resistance of two resistors when connected in series/parallel 	<ul style="list-style-type: none"> ● Determine the resultant resistance in a series and a parallel combination, in order to identify the suitable combination like house etc. ● explain and calculate the heating effect of electric current in order to learn how appliances like heater and iron works. ● Calculate power in order to represent electric consumption in domestic circuits. 	<ul style="list-style-type: none"> ● Determine the resultant resistance in a series and a parallel combination, in order to identify the suitable combination like house etc. ● explain and calculate the heating effect of electric current in order to learn how appliances like heater and iron works. ● Calculate power in order to represent electric consumption in domestic circuits.
November '26	<p>CH-12</p> <p>MAGNETIC EFFECTS OF ELECTRIC CURRENT</p>	9	<ul style="list-style-type: none"> ● Magnetic field and field lines. ● Magnetic field due to a straight current carrying conductor. ● Magnetic field due to a straight current carrying circular loop. ● Magnetic field due to a straight current carrying solenoid. ● Force on a current carrying conductor in a magnetic field. ● Fleming's Left hand rule ● Alternating and direct current ● Frequency of AC ● Advantage of AC over DC ● Domestic Electric circuits. 	<ul style="list-style-type: none"> ● Draw magnetic field lines for a bar magnet, in order to identify the magnetic field strength at different points around a magnet. ● Represent magnetic field lines for a straight current carrying conductor, in order to identify the magnetic field strength at different points around it. ● Draw magnetic field lines for a current carrying circular loop, in order to identify the magnetic field strength at different points around it. ● Outline magnetic field lines for at current carrying solenoid, in order to identify the magnetic field strength at different points around it. State Fleming's Left-Hand 	<ul style="list-style-type: none"> ● Electricity and Magnetism - The goal is for students to learn how magnetic poles interact. Also, they will learn the shape of the magnetic lines of force and how the domains of a magnet are arranged. ● Electromagnets- The students will make an electromagnet and determine the strength of the electromagnet.

			<ul style="list-style-type: none"> ● Motor, Electromagnetic Induction, Electric Generator.(only for formative Assessment) <p><u>Art Integrated learning:-</u> Analyse the Significance of neutral, earth and live Wire, in order to understand formation of a domestic electric circuit with the help of label diagram</p>	<p>rule, in order to understand the working of an electric motor.</p> <ul style="list-style-type: none"> ● Analyse the significance of neutral, earth and live wire, in order to understand formation of a domestic electrical circuit. 	
December '26	CH-9,10,11,12	9	Revision of CH – 10,11 & 12 SA, LA and HOTS Questions Diagram practice		
January '27	CH-9,10,11,12	9	Revision of CH – 10,11 & 12 SA, LA and HOTS Questions Diagram practice		

SURENDRANATH CENTENARY SCHOOL,RANCHI
ANNUAL PLAN 2026-27

Class: X
Subject: Chemistry

Book: NCERT Book for Science
LabManual: BluePrint

Month	Chapter	No. of Periods	Topic	Learning objective	Learning Outcome
April	Chemical reaction and Equations	15	<ul style="list-style-type: none"> • Physical and chemical changes Chemical changes caused due to chemical reaction. • Representation of a chemical reaction as a chemical equation. Concept of word equation and symbolic equation. • Balancing a given chemical equation. • Converting a word equation into symbolic equation and balancing it. Identifying the given reaction as combination or decomposition. <p><u>Experiential learning:</u> <u>Activity 1</u> To observe the burning of magnesium ribbon and check the nature of product formed. Skills: Critical thinking. <u>Activity2</u> To observe the reaction of quick lime with water. Skills: Critical thinking</p>	<ul style="list-style-type: none"> ➤ Relate the substances taking part in chemical reaction and formed as a result to identify the reactants and products. ➤ Use chemical symbols and formulae properly to acquire the skill of writing chemical equation. ➤ Apply law of conservation of mass in order to balance the chemical equation. <p>Categorise the given reaction in terms of reactants and products as combination and decomposition</p>	<ul style="list-style-type: none"> ➤ To relate the substances taking part in chemical reaction and formed as a result to identify the reactants and products. ➤ To use chemical symbols and formulae properly to write the chemical equation. ➤ To apply law of conservation of mass in order to balance the chemical equation. <p>To categorise the give reaction in terms of reactants and products as combination and decomposition reaction</p>

May	Chemical Reaction and Equations		<ul style="list-style-type: none"> Classify the reaction as displacement or double displacement reaction. Reactivity series and displacement reaction Precipitation and neutralization reaction. Oxidation and reduction in terms of addition and removal of oxygen and hydrogen. Identifying the oxidizing and reducing agents. <p>Activity3</p> <ul style="list-style-type: none"> To observe the reaction between copper sulphate solution and iron nails. <p>Skills: Technical ability, critical thinking</p>	<ul style="list-style-type: none"> Classify the given reaction as displacement and double displacement based on the reactants involved and products formed. Understanding the reactivity series and its application in displacement reactions. Predict the reaction as oxidation or reduction based on addition or removal of oxygen or hydrogen. <p>Detect changes in smell, colour, taste of food items in order to explain the oxidation of food articles.</p>	<ul style="list-style-type: none"> To classify a given reaction as displacement or double displacement reaction. To understand the application of reactivity series in displacement reaction. <p>To predict the reaction as oxidation or reduction and identify the substance oxidized/reduced</p>
June	Acids, bases and salts	18	<ul style="list-style-type: none"> Formation of H^+ and OH^- ions in aqueous solution of acids and bases. Taste of acids and bases Nature of acids as mineral or organic and their strength. Presence of various acids in different food items. 	<ul style="list-style-type: none"> Write down the ions present in an aqueous solution of acid or a base to explain why aqueous acid/ base conduct electricity. Recall the taste of acids and bases in order to point out if the given food item contains acid or base. <p>Observe the action of given substance With various indicators to find out their nature</p>	<ul style="list-style-type: none"> To identify the ions present in the aqueous solution of acids/bases. <p>To be able to relate the nature of substance with its taste and its nature to be acidic or basic.</p>
July	Acids, bases and salts		<ul style="list-style-type: none"> Action of indicators on acids and bases and their change in behavior. Reaction of metals with acids to give hydrogen gas. Reaction of metal carbonates and Bicarbonates with acids to give carbon dioxide. Importance of pH in our daily lives Manufacture of sodium 	<ul style="list-style-type: none"> Detect the formation of hydrogen gas on treatment of a metal with dilute acid. Detect the formation of carbon dioxide on treatment of metal carbonate or bicarbonate with dilute acids. Understand the concept of pH. Know the general methods of preparation of some common chemical compounds . 	<ul style="list-style-type: none"> To detect the formation of hydrogen gas on treatment of a metal with dilute acid. To detect the formation of carbon dioxide on treatment of metal carbonate or bicarbonate with dilute acids. To understand the concept of pH. To know various practical

