Bal Bharati
PUBLIC SCHOOL
Sector -21, Noida

SYLLABUS 2021-22

CLASS - XI

SUBJECT : ENGLISH

BLUEPRINT OF THE ENGLISH PAPER

1	PART-A	Reading-18 marks, Grammar-8marks, Literature-16 marks	40marks
2	PART B	Notemaking-8 marks,, Writing Skills- 16 marks, Literature- 16 m	40 marks
3	ASL	Speaking & Listening Skills	20 marks
TOTAL			**100 Marks**

MONTH	HORNBILL	SNAPSHOTS	WRITING SKILLS	GRAMMAR& CASE STUDY	LEARNING OUTCOME	PEDAGOGY/ ACTIVITY
APRIL	1. Portrait of a Lady. (Story) 2. A Photograph (Poem) 3.Laburnum Top (Poem)	1. Summer of the Beautiful White Horse (Story)	1.Note Making 2.Notice	1. Determiners 2. Tenses	1. Students would be able to develop an optimistic perspective towards life and bridge the rift between the young and old generation. 2. Comprehending character sketches and figures of speech	**Group discussion and research work** on the issues raised e.g. 1. Importance of grandparents and childhood memories in one's life. **(Speaking Skills Activity-1)** 2. **Research work** on the Armenian Genocide-(Integration with History)
MAY	1. We're not afraid to die….. 2. Discovering Tut - Group Discussion on the traditional method of preserving the dead (Integration of History and English)	1.The Address 2. Ranga's Marriage	1.Business letters—Placing orders, Complaints, 2. Invitations and Replies (Intro.)	1.Tenses (contd.) 2. Case Study	1.Grasping the theme and meaning of the prose thus deriving moral values. 2.Their critical and creative thinking skills would be enhanced.	1. **Speech writing** 2. **Holiday Theme**-Card Making and writing a blog on the topic-**"If you need to survive these moments of uncertainty, you need to be in harmony with the team"(Based on the chapter We are not afraid to die…).**

JULY	1. Landscape of the Soul. 2.Mother's Day (Drama)	1. Albert Einstein at School. 2. **Debate on Covid 19** -A bioweapon or a natural disaster. 3.Debate: Prevalence of Rote learning in today's classroom (Speaking Skills Activity no. 2)	1. Invitations& Replies (Contd.) 2.Posters (Short Writing Skill)	1.Sentence reordering. 2. Case Study	1. The learners will be able to stimulate language development and increase their ability to speak spontaneously. 2. Vocabulary enrichment. 3. The learners to comprehend the role of a mother and inculcate values of respect and obedience.	1.Philosophical concept of the yin and yang. Poster making activity (Integration with Art) 2.Tell Tale Theatre- class to be divided into groups- Dramatic representation of Mother's Day to be done by giving it a twist ,New characters to be added from other narratives/poems from the text book.
AUGUST	1.Voice of the Rain (Poem)	Ted Talk- Communication exercise. **ASL: Listening Skills Activity**	1. Expository/ Argumentative Essays E.g. Debates and Speech writing 2. Enquiry & Reply letters	1. Reported Speech	1. The students would be able to grasp the theme and meaning of the poem. 2. They would be able to read the poem with proper tone and rhyme and develop an interest in poetry recitation.	1. Highlight the cyclic nature of rain. -POETRY SLAMMIN' (Writing Slam Poetry) using rhythm, alliteration, assonance, repetition, onomatopoeia, energy and action- Topic- Elements of nature or some Recent disasters
SEPTEMBER	**HALF YEARLY EXAMS**					
OCTOBER & NOVEMBER	1. Childhood- (Poem) 2. The Ailing Planet	1. Browning Version(Drama)	Business Letters- Enquiries and replies	Sentence Reordering- Words to be framed into meaningful sentences	1. Enhancing critical and creative thinking skills. 2. To initiate the students in role of Earth's ambassadors and make them stewards of the Earth. 3. Students will comprehend how people can judge harshly based on a person's success and failure. (Browning Version)	1. Special memories of childhood- class Poetry composition session. 2.**Speech writing on Environmental** Degradation, repercussions, and suggestions. 3. **Slogan Writing on** -Go Green (Integrating Environment Sciences with English)
DECEMBER & JANUARY	1.Silk Road	1. Birth	1.Notice, 2. Debate Writing 3.Case study	Revision for Final Exams with reference to the assignment booklet	The learners to be able to --stimulate language development by listening and reflecting to increase their ability to write spontaneously. -be inspired by Dr Manson's dedication. - have empathy for how the medical practitioners have worked to avert the covid crisis during the entire year.	**Class Activity- Integrated with Physical Education syllabus. Sports & the Media** Class will be into three groups. As a **sports critic,** speak on- 1. Maintaining Physical & Mental Wellness in Today's Times 2. Prevalence of Doping in Sports and it Must be Avoided 3. Cricket is no longer a gentleman's game. **(Speaking Skills Activity-2)** **ASL- Listening Skills Activity.**
FEBRUARY	**ANNUAL EXAMS**					

SUGGESTED BOOKS:

1. U-Like Sample Papers by Best Books
2. Together With by Rachna Sagar

SUBJECT : HINDI

हिंदी (आधार) (कोड सं. 302) कक्षा –11वीं (2021 -22)
परीक्षा हेतु पाठ्यक्रम विनिर्देशन

भारांक 80 **निर्धारित समय 3 घंटे**

खंड		विषय	अंक
(क)	**अपठित अंश**		**15**
	1	अपठित गद्यांश – बोध (गद्यांश पर आधारित बोध, प्रयोग, रचनांत्रण, शीर्षक आदि पर 10 बहुविकल्पी/अति लघूत्तरात्मक प्रश्न 1 अंक (1 x 10)	10
	2	अपठित काव्यांश पर आधारित बोध (गद्यांश पर आधारित बोध, प्रयोग, रचनांत्रण, शीर्षक आदि पर 5 बहुविकल्पी/अति लघूत्तरात्मक प्रश्न 1 अंक (1 x 5)	05
(ख)	**कार्यालयी हिंदी और रचनात्मक लेखन ('अभिव्यक्ति और माध्यम' पुस्तक के आधार पर)**		**25**
	3	दी गई स्थिति / घटना के आधार पर रचनात्मक लेखन (विकल्प सहित) (निबंधनात्मक प्रश्न)	05
	4	औपचारिक/अनौपचारिक पत्र (निबंधनात्मक प्रश्न)	05
	5	व्यावहारिक लेखन (प्रतिवेदन, प्रेस-विज्ञप्ति, परिपत्र, कार्यसूची/कार्यवृत से संबंधित दो लघुउत्तरीय प्रश्न - एक तीन व एक दो अंक का) (विकल्प सहित) (3X1)+(2X1)	05
	6	शब्दकोश से संबंधित से संबंधित 5 बहुविकल्पी प्रश्न 1 अंक (1 x 5) प्रश्न	05
	7	जनसंचार माध्यम और पत्रकारिता के विविध आयामों पर से संबंधित दो लघुउत्तरीय प्रश्न- एक तीन व एक दो अंक का) (विकल्प सहित) (3X1)+(2X1)	05
(ग)	**पाठ्यपुस्तक**		**40**
	(1)	**आरोह भाग-1**	30
	(अ)	**काव्य भाग**	15
	8	किसी एक काव्यांश पर अर्थग्रहण से संबंधित तीन प्रश्न (2x3) (विकल्प सहित)	06
	9	एक काव्यांश के सौंदर्यबोध पर दो लघुउत्तरीय प्रश्न (2x2) (विकल्प सहित)	04
	10	कविताओं की विषयवस्तु पर आधारित दो लघुउत्तरीय -एक तीन व एक दो अंक का)) (विकल्प सहित) (3X1)+(2X1)	05
	(ब)	**गद्य भाग**	15
	11	गद्यांश पर आधारित अर्थग्रहण से संबंधित तीन प्रश्न(2x3)	06
	12	पाठों की विषयवस्तु पर आधारित चार में से तीन बोधात्मक प्रश्न (3+3+3)	9
	(2)	**वितान भाग-1**	10
	13	पाठों की विषयवस्तु पर आधारित चार लघुउत्तरीय - दो तीन अंको के व दो दो अंकों के प्रश्न (विकल्प सहित) (3x2) +(2x2)	10
(घ)	(क)	श्रवण तथा वाचन -10	**20**
	(ख)	परियोजना – 10	
		कुल	100

प्रस्तावित पुस्तकें :

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

कक्षा XI

विषय : हिंदी 2021.22

मास	पाठ का नाम	कार्यालयी हिंदी/ रचनात्मक-लेखन	शिक्षण-अधिगम	नवीन शिक्षण-युक्तियाँ/कला एकीकरण/अंतर्विषयी दृष्टिकोण	गतिविधि/परियोजना
अप्रैल	नमक का दारोगा (गद्य) भारतीय गायिकाओं में बेजोड़ : लता मंगेशकर (पूरक-पाठ) कबीर के पद (पद्य)	औपचारिक पत्र स्थिति-लेखन शब्दकोश-परिचय	गद्य-विधा के अंतर्गत कहानी-विधा एवं रेखाचित्र-विधा से संक्षिप्त परिचय, देश में फैले भ्रष्टाचार को बेनकाब करते हुए सत्य की जीत की स्थापना करना तथा मानवीय मूल्यों का पल्लवन। आशावादी विचारधारा का पल्लवन, धर्म, सत्य और कर्तव्य के प्रति जागरुकता,लता मंगेशकर के प्रेरणास्पद एवं जुझारू जीवन से परिचय। संघर्षरत बने रहने की भावना का पल्लवन तथा संगीत की बेजोड़ विरासत को नमन, व्यावहारिक व्याकरण का पल्लवन। भाषा की प्रभावोत्पादक अभिव्यक्ति हेतु सक्षमता का प्रतिपादन।	आदर्श अनुतानमय वाचन एवं स्पष्टीकरण,व्यावहारिक अनुभवों का आदान-प्रदान, जीवन-सापेक्ष अनुभव, काठिन्य-निवारण,मनन-चिंतन,पारस्परिक चर्चा-परिचर्चा, आगमन-विधि। / 'पूरक-पाठ' हेतु गायन-विधा के साथ एकीकरण	कक्षागत विचार-प्रस्तुति एवं भावाभिव्यक्ति
मई	मियाँ नसीरुद्दीन (गद्य) मीरा के पद (पद्य),	जनसंचार-माध्यम प्रतिवेदन प्रेस-विज्ञप्ति परिपत्र	आदर्श अनुतानमय वाचन एवं स्पष्टीकरण, व्यावहारिक अनुभवों का आदान-प्रदान, जीवन-सापेक्ष अनुभव, काठिन्य-निवारण, मनन-चिंतन, पारस्परिक चर्चा-परिचर्चा , आगमन-विधि काव्य का रसास्वादन, शिल्पगत सूक्ष्मताओं से परिचय। भाषा की प्रभावोत्पादक अभिव्यक्ति हेतु सक्षमता का प्रतिपादन। जनसंचार माध्यमों कर उपयोगिता का प्रतिपादन।	आदर्श अनुतानमय वाचन एवं स्पष्टीकरण,व्यावहारिक अनुभवों का आदान - प्रदान, जीवन-सापेक्ष अनुभव, काठिन्य-निवारण , मनन-चिंतन , पारस्परिक चर्चा-परिचर्चा , आगमन-विधि, काव्य का रसास्वादन, शिल्पगत सूक्ष्मताओं से परिचय/ 'गद्य-पाठ' हेतु भारतीय खानपान की खूबियाँ दर्शाते हुए चित्रात्मक प्रस्तुति।	'समाज में अखबार की भूमिका' पर टिप्पणी, विभिन्न संत कवियों का कबीर से साम्य।
जुलाई	वे आँखें (पद्य) राजस्थान की रजत	अनौपचारिक-पत्र, कार्यसूची, कार्यवृत्त	पद्य-विधा के अंतर्गत मध्ययुगीन काव्यधारा की कृष्ण-काव्यधारा से संक्षिप्त परिचय, मीरा व उनके आराध्य श्रीकृष्ण के अलौकिक प्रेम से परिचय, व्यावहारिक व्याकरण का ज्ञान।	आदर्श अनुतानमय वाचन एवं स्पष्टीकरण,व्यावहारिक अनुभवों का आदान-प्रदान, जीवन - सापेक्ष अनुभव, काठिन्य -निवारण, मनन-चिंतन	'मीरा तथा समाज' - चर्चा-परिचर्चा,