			<p>hydroxide, common salt, washing soda, baking soda, bleaching powder and plaster of paris.</p> <ul style="list-style-type: none"> • Learning the chemical reactions involved in the formation of above compounds. • Understanding the uses of these compounds in our day to day life. <ul style="list-style-type: none"> ○ Skills: data collection and analysis. <p>Activity 1</p> <ul style="list-style-type: none"> • To observe the change in colour of pH paper on treatment with lemon juice, toothpaste, soap solution, milk, tap water and orange juice. <ul style="list-style-type: none"> ○ Skills: Technical ability <p>SDG9-Industry,innovationand infrastructure.</p>	<ul style="list-style-type: none"> ➤ Understand the chemical reactions involved in preparation of those compounds and identify their uses. 	<p>applications of pH in everyday life.</p> <ul style="list-style-type: none"> ➤ To know the preparation, properties and uses of some important chemical compounds such as bleaching powder, baking soda, washing soda etc
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August	Metal s and non metal s	14	<ul style="list-style-type: none"> ● Occurrence of metals in nature as minerals and ores. Different types of ores. General principles involved in extraction of metals. ● Principles involved in extraction of metals and process involved. Purification and refining of metals and their uses. <p>Corrosion of metals and its prevention. Activity 1: Reaction of metals with Dilute acids. Activity 2: Reaction involving burning of metals/ non metals.</p>	<ul style="list-style-type: none"> ➤ Predict the products when metals and nonmetals react with oxygen, water, dilute acids. ➤ Writing balanced chemical equations for the above chemical reations. <p>Analyse the process of getting metals from their oxides, carbonates and sulphides in order to extract them from their ores.</p> <ul style="list-style-type: none"> ➤ Understand the bonding between metals and nonmetals ➤ Drawing electron dot structures of some common ionic compounds ➤ Knowing the general principles involved in extraction of metals. ➤ Explain the process of electrolytic refining in order to assess how to obtain pure metal from impure samples. <p>Observe corrosion in metal articles and its process in order to develop Ways to prevent corrosion by forming alloys, painting, galvanizing.</p>	<ul style="list-style-type: none"> ➤ To understand the reactions of metals and nonmetals with water, dilute acids etc ➤ To be able to write balanced chemical equations for the above reactions. <p>To know the basic processes involved in extraction of metals from their ores and different techniques involved depending upon the nature of metal and its reactivity</p> <ul style="list-style-type: none"> ➤ To know the bonding between metals and nonmetals. ➤ To be able to draw the electron dot structures of some ionic compounds. ➤ To know the process of metallurgy. <p>To know the process of electrolytic refining</p>
September	Chap ters 1, 2 & 3				

October	Carbon and its compounds	22	<p>Electronic configuration of carbon and its tetravalency.</p> <ul style="list-style-type: none"> • Anomalous behavior shown by carbon. • Catenation <p>Activity1</p> <ul style="list-style-type: none"> • Subject enrichment: • To understand the contribution of IUPAC in Organic chemistry. • Skills: technical ability, attention to detail. • Drawing electron dot structures of various carbon compounds to classify them as alkanes, alkenes and alkynes. • Draw the structure of carbon compounds involving functional groups to understand their properties. Writing the formula of compounds in the same homologous series. 	<ul style="list-style-type: none"> ➤ Write down the electronic configuration of carbon in order to predict the formula of carbon compounds and illustrate the structure of molecules of carbon compounds with chain, branched and ring structure. ➤ Able to make and understand the electron dot structures of various saturated and unsaturated carbon compounds. ➤ Understand the classification of hydrocarbons as alkanes, alkenes and alkynes. ➤ Know about common functional groups and nomenclature of compounds containing them. ➤ Writing the formula of compounds falling in one homologous series 	<ul style="list-style-type: none"> ➤ To understand the reason for existence of carbon in different allotropic forms. ➤ To know about catenation and its impact. <p>To understand the concept of existence of hydrocarbons and their types.</p> <ul style="list-style-type: none"> ➤ To be able to draw the electron dot structures of some covalent compounds. ➤ To understand the classification of hydrocarbons into straight chain, branched chain, cyclic etc ➤ To know the basic IUPAC rules for nomenclature of hydrocarbons. ➤ To be able to draw different isomeric structure and write their IUPAC names. ➤ To know about homologous series and its characteristics. ➤ Burning of different compounds. ➤ Reaction of various Hydrocarbons/carbon with Chlorine in presence of Light. ➤ Reaction of Alkenes with hydrogen in the presence of Nickel catalyst. ➤ Classification of Saturated/Unsaturated compounds. <p>Tests to distinguish between ethanol and ethanoic acid.</p>
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Novem ber	Carbon and its compound & Periodic classification of elements		<ul style="list-style-type: none"> Predicting the properties of compounds on the basis of the homologous series they are present in. Using the rules specified by IUPAC, writing the names of various carbon compounds containing Functional groups. Burning of saturated and unsaturated compounds differently. Reaction of hydrocarbons with oxygen, hydrogen etc <p>Reaction of alkenes with hydrogen in the presence of nickel catalyst.</p> <ul style="list-style-type: none"> Reaction of alkanes with chlorine in the presence of light. Various chemical tests to distinguish between ethanol and ethanoic acid. Cleansing action of soaps and micelle formation. <p>Activity2 Experiential learning To test the given compounds as ethanol and ethanoic acid using various chemical tests.</p> <ul style="list-style-type: none"> Skills: Attention to detail, technical ability SDG9-Industry, innovation and 	<ul style="list-style-type: none"> To observe the burning of carbon compounds in oxygen to classify them as saturated and unsaturated compounds. Illustrate the chemical properties of carbon compounds as oxidation, combustion, addition substitution etc along with balanced chemical reaction. Identify reaction of carbon with chlorine in the presence of light. Performing various tests to distinguish between ethanol and ethanoic acid. To describe the formation of micelle in order to understand how soap works. Understand the need for classification of elements. Explain early attempts of classification like Dobereiner's Triads and Newlands' Law of Octaves. Describe the contribution of Dmitri Mendeleev in developing the periodic table. State and explain the 	<ul style="list-style-type: none"> Classify elements based on their properties and atomic numbers. Compare different classification systems and explain their limitations. Interpret the structure of the modern periodic table (groups & periods). Predict properties of elements based on their position in the periodic table. Explain periodic trends like increase/decrease in atomic size or valency. Solve numerical or reasoning-based questions related to periodic classification. Apply concepts to identify unknown elements or their characteristics.
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			<p>infrastructure.</p> <ul style="list-style-type: none"> • Understanding the need of classification of elements • Earlier attempts of classification done by Dobereiner, Newland and Mendeleev • Merits and demerits of Mendeleev's periodic table • Modern periodic table and its advantages and disadvantages • Periodic properties and the general trends they follow along a group and along a period 	<p>Modern Periodic Law.</p> <ul style="list-style-type: none"> ➤ Identify groups and periods in the modern periodic table. ➤ Understand periodic trends such as: <ul style="list-style-type: none"> ➤ Valency Atomic size ➤ Metallic and non-metallic properties ➤ Relate the position of elements to their properti 	
December	Sample papers & revision				
January	Sample papers & revision				