अक्तूबर	स्पीति में बारिश (गद्य) आलो आँधारि (पूरक–पाठ) ग़ज़ल (पद्य)	आवेदन–पत्र कार्यसूची कार्यवृत्त	गद्य–विधा के अंतर्गत कहानी–विधा तथा आत्मकथा विधा से संक्षिप्त परिचय, ऊँच–नीच और जातिवाद के भेद–भाव को बेनकाब और गरीबों की मजबूरी को भी पूरी गहराई से उजागर करना, पद्य–विधा के अंतर्गत आधुनिक काव्यधारा से संक्षिप्त परिचय, गाँवों से शहरों की ओर पलायन की विडंबना तथा अशिक्षा के कारण नारकीय अवस्था से परिचय, बेबी हालदार के प्रेरणास्पद एवं जुझारू जीवन से परिचय एवं प्रेरणा, व्यावहारिक व्याकरण का ज्ञान।	निर्दिष्ट विधा से परिचय, छात्रों में सामाजिक विधि–निषेधों की जकड़न की अनुभूति का पल्लवन, आधनिक काव्यधारा का ज्ञान,जीवन में शिक्षा के महत्व का प्रतिपादन, सहृदयता की भावना का पल्लवन एवं जुझारू प्रवृत्ति का विकास, व्यावहारिक व्याकरण का पल्लवन	'कहानी का नवीन अंत' – भावाभिव्यक्ति, 'भारतके पूर्वी प्रदेशों की स्त्रियों की विडंबनात्मक स्थिति'– एक विचार
नवंबर	रजनी(गद्य) हे भूख मत मचल,हे मेरे जूही जैसे ईश्वर(पद्य)	जनसंचार–माध्यम प्रतिवेदन प्रेस–विज्ञप्ति परिपत्र	गद्य–विधा के अंतर्गत यात्रा–वृत्तांत विधा से संक्षिप्त परिचय, प्रदेश विशेष के कठिनाईपूर्ण जीवन से परिचय, पद्य–विधा के अंतर्गत आधुनिक काव्यधारा से संक्षिप्त परिचय, शहरी जीवन की वास्तविकता एवं विडंबना से परिचय, व्यावहारिक व्याकरण का ज्ञान।	निर्दिष्ट विधा से परिचय, छात्रों में प्रदेश विशेष के भौगोलिक स्वरूप का पल्लवन, आधुनिक काव्यधारा का संक्षिप्त ज्ञान, शहरों के पल–पल परिवर्तित रूप का भान। व्यावहारिक व्याकरण का पल्लवन / कला–एकीकरण हेतु स्पीति की भौगोलिक विशेषताएँ दर्शाते हुए फाइल–प्रस्तुति।	'समाज और बदलाव' – एक सोच, स्पीति के लोगों और मैदानी भागों में रहने वाले लोगों के जीवन का तुलनात्मक अध्ययन। छात्र अपने किसी पसंदीदा खेल पर आधारित नियमों , खिलाड़ियों के नाम तथा परिचय , शिक्षण-अधिगम,वेशभूषा आदि पर विस्तृत जानकारी देते हुए पी.पी.टी. का निर्माण करेंगे ।
दिसंबर	जामुन का पेड़ (गद्य), सबसे खतरनाक(पद्य)	पत्रकारिता अनौपचारिक–पत्र स्थिति–लेखन	गद्य–विधा के अंतर्गत नाटक (पटकथा) – विधा से संक्षिप्त परिचय, समाज में व्याप्त भ्रष्टाचार के प्रति जागरुकता, गद्य–विधा के अंतर्गत हास्य–व्यंग्य–विधा से संक्षिप्त परिचय, सामाजिक अव्यवस्था एवं सरकारी शिथिलता से परिचय, पद्य–विधा के अंतर्गत आधुनिक काव्यधारा से संक्षिप्त परिचय, सांसारिक बंधनों से मुक्ति एवं इंद्रियनिग्रह की भावना का पल्लवन, व्यावहारिक व्याकरण का ज्ञान।	निर्दिष्ट विधा से परिचय, मानव को गुदगुदाते क्षणों के महत्व के साथ–साथ अपने अधिकारों के प्रति जागरुकता का पल्लवन, व्यावहारिक व्याकरण का पल्लवन। कार्यालयी तौर–तरीकों एवं कर्मचारियों की कार्य–शिथिलता से परिचय, सरल एवं सादगीपूर्ण जीवन की महत्ता का प्रतिपादन, व्यावहारिक	किसी रुचिकर पाठ के अंश को पटकथा में बदलना, जामुन के पेड़ के नीचे दबे आदमी के फाइल बंद होने, मृत्यु के लिए जिम्मेदार किसी एक व्यक्ति का काल्पनिक साक्षात्कार करें।

				व्याकरण का पल्लवन।	
जनवरी	भारत माता (गद्य), आओ, मिलकर बचाएँ (पद्य)	जनसंचार माध्यम, प्रतिवेदन प्रेस-विज्ञप्ति परिपत्र	पद्य-विधा के अंतर्गत आधुनिक काव्यधारा से संक्षिप्त परिचय, समाज में लगातार गिरते मानवीय मूल्यों के प्रति संवेदनशीलता का पल्लवन, गद्य-विधा के अंतर्गत कथा-विधा से संक्षिप्त परिचय, नेहरू जी द्वारा देश की जनता को सर्वोच्च स्थान देने की भावना का पल्लवन एवं प्रेरणा, पद्य-विधा के अंतर्गत आधुनिक काव्यधारा से संक्षिप्त परिचय, आदिवासी संथाली समाज के स्वभाव व रीतियों तथा उसमें हो रहे सतत परिवर्तन से संक्षिप्त परिचय। व्यावहारिक व्याकरण का ज्ञान।	निर्दिष्ट विधा से परिचय, सामाजिक मूल्यों की महत्ता का प्रतिपादन, महापुरुषों के जीवन से प्रेरित होकर संघर्षशील बने रहने की प्रेरणा का पल्लवन, आदिवासियों के उद्धार तथा उनकी जरूरतों के प्रति ज्ञान का पल्लवन, व्यावहारिक व्याकरण का पल्लवन/'पद्य-पाठ' कला के के साथ एकीकरण करते हुए पर्यावरण के विभिन्न उपाय दर्शाता चार्ट	'वर्तमान समय में किसानों की स्थिति किस सीमा तक बदली है?' - एक चर्चा।
फरवरी	पुनरावृत्ति एवं वार्षिक परीक्षा				

पाठ्य-पुस्तक :-

- आरोह भाग-1
- वितान भाग-1

अतिरिक्त पठन-पाठन हेतु :-

- All-in-One, अरिहंत प्रकाशन
- Full Marks, Full Circle Education Pvt. Ltd.

SUBJECT : MATHEMATICS

One Paper
Time : Three Hours

Total Period–240 [35 Minutes Each]
Max Marks: 80

No.	Units	No. of Periods	Marks
I.	Sets and Functions	60	23
II.	Algebra	70	30
III.	Coordinate Geometry	40	10
IV.	Calculus	40	07
V.	Statistics and Probability	30	10
	Total	240	80
	Internal Assessment		20

Question paper pattern

Type of Question	Mark Per Question	Total No. of Question	Total Marks
Very Short Answer(Objective Type)	1	20	20
Short Answer	2	6	12
Long Answer – I	4	6	24
Long Answer – II	6	4	24

MONTH	UNIT/CHAPTER	SUB TOPICS	LEARNING OUTCOME	INNOVATIVE PEDAGOGY/ ART INTEGRATION/ INTERDISCIPLINARY APPROACH	ACTIVITY/ PRACTICAL/ PROJECT

April & May	Ch - 1Sets Ch - 2 Relations & functions Ch - 3 Trigonometric functions	• Definition of sets, Different type of Sets, Various types of presentations, Operations on Sets, Venn-diagram. • Cartesian Products of Sets, Relation, Functions, Various types of functions and their graphs. • To define degree measure and radian measure, Relation between the two, Trigonometric functions with the help of unit circle.	**Students would be able to:–** • Identify a set in roster form and set builder form • Perform operations like union, intersection, complement, etc. of two or more sets • Find the domain and range of relations and function • Graph of algebraic and trigonometric functions. • Apply trigonometric functions of two angles, etc.	**Inductive Methodology** Moving from specific examples to general results, students will be able to connect the various operations on set theory. **Deductive Methodology** It involves general proof Of formulae Graphs of various functions to be made using wires/bamboo sticks/ other eco friendly material to learn about functions &aesthetics.	Activity based on Venn Diagram
July	Ch - 3 Trigonometric functions continued Chap -5 complex number and quadratic equation	T-functions of sum and difference, T- functions of multiples and sub-multiples of angle, Problems based on T-ratios of 18^0, 36^0, 54^0, 72^0, Graphs of T-functions.	• Trigonometric Equations: $\sin\theta=0;\cos\theta=0;$ • $\tan\theta=0$ • Introduction to complex number,algebra of complex number;modulus and conjugate of complex number; argand plane and quadratic equation.	• Use OF EAD Pattern: E- easy A – average D - difficult	Activity based on Argand plane.

August	Ch – 6 Linear Inequations Ch – 7 Permutations & Combinations	• Solutions of linear inequations in one and two variables and their graphical representations, Solution of system of linear inequations in two variables. • Fundamental Principle of Counting, Meaning of P(n,r), C(n,r) and their applications	**Students will be able to:** • Exhibit graphically the solutions set of the given linear inequations. **Students will be able to:** • Differentiate between • Number of possible way of selection and arrangements	Moving from specific examples to general results, students will be able to connect linear inequations with linear equations learnt in class X. Fundamental principle of counting. Meaning and usage of permutations and combinations in daily life.	

				3- Dimensional mathematical illusions to be drawn/prepared digitally to understand the concept of 3- Dimensional Geometry	
September	Ch – 9 Sequence & Series	• Arithmetic Progression, Geometric Progression, their n^{th} term and Sum to n terms.	**Students would be able to:** • Find out the desired term &its sum by identifying the sequence to be AP, GP,	With certain examples students will be able to connect geometric progressions with arithmetic progressions learnt in class X.	
October	Ch – 10 Straight lines	• Slope if a line various forms of equations of a line, General equation, Distance of a point from a line. Distance between two parallel lines.	**Students would be able to:** • Find the slope of a line • Write the equation of a straight line with given parameters.	• Use OF EAD Pattern: E- easy A – average D – difficult MANDALA PAINTING/ DRAWING The word Mandala means circle and circle Mandalas are the most commonly available form of Mandalas. Students to draw/ paint Mandalas	
November	Ch – 11 Conic Sections	• General second degree equation of the circle • Equations of Parabola, Ellipse and Hyperbola. Various parts of these conic section	**Students will be able to:** • Find General second degree equation of the circle • Equations of Parabola, Ellipse and Hyperbola. Various parts of these conic section	Moving from specific examples to general results, students will be able to connect the various operations on conic sections.	Activity based on shapes of conic section
December	Ch – 13 Limits & Derivatives	• Limits of Algebraic and Trigonometric functions. • Derivative of functions by first principle. • Derivative of functions using product rule quotient rule and chain rule.	**Students will be able to:** • Find Limits of Algebraic and Trigonometric functions • Derivative of functions by first principle • Derivative of functions using product rule quotient rule and chain rule	Deductive method It involves general proof of formula. Poster/ Digital Poster to be prepared for **National Mathematics Day** which is celebrated every year on 22 December	