SURENDRANATH CENTENARY SCHOOL
SESSION – 2026-27
ANNUAL PEDAGOGICAL PLAN
CLASS X

Subject - Biology					
Book- NCERT SCIENCE TEXTBOOK FOR CLASS X & LAB MANUAL (Blueprint)					
Month	Chapter	No. of pr.	Topics	Learning Objective	Learning Outcome
April 26	CH- 5 Life Processes	18	Revision of previous knowledge- Recapitulation of academic vocabulary – nutrition, respiration, excretion, reproduction, environment, etc Nutrition – Types Autotrophic nutrition in detail, Light and CO ₂ necessary for photosynthesis Opening and closing of Stomata <ul style="list-style-type: none"> • Holozoic Nutrition in Amoeba and Human beings • Respiration – Aerobic and Anaerobic • Respiration in Human beings- Tidal and residual volume, movement of ribs and diaphragm during inhalation and exhalation, • Transport system in Human Beings - Human heart, Blood and blood vessels, Human heart- Pulmonary and systemic circulation, structure of human heart, Blood- its composition and functions. Blood vessels- Arteries, veins and capillaries ACTIVITY: Role play – Holozoic nutrition in Amoeba ACTIVITY -2 Group discussion on “Warm blooded animals have four chambered heart”. Skills: Critical thinking	To enable the learners ➤ Explain the process of absorption of CO ₂ and H ₂ O in order to understand nutrition in autotrophs ➤ List and explain the strategies employed by heterotrophs to take up food ➤ List the enzymes and their functions involved in human digestive system ➤ Outline and explain the ways of breakdown of glucose by various pathways ➤ Illustrate the process of transport of oxygenated and deoxygenated blood by human heart ➤ Describe the functions of blood vessels, blood and lymph in human	Learners will be able to: ➤ Compare autotrophic nutrition and heterotrophic nutrition ➤ Describe autotrophic nutrition in plants and heterotrophic nutrition in humans ➤ Explain the processes like aerobic and anaerobic respiration ➤ List the components of blood ➤ Explain the mechanism of circulation of blood in human body ➤ Describe the need of transport system ➤ Draw labelled diagrams of digestive, respiratory, circulatory systems ➤ Draw flow charts/ concept maps/ graphs – such as digestive, respiratory and circulatory systems. ➤ Develop awareness on maintaining good health

	<p>CH- 5 Life Processes</p> <p>SDG : 3</p> <p>GOOD HEALTH AND WELL - BEING</p>		<ul style="list-style-type: none"> • Transportation in plants- Transport of water and minerals through xylem • Transpiration – a necessary evil, root pressure • Transport of food through phloem <p>Experiential Learning- Put a twig of plant in coloured water and observe it.</p> <ul style="list-style-type: none"> • Excretion in Human beings, Artificial kidney • Excretion in plants <p>Case study - A situation with some information about renal disease will be given.</p> <p>Skills: Critical thinking and self awareness</p>	<ul style="list-style-type: none"> ➤ Illustrate the process involved in transport of materials through xylem and phloem in plants ➤ Describe the mechanism of filtration of blood in the kidneys and excretion of wastes in human body 	<ul style="list-style-type: none"> ➤ Explain the process of ascent of sap and translocation ➤ List the components of our excretory system and explain the process of filtration of blood ➤ Draw labelled diagrams of excretory system
<p>May 26</p>	<p>CH- 6 Control and Coordination</p>	<p>16</p>	<ul style="list-style-type: none"> • Control and Coordination in Animals – Nervous system: Structure of a neuron, stimulus and conduction of messages, synapse, Central nervous system and Peripheral nervous system • Parts of brain and the actions controlled by the brain • Spinal cord, cranial and spinal nerves, Stimuli and responses <p>ACTIVITY1</p> <p>Subject Enrichment: Lab Experiment-</p> <ol style="list-style-type: none"> 1. Light is necessary for photosynthesis. 2. CO₂ is released during respiration. 3. Stomata on the surface of a leaf <p>ACTIVITY --2</p> <p>Art Integrated project</p> <p>Model of a neuron using clay/any waste material</p> <p>Skills: Creative Thinking</p>	<ul style="list-style-type: none"> ➤ List the components of our nervous system ➤ Illustrate the location and functions of different parts of human brain ➤ Explain the conduction of message through nerves ➤ Draw the structure and explain functioning of a neuron 	<ul style="list-style-type: none"> ➤ Describe the components of our nervous system ➤ List the various lobes of human brain and their functions ➤ Explain the process of conduction of nerve impulse ➤ Draw a labelled diagram of a neuron ➤ Draw flow chart on reflex arc ➤ Make models of neuron/ reflex arc