January	Ch – 12 Introduction to 3–D Geometry	• Coordinate axes, Distance formula and Section formula	**Students will be able to:** • Use Distance formula and Section formula	Visualizations Method	Activity based on octant theory.
	Ch – 15 Statistics	• Introduction, Measures of Dispersion • Mean Deviation, Variance and Standard Deviation. • Analysis of frequency distributions with the help of coefficient of variation	**Students will be able to:** • Find Measures of Dispersion ,Mean Deviation, Variance and Standard Deviation	Memorization of formulae **Sports Activity –** Finding the lengths of tracks in the track and field events using Conic Sections.	
	Ch – 16 Probability	• Random Experiments, • Types of Events and evaluation of probability.	**Students will be able to:** • Find probability of various events using formula.	Taking examples from day to day life.	Activity based on pair of dice and playing cards.
February	Revision	Revision	Revision	Revision	Revision

Refresher books

1. Mathematics by RD Sharma Dhanpat Rai publications
2. Mathematics by RS Agarwal S Chand publications

SUBJECT : APPLIED MATHEMATICS

One Paper
Time : Three Hours

Total Period–240 [35 Minutes Each]
Max Marks: 80

No.	Units	No. of Periods	Marks
I.	Sets and Relations	40	13
II.	Algebra	30	30
III.	Coordinate Geometry	40	10
IV.	Calculus	40	07
V.	Statistics and Probability	40	10
VI.	Financial Mathematics	40	10
	Total	240	80

	Internal Assessment	--	20

Question paper pattern

Type of Question	Mark Per Question	Total No. of Question	Total Marks
Very Short Answer(Objective Type)	1	20	20
Short Answer	2	6	12
Long Answer – I	4	6	24
Long Answer – II	6	4	24
Total	--	**36**	**80**

MONTH	UNIT/CHAPTER	SUB TOPICS	LEARNING OUTCOME	INNOVATIVE PEDAGOGY/ ART INTEGRATION/ INTERDISCIPLINARY APPROACH	ACTIVITY/ PRACTICAL/ PROJECT
April & May	Ch - 1Sets Ch - 2 Relations & functions	• Definition of sets, Different type of Sets, Various types of presentations, Operations on Sets, Venn-diagram. • Cartesian Products of Sets, Relation, Functions, Various types of functions and their graphs.	**Students would be able to:–** • Identify a set in roster form and set builder form • Perform operations like union, intersection, complement, etc. of two or more sets • Find the domain and range of relations and function	**Inductive Methodology** Moving from specific examples to general results, students will be able to connect the various operations on set theory. **Deductive Methodology** It involves general proof Of formulae	Activity based on Venn Diagram

	Ch -Mathematical Reasoning	• Statement • Negation • Contrapositive • Compound staements	**Students would be able to:–** • Identify a mathematical statement, find its negation, contrapositive	Graphs of various functions to be made using wires/bamboo sticks/ other eco friendly material to learn about functions &aesthetics.	
July	Chap -5 complex number and quadratic equation	Introduction to complex number, algebra of complex number ; modulus and conjugate of complex number; argand plane and quadratic equation.	**Students will be able to:** • Represent a complex number in the standard form, algebra of complex number; modulus and conjugate of complex number; Representation of a complex number on argand plane and quadratic equation.	• Use OF EAD Pattern: E- easy A – average D - difficult	Activity based on Argand plane.

August	Ch – 6 Linear Inequations Ch – 7 Permutations & Combinations	• Solutions of linear inequations in one and two variables and their graphical representations, Solution of system of linear inequations in two variables. • Fundamental Principle of Counting, Meaning of P(n,r), C(n,r) and their applications	**Students will be able to:** • Exhibit graphically the solutions set of the given linear inequations. **Students will be able to:** • Differentiate between • Number of possible way of selection and arrangements	Moving from specific examples to general results, students will be able to connect linear inequations with linear equations learnt in class X. Fundamental principle of counting. Meaning and usage of permutations and combinations in daily life. 3- Dimensional mathematical illusions to be drawn/prepared digitally to understand the concept of 3- Dimensional Geometry	
September	Ch – 9 Sequence & Series	• Arithmetic Progression, Geometric Progression, their n^{th} term and Sum to n terms.	**Students would be able to:** • Find out the desired term &its sum by identifying the sequence to be AP, GP,	With certain examples students will be able to connect geometric progressions with arithmetic progressions learnt in class X.	

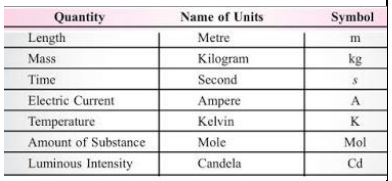
October	Ch – 10 Straight lines	• Slope if a line various forms of equations of a line, General equation, Distance of a point from a line. Distance between two parallel lines.	**Students would be able to:** • Find the slope of a line • Write the equation of a straight line with given parameters.	• Use OF EAD Pattern: E- easy A – average D – difficult MANDALA PAINTING/ DRAWING The word Mandala means circle and circle Mandalas are the most commonly available form of Mandalas. Students to draw/ paint Mandalas	
November	Ch – 11 Conic Sections	• General second degree equation of the circle • Equations of Paraabola	**Students will be able to:** • Find General second degree equation of the circle • Equations of Parabola in standard form	Moving from specific examples to general results, students will be able to connect the various operations on conic sections.	Activity based on shapes of conic section
December	Ch – 13 Limits & Deriva	• Limits of Algebraic and Trigonometric functions. • Derivative of functions by first principle. • Derivative of functions using product rule quotient rule and chain rule.	**Students will be able to:** • Find Limits of Algebraic and Trigonometric functions • Derivative of functions by first principle • Derivative of functions using product rule quotient rule and chain rule	Deductive method It involves general proof of formula. Poster/ Digital Poster to be prepared for **National Mathematics Day** which is celebrated every year on 22 December	
January	Ch – 12 Financial Mathematics	• Simple and compound Interest • Profit and Loss • Banking	**Students will be able to:** • Find SI , CI • Profit and loss for a variety of situations	Visualizations Method	Activity based on octant theory.
	Ch – 15 Statistics	• Introduction, Measures of Dispersion • Mean Deviation, Variance and Standard Deviation. • Analysis of frequency distributions with the help of coefficient of variation	**Students will be able to:** • Find Measures of Dispersion ,Mean Deviation, Variance and Standard Deviation	Memorization of formulae **Sports Activity –** Finding the lengths of tracks in the track and field events using Conic Sections.	