<p>June 26</p>	<p>CH- 6 Control and Coordination</p> <p>SDG: 3</p> <p>GOOD HEALTH AND WELL - BEING</p>		<ul style="list-style-type: none"> • arc in order to explain how reflex actions take place in humans • Illustrate the functions of endocrine glands in human body in order to understand functioning of hormones • Examine tropic movements in plants in order to understand how plants respond to environmental triggers like light, gravity and water • Nastic movement in touch-me-not plants <p>Case study on common disorders of endocrine glands A situation with some information about hormonal disorders (Goitre/ Diabetes) will be given. Skills: Critical thinking and self awareness ACTIVITY- 1 Learning wheel on endocrine glands and hormones in human beings Skills: Creative thinking</p>	<ul style="list-style-type: none"> ➤ Draw reflex arc in order to explain how reflex actions take place in humans ➤ Illustrate the functions of endocrine glands in human body in order to understand functioning of hormones ➤ Examine nastic/ tropic movements in plants in order to understand how plants respond to environmental triggers like touch, light, gravity and water 	<ul style="list-style-type: none"> ➤ Draw a labelled diagram of a reflex arc ➤ List the components of reflex arc ➤ Explain the hormonal control on human physiology ➤ Describe tropic and nastic movements in plants ➤ Relate the growth of root, shoot and nastic movements with respect to light, gravity and touch
<p>July 26</p>	<p>Ch- 13 Our Environment</p> <p>SDG – 12 Responsible consumption and production</p>	<p>14</p>	<ul style="list-style-type: none"> • Biodegradable and non-biodegradable wastes and their impact on environment • Ecosystem and its components • Natural and artificial ecosystems • Food chains and food webs • Food chains and food webs, Trophic levels, Energy flow, Energy pyramids, Biomagnification • Ozone formation, its role, causes of ozone depletion and its ill effects on human health <p>HOTs: Calculations based on energy flow through different trophic levels of a food chain Skills: Critical thinking ACTIVITY – 1 Art Integrated Learning- Impact of</p>	<ul style="list-style-type: none"> ➤ Classify different waste products as biodegradable and non-biodegradable in order to assess their effect on environment ➤ Tabulate the organisms feeding on another and energy transfer between them in order to form a food chain or a food web ➤ Classify biotic and abiotic components and their interaction with each other ➤ Describe the formation and importance of ozone in order to identify ways to protect it from depletion 	<ul style="list-style-type: none"> ➤ Classify biotic and abiotic components and their interaction with each other ➤ Describe the formation and importance of ozone in order to identify ways to protect it from depletion ➤ take steps to promote sustainable development ➤ Take initiatives to protect environment ➤ Describe ozone formation and its importance ➤ Minimise the use of aerosols, CFCs to prevent ozone depletion ➤ Make models using eco-friendly materials

			<p>non – biodegradable substances on Forest Ecosystem (Jharkhand) and Marine ecosystem (Goa)- Collage making, slogan writing, songs or any art form</p> <p>Students spread awareness on ill effects of non-biodegradable substances on animals by distributing cloth bags having messages for animal protection.</p> <ul style="list-style-type: none"> • Skills: Creative& critical thinking 		
August 26	CH- 7 How do Organisms Reproduce?	12	<ul style="list-style-type: none"> • Modes of reproduction used by single organisms- Fission, fragmentation, Regeneration, Budding, Vegetative reproduction, spore formation • Sexual reproduction, Why the sexual mode of reproduction? Sexual reproduction in flowering plants • Reproduction in human beings, development of embryo, role of placenta, seminal vesicles and prostate gland • Reproductive health, bacterial and viral STDs, methods of contraception <p>ACTIVITY- Subject Enrichment: Observe permanent slides of binary fission in Amoeba and budding in yeast.</p>	<ul style="list-style-type: none"> ➤ Illustrate the process of fission in amoeba, leishmania and plasmodium in order to understand how unicellular organisms divide ➤ Illustrate the process of fragmentation in Spirogyra, regeneration in Planaria, budding in Hydra, vegetative propagation in plants and spore formation in Rhizopus ➤ Label the different parts of a flower and explain their functions ➤ Explain double fertilisation in plants ➤ List down the changes occurring in male and female body in teenage years in order to understand effects of puberty ➤ Describe the changes taking place in female body without/ after fertilisation ➤ List various methods of contraception 	<ul style="list-style-type: none"> ➤ Compare binary fission in <i>Amoeba</i> with <i>Leishmania</i> ➤ Explain the differences among various modes of asexual reproduction ➤ Explain the differences between fragmentation in <i>Spirogyra</i> and regeneration in <i>Planaria</i> ➤ Describe double fertilisation in plants ➤ Draw labelled diagrams of a bisexual flower and pollen germination and fertilisation ➤ Describe secondary sexual characters in male and female ➤ Explain gamete formation and fertilisation ➤ Describe the embryonic development in mother's womb, role of placenta ➤ Explain various methods of contraception and their needs in controlling STDs and preventing pregnancy
September 26	CH- 5, 6 &13		Revision of CH –5, 6 & 13 SA, LA and HOTS Questions Diagram practice		Half Yearly Exam