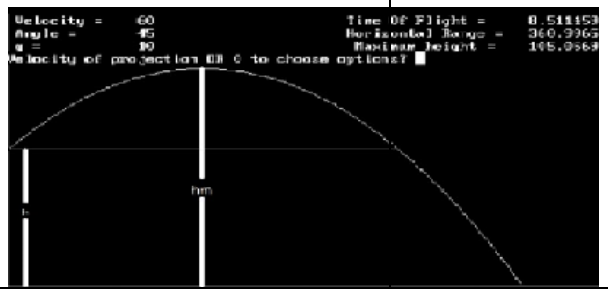
	Ch – 16 Probability	• Random Experiments, • Types of Events and evaluation of probability.	**Students will be able to:** • Find probability of various events using formula.	Taking examples from day to day life.	Activity based on pair of dice and playing cards.
February	Revision	Revision	Revision	Revision	Revision

SUBJECT : PHYSICS

Time: 3 hrs.
Max Marks: 70

		Marks
UNIT- I	**Physical World and Measurement**	**23**
	Chapter–1: Physical World	
	Chapter–2: Units and Measurements	
UNIT-II	**Kinematics**	
	Chapter–3: Motion in a Straight Line	
	Chapter–4: Motion in a Plane	
UNIT-III	**Laws of Motion**	
	Chapter–5: Laws of Motion	
UNIT-IV	**Work, Energy and Power**	**17**
	Chapter–6: Work, Energy and Power	
UNIT-V	**Motion of System of Particles and Rigid Body**	
	Chapter–7: System of Particles and Rotational Motion	
UNIT-VI	**Gravitation**	
	Chapter–8: Gravitation	
UNIT-VII	**Properties of Bulk Matter**	**20**
	Chapter–9: Mechanical Properties of Solids	
	Chapter–10: Mechanical Properties of Fluids	
	Chapter–11: Thermal Properties of Matter	
UNIT-VIII	**Thermodynamics**	
	Chapter–12: Thermodynamics	
UNIT-IX	**Behaviour of Perfect Gases and Kinetic Theory of Gases**	
	Chapter–13: Kinetic Theory	
UNIT - X	**Oscillations and Waves**	**10**
	Chapter–14: Oscillations	
	Chapter–15: Waves	

MONTH	UNIT/ TOPIC	SUB-TOPIC	LEARNING OUTCOMES	INNOVATIVE PEDAGAOGY/ART INTEGRATION/ INTERDISCIPLINARY APPROACH	ACTIVITY/PRACTICALS
April	Unit I : Physical World and Measurement	**Chapter–1: Physical World** Physics-scope and excitement; nature of physical laws; Physics, technology and society. **Chapter-2:Units and Measurement** *Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements;*	To enable the learner to : **Appreciate** the relation of Physics • With respect to another Sciences • With respect to society. • With respect to Technology. 2. **Describe** the significance of the measurement in Science . 3. **Distinguish** between fundamental and derived unit . 4. **Classify** different units as fundamental and derived units . **5. Describe** different methods of measurement of length , mass and time .	**Pedagogy:** • Learning by doing • Interactive instructions • direct instructions **Demonstration** https://youtu.be/uOujGFN8wMA  Quantity / Name of Units / Symbol Length / Metre / m Mass / Kilogram / kg Time / Second / s Electric Current / Ampere / A Temperature / Kelvin / K Amount of Substance / Mole / Mol Luminous Intensity / Candela / Cd	
MAY		**Chapter-2:Units and Measurement** *Accuracy and precision of measuring instruments; errors in measurement; significant figures. Dimensions of physical quantities, dimensional analysis and its applications.*	Learners would be able to 1. **derive** the relationship between different physical quantities using dimensional anaylsis. 2. **Check** the correctness of a given physical relation using dimensional analysis 3. **Figure out** different types of errors while experimenting . 4.**Calculate** percentage and relative errors. 5. **Distinguish** between accuracy and precision. 6. **Find** out significant figures .	Vernier Calliper https://www.youtube.com/watch?v=cGBurmX8suw&t=4s	Experiment-1 : To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.

JUNE	**Unit II : Kinemtics**	**Chapter-3 : Motion in a straight line** Frame of reference, Motion in a straight line: Position-time graph, speed and velocity. Elementary concepts of differentiation and integration for describing motion, uniform and non- uniform motion, average speed and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical treatment). Chapter - Motion in a Plane Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, relative velocity, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors.	Learners would be able to 1. **Describe** concepts of speed , velocity , average speed and average velocity etc. 2. **Derive** kinematic equations using Calculus and graphical method . 3. **Describe** graphical interpretation of dfferent types of motion . 4. **Derive** expression of distance travelled in s_{nth} second . 5. Describe basic terms of vector algebra like unit vector , null vector ,equal vectors etc 6. **Derive** path of projectile motion, its horizontal range , Maximum height etc in case of Projectile Motion . 7. **Formulate** the addition of vectors using Triangular and Parallelogram law of Vector Addition . 8. **Describe** mechanics of Uniform circular motion 9. **Determine** the rectangular components of a vector .	• Learning by doing • Interactive instructions • direct instructions **Demonstration** https://youtu.be/F4OwZ9zvnlY **ART INTEGARTION:** ***"Tell me and I forget, teach me and I may remember, Involve me and I learn"*** **Using art of Graphics, visual graphics of Projectile motion will be shown to students in which they can change the data and penned down their observations and understand the concepts with joy and can create their own simulations using computer programming and enjoy multidisciplinary aspects of education(Physics and computer science in one frame)**  	Experiment-2 : To measure diameter of a given wire and thickness of a given sheet using screw gauge. Experiment – 3 To determine radius of curvature of a given spherical surface by a spherometer. Activity – 1 To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.