October 26	CH- 8 Heredity and Evolution	12	<ul style="list-style-type: none"> • Accumulation of variation during reproduction, Heredity, Rules of Inheritance of Traits – Mendel’s combinations, How do these traits get expressed – monohybrid and dihybrid crosses • Sex determination- sex chromosomes, environmental sex determination <p>ACTIVITY 1- Evolution “ Telephone” Students stand in a line. A complicated message whispered in the ear of the first student and the last one says that loudly.</p>	<ul style="list-style-type: none"> ➤ Explain how changes in DNA can lead to stronger/better species ➤ State and explain Mendel’s traits and Laws of Inheritance ➤ Explain the combination of sex chromosomes in order to understand how sex is determined in humans 	<ul style="list-style-type: none"> ➤ Relate variations with reproduction ➤ Explain Mendelian traits and their transmission through generations ➤ Describe sex determination in man and role of environment in sex determination ➤ Relate more number of females in some organisms like turtle due to global warming ➤ Respect diversity
October 26	CH- 5, 6, 7, 8 & 13		<ul style="list-style-type: none"> • Life Processes - Nutrition, respiration, transportation and excretion • Control and Coordination- Nervous and chemical control in humans, tropic and nastic movement in plants and phytohormones • Reproduction- asexual and sexual • Mendel’s Laws of Inheritance, sex determination <p>Our environment- Biodegradable and non-biodegradable wastes, Biomagnification</p>		FIRST PRACTICE TEST
November 26	CH- 5, 6, 7, 8 & 13				PRE- BOARD I
December 26	CH- 5, 6, 7, 8 & 13				PRE- BOARD II
January 27	CH- 5, 6, 7, 8 & 13		Board Sample Paper Practice- Competency based questions		SECOND PRACTICE TEST

SURENDRANATH CENTENARY SCHOOL

SESSION – 2026-27

ANNUAL PEDAGOGICAL PLAN

CLASS X

Class X Subject: History/Political science			Books : I) India & the contemporary world II II) Democratic politics II		
Month	Chapter	No. of pr.	Topics	Learning Objective	Learning Outcome
April '26	Ch:1 Power sharing Contd.... Ch:1 Nationalism in Europe contd.... SDG: Peace, Justice and Strong Institutions	24	<ul style="list-style-type: none"> •Recapitulation •The French Revolution and the Idea of the nation •The making of Nationalism in Europe •Case studies of Belgium and Sri Lanka •Why power sharing is desirable? <p>Subject Enrichment: Concept map</p>	<ul style="list-style-type: none"> •Examine the impact of the French Revolution on the European countries in the making of Nation state. •Explore the nature of the diverse social movements of the time(1830-1848) •Examines and comprehends how democracies handle demands and needs for power sharing 	<ul style="list-style-type: none"> •Infer how the French Revolution had an impact on the European countries in the making of nation state. • Enumerate and evaluate the validity of the nature of the diverse social movements of the time. •Enumerate the need for power sharing in democracy.
May '26	Nationalism in Europe	12	<ul style="list-style-type: none"> •The age of Revolutions •The making of Germany and Italy. •Visualizing the Nation • Nationalism and Imperialism 	<ul style="list-style-type: none"> •Examine the ways by which the idea of Nationalism emerged and led to the formation of nation state. •Comprehends how the World War 1 triggered by the scramble for colonies in the Balkan states 	<ul style="list-style-type: none"> •Illustrate that the quest for Imperialism triggered the first World war
June '26	Power Sharing	12	<ul style="list-style-type: none"> •Forms of power sharing <p>Activity: Power point presentation (Power sharing)</p>	<ul style="list-style-type: none"> •Analyze the challenges faced by countries like Belgium and Sri Lanka ensuring effective power sharing 	<ul style="list-style-type: none"> •Summarize the purpose of power sharing in preserving the unity and stability of the country.

July '26	CH: 2 Nationalism in India CH:2 Federalism	24	<ul style="list-style-type: none"> •The first world war, Khilafat and Non-Cooperation •Differing strands with in the movement •Towards Civil disobedience •The sense of Collective Belongingness •What is Federalism? <p>Subject Enrichment: Map work</p>	<ul style="list-style-type: none"> •Discuss the impact of the of the first world war on triggering two defining movements (Khilafat and non-cooperation) •Assess / appraise the role of Mahatma Gandhi and other leaders in the two movements (NCM&CDM) •Comprehend the theory and practice of Federalism in India 	<ul style="list-style-type: none"> • Summarize the aspects of the First world war that triggered two defining movements (Khilafat and non-cooperation) •Evaluate the effectiveness of the strategies applied by Gandhiji and other leaders in the two Movements . •Analyse and infer how federalism is being practiced in India
August '26	Ch:2 Nationalism in India Ch:2 Federalism SDG: 4 Quality Education SDG:16 Strong Institutions	24	<ul style="list-style-type: none"> •Towards Civil Disobedience •Salt March •How participants saw the movement? •limitations of CDM •The sense of collective belongingness •What makes India a federal country? •How is federalism practised in India? •Decentralization in India 	<ul style="list-style-type: none"> •Examine the reasons why NCM was call off. •Analyze the reasons for the Salt March and the beginning of CDM •Comprehend the reasons how different groups saw the movement •Analyze the policies and politics that has strengthened federalism in practice 	<ul style="list-style-type: none"> •Understand the reasons for Civil disobedience movement •Enumerate the reason behind different groups joining the CDM •Analyse the policies and politics that has strengthened federalism in practice
September '26	Ch:3 Gender, Religion and Caste SDG:4 Quality Education	12	<ul style="list-style-type: none"> •Gender and politics •Religion, Communalism and Politics •Caste and Politics 	<ul style="list-style-type: none"> •Examines the role and differences of Gender, religion and Caste in practicing Democracy in India •Analyses the different expressions based on these differences are healthy or otherwise in a Democracy 	<ul style="list-style-type: none"> •Enumerates how the differences in gender, religion and Caste impact the practicing healthy or otherwise in a Democracy.

October '26	Ch: 4 Political Parties Ch:5 Outcomes of Democracy	24	<ul style="list-style-type: none"> •Why do we need Political Parties? •How many Parties should we have? •National Political and State Parties •Challenges to Political Parties •How do we assess Democracy's outcome till Dignity and freedom 	<ul style="list-style-type: none"> •Examine the role, purpose and no. of Political Parties in Democracy •Evaluate the contributions made by political parties in making of Indian democracy. • Comprehends the expected and actual outcomes of democracy in view of quality of government, economic wellbeing ,Inequality, 	<ul style="list-style-type: none"> • Enumerates the role purpose and no. of Political Parties in Democracy •Justifies the contributions made by national and regional parties in successful functioning of Indian democracy. •Analyses and infers why sometimes the gap occurs
			of the Citizens	social differences, conflict, freedom and dignity.	between expected outcome and actual outcome effects the success of Democracy.
November '26	Ch: The making of global world. Sub topics(1 to 1.3) Ch: Print culture and the modern world	24	<ul style="list-style-type: none"> • The Pre modern world •The first printed book •Print comes to Europe •The reading mania •India and the world of print to print and censorship 	<ul style="list-style-type: none"> • Explore the various aspects of how the world changed profoundly in the 19th century •Examine the development of print from its beginning in East Asia and its expansion in Europe and India •Analyse the impact of the spread of technology and consider how social life and culture changed due to coming of Print. 	<ul style="list-style-type: none"> •Summarize the changes that transformed the world in terms of economy , political , social. •Enumerate the development of print from its beginning. •Compare and contrast the old tradition of hand written manuscripts versus the print technology • Summarize the role of print and its impact on the world.
December '26	Ch:4 The age of Industrialization (To be assessed internally)	24	<ul style="list-style-type: none"> •Pre and post Industrialization 	<ul style="list-style-type: none"> • Examine Economic, Political,Social features of pre and post Industrialization 	<ul style="list-style-type: none"> •Analyse and infer how the Industrialization impacted colonies with reference to India.

January '27	History Ch: 1,2,5,3 Political science Ch: 1,2,3,4,5	24	•REVISION	Preparation for board examination	-----
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SURENDRANATH CENTENARY SCHOOL, RANCHI

SESSION - 2026-27

ANNUAL PEDAGOGICAL PLAN

CLASS-X

CLASS: X			BOOKS: CONTEMPORARY INDIA II		
SUBJECT: GEOGRAPHY & ECONOMICS			UNDERSTANDING ECONOMIC DEVELOPMENT		
MONTH	CHAPTER	No. of Periods.	TOPICS	LEARNING OBJECTIVES	LEARNING OUTCOMES
APRIL' 26	Resources and Development	6	<ul style="list-style-type: none"> • Introduction • Development of resources • Resource Planning • Development- An Introduction 	<ul style="list-style-type: none"> • Brainstorming on how the resources are interdependent in nature and the need to develop them in India. 	<ul style="list-style-type: none"> • Enumerate how the resources are interdependent, justify how planning is essential in judicious utilization of resources and the need to develop them in India.
APRIL'26	Resources & Development Development	6	<ul style="list-style-type: none"> • Land use pattern in India • Land degradation and conservation • Classification of soil • Soil erosion and conservation. • Different people different goals. • National development. • Comparison of countries through national income/PC!. • Public facilities. <p>Art Integration Short project in copy- "Land Conservation Measures"</p>	<ul style="list-style-type: none"> • Understand the value of resources and the need for their judicious utilization & conservation. • Acquaintance with the changing land use pattern, land degradation and conservation measures. • Students will be able to understand the types of soil and their distribution. • Familiarization of some macro- economic concept • Understanding the traditional notion of development, national income and per capita Income. • Familiarizing the students 	<ul style="list-style-type: none"> • Locates on map/describes. • in order to demonstrate skills of recognizing and retrieving facts, figures & narrating processes • Recognizes differences/ different perspective/ different situations, etc. in order to demonstrate sensitivity and appreciation skills. • Examines and evaluates collected/ given information in order to construct views/arguments/ ideas on its basis.

				<p>about the income and other goals.</p> <ul style="list-style-type: none"> Analyzing the need of sustainable development. 	
MAY'26	Forest and Wildlife Sectors of Indian Economy	6	<ul style="list-style-type: none"> Natural Vegetation- An Introduction Fauna And flora Biodiversity in India Classification of forests Community and conservation UNDP- Classifying the countries on the basis of HDI Calculation of BMI Sustainable Development <p><u>Experiential Learning</u> "Short Movie- The Tragedy of Deforestation" BBC Earth</p>	<ul style="list-style-type: none"> Understand the importance of forests and wildlife. Understand the ability and knowledge of how forest and wildlife conservation and management relate to the economy and environment, both currently and in the future. 	<ul style="list-style-type: none"> Examines phenomena, events and their occurrence in order to explain cause and effect relationship between them.

<p>JUNE'26</p>	<p>Water Resources</p> <p>Sectors of Indian Economy</p>	<p>6</p>	<ul style="list-style-type: none"> • Availability of water resources on earth • Causes of water scarcity • Multi-purpose River valley projects • Modern adaptation of Rainwater harvesting • Traditional methods of RWH- Case study of Rajasthan • Sectors of Economy- An Introduction • Classification of sectors on the basis of types of economic activities- Primary, secondary, tertiary. • Economic Interdependence • GDP&GNP • Historical Change in sectors <p><u>Digital Literacy</u> " PPT on the topic -Atal Bhujal Yojna.</p>	<ul style="list-style-type: none"> • Comprehend the importance of water as a resource as well as develop awareness towards its judicious use and conservation. • Identify major employment generating sectors. • Reason out the government investment in different sectors of economy. • Analyze how primary, secondary, tertiary sectors are interdependent as well as complementary to each other. 	<ul style="list-style-type: none"> • Examines and evaluate given text/ visual, both known and unknown, such as maps/ texts/ symbols/ diagrams/ photos/ posters/ pie diagram/ newspaper clippings/etc. in order to interpret them. • Extrapolates in order to predicts events and phenomena.
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<p>JULY'26</p>	<p>Agriculture</p> <p>Sectors of Indian Economy continued</p>	<p>12</p>	<ul style="list-style-type: none"> • Division of Sectors on the basis of working conditions- Organized and Unorganized • On the basis of ownership • Significant features of Indian agriculture. • Types of farming. • Cropping seasons. • Major crops. • Technological and Institutional reforms in agriculture. • Bhoodaan, Gramdaan. <p>"Gamification- Word Maze" Based on the words related to agriculture.</p>	<ul style="list-style-type: none"> • To make aware of a major employment generating sector. • To understand how to create more employment. • To analyse various govt. schemes like MNREGA. • To analyse protective measures for unorganised sector worker. • To know the basic differences between Public and Private sectors. 	<ul style="list-style-type: none"> • Examine phenomena, events, and their occurrence in order to explain cause and effect relationship between them.
<p>AUGUST'26</p>	<p>Mineral and Energy Resources</p> <p>Money and Credit System</p>	<p>12</p>	<ul style="list-style-type: none"> • Mineral and Energy Resources- An Introduction • Study of minerals from Geologists' and Geographers' point of views • Mode of occurrence of minerals. • Flow-chart classifying minerals. • Metallic and Non-metallic minerals • Conservation of minerals. • Conventional and non-conventional sources of energy. • Conservation of energy resources. • Money and Credit system- Barter system, history of money • Money as a medium of exchange. • Modern forms of money. • Loan activities of banks. • Case studies. • Formal and informal sources 	<ul style="list-style-type: none"> • Identify different types of minerals, energy resources and their distribution/availability. • Feel the need for their judicious utilization. • To understand Conventional and Non-conventional Energy resources. • To understand the slogan" Energy saved is energy produced". • Understand money as an economic concept. • Understand the role of financial institutions from the point of view of day-to-day life. 	<ul style="list-style-type: none"> • Locates on map/describes features/defines/ • Examines and evaluates collected/given information in order to construct views/arguments/ideas on its basis.