JULY	KINEMATICS UNIT – III LAWS OF MOTION	Chapter–4: Motion in a Plane Motion in a plane, cases of uniform velocity and uniform acceleration ,projectile motion, uniform circular motion. Chapter–5: Laws of Motion Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road).	Learners would be able to 1. **Describe** Newton's laws of motion in his/her own's words . 2. **Describe** terms like Force , Inertia , Momentum , law of conservation of linear momentum etc. 3. **Apply** the concepts of laws of motion to real world situations . 4. **Apply** the principles of uniform circular motion to describe the real life problems of Vehicle on level circular road and banked road 5. **Express** and prove law of conservation of linear Momentum . 6. **Extend** the concept of conservation of linear momentum to explain real life problems . 7. **Differentiate** between different types of friction . 8. **Solve** numerical and conceptual problems based on laws of Motion .	**PHYSICS AND COMICS** **" MAY THE FORCE BE WITH YOU "** **With this title students would be asked to design comic strip comprising primarily the concepts of force and laws of motion.** Parallelogram law of vector addition a)https://thefactfactor.com/facts/pure_science/physics/resultant-of-vectors/10496/ b)http://amrita.olabs.edu.in/?sub=1&brch=5&sim=20&cnt=685 c)http://amrita.olabs.edu.in/ Banking of Roads https://www.youtube.com/watch?v=eGZWVwcaq0U Friction http://amrita.olabs.edu.in/?sub=1&brch=5&sim=191&cnt=559	Experiment – 4 To determine the mass of two different objects using a beam balance. Experiment – 5 To find the weight of a given body using parallelogram law of vectors. Activity – 2 To plot a graph for a given set of data, with proper choice of scales and error bars. **SPORTS INTEGATION:** Create an e- book on the concept of "Use of Physics in Sports Activities" 

AUGUST	UNIT – IV	Chapter–6: Work, Engery and Power Work done by a constant force and a variable force; kinetic energy, work energy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic and potential energies); nonconservative forces: motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.	Learner will be able to 1. **Discuss** the basic concepts of Work , Energy and Power . 2.**Classify** different types of work as positive , negative and zero work done . **3. State** and derive Work – Energy Principle . 4.**Derive** expressions of gravitational Potential energy and Elastic Potential energy . 5. **Distinguish** between conservative and non- conservative forces . 6. **Categorize** between different types of collisions as elastic , inelastic etc 7. **Describe** elastic collision in two dimensions. 8. **Solve** numerical and conceptual problems based on the topics studied in the whole Chapter **Chapter – 7 System of Particles and Rotational Motion** To enable the learner to : **Describe** concepts like Centre of Mass , Torque , Angular Momentum, Moment Of Inertia etc . **Distinguish** between centre of mass and centre of gravity .	**ART INTEGARTION ACTIVITY:** **Students would be motivated to design low cost small toys and explain the various phenomenon of Physics describing their activities**  	**Experiment – 6** **Using a simple pendulum, plot its L-T2 graph and use it to find the effective length of second's pendulum.** **Activity -3** **To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.**

	UNIT – V	**Chapter–7: System of Particles and Rotational** Motion of Centre of mass of a two-particle system, momentum conservation and centre of mass motion. Centre of mass of a rigid body; centre of mass of a uniform rod. Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.	**Formulate** the centre of mass of two particle system and generalize it to n- particle system . **Design** an activity to find out the centre of mass of an irregular body **Summarize** the factors on which moment of Inertia depends . **Compare** and contrast the linear and rotational motion . **Illustrate** various real life examples based on law of conservation of Angular Momentum **State** theorem of parallel and perpendicular axis . **State** and prove law of conservation of angular momentum **Solve** numerical and conceptual problems based on the topics studied in the whole Chapter		
SEPTEMBER	Unit VI: Gravitation	*Chapter–8: Gravitation Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential, escape velocity, orbital velocity of a satellite, Geo-stationary satellites.*	*Learners would be able to :* 1. **State** Universal law of Gravitation. 2. **Explore** the dependence of acceleration due to gravity on height, depth and shape of earth. 3. **Distinguish** between escape velocity and orbital velocity . **4. State** Kepler's laws of planetary motion . 5. **Derive** the expressions of gravitational Potential Energy . 6. **Solve** numerical and conceptual problems based on Gravitation .		**Experiment – 7** **To find the force constant of a helical spring by plotting a graph between load and extension.**

OCTOBER	UNIT – VII PROPERTIES OF BULK MATTER	**Chapter–9: Mechanical Properties of Solids** Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity, Poisson's ratio; elastic energy. **Chapter–10: Mechanical Properties of Fluids** Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its applications. Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to	**Chapter–9: Mechanical Properties of Solids** To enable the learner to : 1. **State** Hooke's law 2. **Design** an activity to verify Hook's law. 3. **Define** and describe all Modulus of elasticities . 4. **Derive** the expression of elastic Potential energy 5. **Define** Poisson's ratio 6. **State** and prove , Pascal law , equation of continuity and Bernoull's theorem . 7. **Explain** applications of Pascal's law like working of hydraulic lift and brakes's . 8. **Distinguish** between different types of flow . 9. **Describe** Surface Tension and Energy. **10.Derive** excess of pressure inside a liquid drop , liquid bubble etc. **11.Describe** capillary action and Ascent formula . 12.**Distinguish** between Heat and Temperature .	Video Resources : 1. Barometer : a) https://www.youtube.com/watch?v=EkDhlzA-lwI&t=2s b) https://www.khanacademy.org/test-prep/mcat/physical-processes/gas-phase/v/pressure-and-the-simple-mercury-barometer 2) Bernoulli's Principle https://www.youtube.com/watch?v=UJ3-Zm1wbIQ&t=2s ART INTEGRATION : "Picturing to learn " Create a free hand drawing to explain your classmate the concept of Bernoulli's theorem and its applications .	**Experiment – 8** **To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.** **Experiment – 9** **To determine the surface tension of water by capillary rise method.**