			<p>of credit.</p> <ul style="list-style-type: none"> • Self- Help Groups for the poor Case study of Bangladesh. <p>"Financial Literacy- Minute observation of cheque"</p> <p><u>Expeiential Learning- A visit to Earth Msuseum</u></p>		
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SEPTEMBER '26	Manufacturing Industries Globalization and the Indian Economy	6	<ul style="list-style-type: none"> • Map Practice/Revision • 1st Term Q. Paper discussion. • Manufacturing Industries- An Introduction • Importance of manufacturing. • Classification of Industries in several bases- Flow-Chart • Production across countries. 	<ul style="list-style-type: none"> • Bring out the importance of industries in the national economy as well as understand the regional disparities which resulted due to concentration of industries in specific areas. 	<ul style="list-style-type: none"> • Examine and evaluates given text/visual, both known and unknown, such as maps/ texts, symbols/diagrams/pie charts/newspaper clippings/etc. in order to interpret them.

<p>OCTOBER '26</p>	<p>Do</p>	<p>8</p>	<ul style="list-style-type: none"> • Agro- based industry, • Mineral based industries • Industrial Pollution and environmental degradation. • Case Study- NTPC • Foreign trade and integration of markets. • Factors enabling the globalization. • World Trade Organization. <p>Struggle for fair globalization <u>"Joyful Learning- Collage making- Pictures of International Organizations responsible for the process of Globalization"</u></p>	<ul style="list-style-type: none"> • Discuss the need for a planned industrial development and debate over the role of govt. towards decentralization and sustainable development. • Students will be able to understand the types of industries on the basis of materials used. • Students will understand the industrial pollution and measures to control it. • The way shown by NTPC of sustainable development. • Explain the working of the Global Economic Phenomena. • Students will be able to understand the factors that enabled globalization, trade practices, steps to attract foreign investment and the functioning of World Trade Organization. • To familiarize with the various debate outcomes for fair globalization. 	<ul style="list-style-type: none"> • Examine and evaluates given text/visual, both known and unknown, such as maps/ texts, symbols/diagrams/pie charts/newspaper clippings/etc. in order to interpret them

<p>NOVEMBER '26</p>	<p>Lifelines of Indian Economy Globalization and the Indian economy</p>	<p>10</p>	<ul style="list-style-type: none"> • Map Practice • Inter-disciplinary project with chapter 3 of history, The making of global world and chapter 4 of economics, Globalization and the Indian Economy 	<ul style="list-style-type: none"> • CG-7 Develops an understanding of the economy of a nation, with specific reference to India. • CG-8 Evaluates the economic development of a country in terms of its impact on the lives of its people and nature. 	<ul style="list-style-type: none"> • Enumerate the concept of globalization and its definition, evolution, and impact on the global economy. • Evaluate the key role of the key major driver of globalization and their role in shaping the global economic landscape in various countries. • Comprehends the significance of role G20 and its significance in the light of India's present role.
<p>DECEMBER '26</p>	<p>Do</p>	<p>10</p>	<p>Do</p>	<ul style="list-style-type: none"> • Discussion/Debates on the positive impact of Globalization on the lives of people. 	
<p>JANUARY'27</p>	<p>Revision</p>			<p>Pre board Examination</p>	
<p>FEBRUARY '27</p>					

SURENDRANATH CENTENARY SCHOOL RANCHI
ANNUAL PEDAGOGICAL PLAN 2026-27

CLASS: X SUBJECT: Artificial Intelligence(417)			BOOKS: Artificial Intelligence by Avartan Supplement:- Facilitator Handbook by CBSE		
MONTH	CHAPTER	No. of Periods	TOPIC	LEARNING OBJECTIVES	LEARNING OUTCOME
APR.	Part B: Ch 1:- Revisit AI Project Cycle & Ethical Frameworks for AI Contd... SDG Goal-11:- Sustainable Cities and Communities	8	What is AI and What is not AI? AI, ML and DL, Application of AI, Domain of AI, AI Ethics Introduction to AI Project Cycle Understanding Problem Scoping Data Acquisition, Data Exploration Modelling, ANN, Evaluation	To help the learners able to discuss “What is AI” and “What is not AI” Able to have better understanding of AI Recapsulate the different phases of AI Project Cycle	Learners are able to Understand the use of AI in real life and ethical concern involved in AI development. Understand the stages involved in the AI Project cycle, importance of project planning, data collection, data exploration technique.
MAY	Ch 1 Ethical Frameworks for AI Ch2 Advance Concepts of Modelling in AI contd... SDG Goal-10:- Reduced Inequalities	4	Ethical framework for AI and its category. Explore Bioethics, a popular framework that is used in the healthcare industry. Types of AI Model, Types of Machine learning Approaches Activity: - Balloon Debate on Positive and Negative outcome of AI as per allotted theme. Experiential Learning: - Quick draw with Google	Able to understand ethical framework involved in AI and its category To understand AI Model Classification To understand Machine Learning Approaches	Enlist the importance of ethical framework that is involved in the making of an AI application. Recall and Define types of AI models and ML approaches correctly.
JUNE	Ch2 Advance Concepts of Modelling in AI .	4	Regression and Classification in Supervised Learning, Clustering and Association in Unsupervised model. Deep Learning, ANN, CNN Activity: My Goodness https://www.my-goodness.net/	To understand the concept of supervised learning with focus on regression and classification To learn the concept of unsupervised learning including clustering and association. To introduced to deep learning and understand the basics of Artificial Neural Networks (ANN) and Convolutional Neural Networks	Explain the difference between regression and classification with suitable examples. Students will be able to identify appropriate machine learning techniques for given real-life situations.

JULY	Ch 3 Evaluating Models	8	What is Evaluation, Train test Split, Accuracy and error, Classification Metrics, Precision, Recall and F1- Score. Ethical concern around model evaluation Activities: Art Integrated learning Game- Emoji Scavenger Hunt https://emojiscavengerhunt.withgoogle.co	To understand the concept of evaluation, train-test split, accuracy, error, and classification metrics in machine learning. To learn about precision, recall, F1-score, and the ethical concerns involved in model evaluation.	Explain and apply evaluation techniques such as train-test split and accuracy in machine learning models. Differentiate between precision, recall, and F1-score
AUG.	Ch 4:Statistical Data	8	Understanding Data Science, Low-Code and No Code AI, Need for No Code AI, Adv and Limitation of No Code AI, Some Popular data mining tool:- Orange Data Mining Tools	To understand the concept of Data Science, Low-Code and No-Code AI, and the need for No-Code AI in modern applications. To learn about the advantages and limitations of No-Code AI and get introduced to tools like Orange Data Mining.	Explain the importance of Data Science and the role of Low-Code and No-Code AI in simplifying AI development. Identify the advantages, limitations, and practical uses of tools like Orange Data Mining.
SEP.	Part A Ch 1:- Communication Skills-II Ch 2:- Self Management Skills-II	4	Communication Cycle, Types of Communication, Importance of Feedback, Principles of effective communication, Barriers of effective communication. Stress Management in a Nutshell, Stress Management Techniques, Self Reliance. Experiential Learning:- Online Self Awareness Test	Able to demonstrate knowledge of various method of communication and various stress management techniques.	Use different principles of communication to make it effective and strongly facing stress in life.

OCT.	Part B:- Ch 6:- Natural Language Processing	8	Application of NLP, Chatbots, Difference b/w Human Language and Computer Language, Data Processing, Bag of Words Algorithm, TF-IDF Activity: Keyword Extraction https://cloud.google.com/natural-language	Comprehend the complexities of natural languages and elaborate on the need for NLP techniques for machines to understand various natural languages effectively. Understand the concepts like lexicon, syntax, semantics, and logical analysis of input text	Explore the various applications of NLP in everyday life, such as , voice assistants, auto generated captions, language translation
NOV.	Ch 5:- Computer Vision	8	Application of Computer Vision, Computer Vision tasks, Understanding images, convolution, Convolution Neural Network	Students will understand the applications and tasks of Computer Vision, including how images are processed using convolution and Convolutional Neural Networks (CNN)	Explain Computer Vision tasks, image understanding, and the role of convolution and CNN in solving real world problem
DEC.	Revision Practical	6	Revision of Ch 1 to 7 from PART B.		
JAN.			PRE BORAD EXAMINATION		

SURENDRANATH CENTENARY SCHOOL, RANCHI
ANNUAL PLAN (2026-2027)

CLASS: X SUBJECT: DATA SCIENCE			BOOK: HANDBOOK OF DATA SCIENCE (GRADE -X)		
MONTH	CHAPTER	No. of Periods	TOPICS	LEARNING OBJECTIVE	LEARNING OUTCOMES
APRIL	CH-1: Use of Statistics in Data Science SDG-Quality Education Part -A Unit -1 Communication Skills	7	* introduction, *Subsets, *Two-way frequency tables Activity -1 Talking about self	*Understand the role of statistics *Create and interpret frequency tables	*Understand the role of statistics *Create and interpret frequency tables
MAY	CH-1 (Continued)	3	*Mean *Median *Mean Absolute Deviation *Standard Deviation	*Calculate and understand measures of central tendency *Dispersion	*Calculate Mean and Median *Understand variance through S standard Deviation
JUNE	CH-2: Distributions in Data Science SDG- Quality Education	5	*What is distribution *Types of distributions *Statistical Problem Solving	*Identify different data distributions *Problem-solving process	*Recognize normal vs. skewed distributions * Apply the statistical solving process

JULY	CH-3: Identifying Patterns Part A- Self - Management Skills	7	*Partiality *Preference and *Prejudice *How to identify bias Activity -2 Positive Thinking	*Identify human bias in data collection and analysis	Recognize partiality and prejudice; Evaluate how bias affects data outcomes
AUGUST	CH-3: Identifying Patterns (Cont.) Part A- ICT Tools	8	*Probability for Statistics, *Central Limit Theorem (CLT)	Understand the importance of CLT and basic probability in data	Define probability; Explain why CLT is vital for statistical inference
SEPTEMBER	CH-4: Data Merging	3	Overview of Data Merging, Introduction to Z-Score	Learn how to combine datasets and the concept of relative standing	Understand merging techniques; Define the purpose of a Z-Score
OCTOBER	CH-4: Data Merging (Cont.) SDG-9 Part A Entrepreneurship Skills	4	*Calculating/Interpreting Z-Scores, Percentiles, Quartiles, and Deciles Qualities of a successful Entrepreneur	Master standardized scores and positional statistics	Calculate Z-Scores; Interpret data position using quartiles and deciles
NOVEMBER	CH-5: Ethics in Data Science	5	*Data Governance framework, *Ethical guidelines for analysis *Society and Environment *Conserving Natural Resources	Understand the rules governing data usage and ethical boundaries	Define data governance; Apply ethical guidelines to data analysis

	Part -A Green Skills				
DECEMBER	REVISION	6			