		drops, bubbles and capillary rise.	13. **Explain** different types of thermal expansions of solids , liquids and gases . 14. **Explain** Anomalous expansion of water . 15. **Define** basic terms like specific heat capacity . 16. **State** the principle of calorimetry . 17.**Explain** change of state and latent heat capacity 18. **Describe** different modes of transmission of heat transfer : conduction , convection and radiation. 19. Solve numerical and conceptual problems based on the topics studied in the whole Unit.		
NOVEMBER	UNIT – VII PROPERTIES OF BULK MATTER UNIT – VIII THERMODYNAMICS	**Chapter–11: Thermal Properties of Matter** Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law, Greenhouse effect. **Chapter–12: Thermodynamics** Thermal equilibrium and definition of temperature (zeroth law of thermodynamics), heat, work and internal energy. First law of thermodynamics, isothermal and adiabatic processes. Second law of thermodynamics: reversible	**Chapter–11: Thermal Properties of Matter** Learners would be able to **1. Distinguish** between Heat and Temperature . 2. **Explain** different types of thermal expansions of solids , liquids and gases . 3. **Explain** Anomalous expansion of water . 4. **Define** basic terms like specific heat capacity . 5. **State** the principle of calorimetry . 6.**Explain** change of state and latent heat capacity 7. **Describe** different modes of transmission of heat transfer : conduction , convection and radiation. 8.Solve numerical and conceptual problems based on the topics studied in the whole Unit **Chapter–12: Thermodynamics** To enable the learner to :	**ART INTEGRATED ACTIVITY :** **Capture a physics phenomenon in Photograph** **And provide an explanation in less than 200 words .** Resources : https://www.youtube.com/watch?v=hfeBHx6bD3k&t=2s https://www.youtube.com/watch?v=xUNoA-fh4JM&t=4s https://www.youtube.com/watch?v=be50rl-bsMk	**Experiment : 10** **To study the relationship between the temperature of a hot body and time by plotting a cooling curve.** **Activity – 4** **To observe and explain the effect of heating on a bi-metallic strip.** **Activity – 5** **To observe change of state and plot a cooling curve for molten wax.** .

		and irreversible processes, Heat engine and refrigerator.	1. **State** zeroth , first and second law of thermodynamics . 2. **Elaborate** the two statements of Second Law of thermodynamics . 3. **Classify** different types of thermodynamic processes as isothermal ,adiabatic etc. 4. **Tabulate** the properties of isothermal and adiabatic process . 5. **Picture graphically** different types of Processes . 6. **Deduce** the expressions of work done in an isothermal and adiabatic process . 7.**Distinguish** between reversible and irreversible processes . 8. **Explain** the principle , construction and working of Heat Engine and Refrigerator . 9.**Solve** numerical and conceptual problems based on the topics studied in the whole Chapter.	Using Collab Cad or Tinker CAD design a 3-D model of Refrigerator / Heat Engine .	
DECEMBER	**UNIT – IX Behaviour of Perfect Gases and Kinetic Theory of Gases .** **UNIT – X OSCILLATIONS AND WAVES**	**Chapter–13: Kinetic Theory** Equation of state of a perfect gas, work done in compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number **Chapter–14: Oscillations** Periodic motion - time period, frequency,	**To enable learner to :** 1.. **Write** the postulates of kinetic theory of gases . 2. **State** and prove law of equipartition of energy . 3. **Describe** the concept of mean free path . **Chapter – 14 Oscillations** **To enable the learner to** **Articulate** basic terms like periodic motion , time period , frequency etc. **State** the conditions for an oscillation to be a S.H.M . **Derive** the expressions of Kinetic energy and Potential Energy in SHM.		**Experiment – 11** **To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.** **Experiment – 12** **To study the relation between frequency and length of a given wire under constant tension using sonometer.** **Activity – 6** **To study the effect of detergent on surface tension of water by observing capillary rise.**

		displacement as a function of time, periodic functions. Simple harmonic motion (S.H.M) and its equation; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period. Free, forced and damped oscillations (qualitative ideas only), resonance.	**Distinguish** between free , forced and damped oscillations .		
JANUARY	**UNIT – X OSCILLATIONS AND WAVES**	**Chapter–15: Waves** Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Doppler effect	**Learners would be able to :** • **Distinguish** between different types of waves . • **State** principle of superposition of waves . • **Characterize** the properties of Standing waves • **Discuss** the formation of standing waves in case of strings and organ pipes . • **Describe** the formation of beats . • **Explain** the concept of Doppler's effect • **Solve** numerical and conceptual problems based on the topics studied in the whole Chapter. • **Solve** numerical and conceptual problems based on the topics studied in the whole Chapter.	ART INTEGRATION ACTIVITY Design a musical instrument from recycled material or easily available material at home .  	

Suggested Books :

1. NCERT Textbook Physics
2. New Simplified Physics by S. L Arora Dhanpat Rai and Company
3. Question bank Xam Idea

SUBJECT : CHEMISTRY

CLASS XI CHEMISTRY 2021-22			
UNIT NO.	**TITLE**	**NO. OF PERIODS**	**MARKS**
Unit I	Some Basic Concepts of Chemistry	10	11
Unit II	Structure of Atom	12	
Unit III	Classification of Elements and Periodicity in Properties	06	04
Unit IV	Chemical Bonding and Molecular Structure	14	21
Unit V	States of Matter: Gases and Liquids	9	
Unit VI	Chemical Thermodynamics	14	
Unit VII	Equilibrium	12	
Unit VIII	Redox Reactions	04	16
Unit IX	Hydrogen	04	
Unit X	s -Block Elements	5	
Unit XI	p -Block Elements	9	
Unit XII	Organic Chemistry: Some basic Principles and Techniques	10	18
Unit XIII	Hydrocarbons	10	
Unit XIV	Environmental Chemistry	5	
	Total	119	70

Unit I: Some Basic Concepts of Chemistry (12 Periods)

MONTH	UNIT/ TOPIC	SUB TOPICS	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY/INTER DISCIPLINARY APPROACH	PRACTICALS/ ACTIVITIES
APRIL/ MAY	CH-1 Some Basic Concepts in Chemistry	• Importance and scope of chemistry Nature of matter, • laws of chemical combination, Dalton's atomic theory:concept of elements, atoms and molecules. Atomic and molecular masses. • Mole concept and molar mass; percentage composition,empirical and molecular formula; • chemical reactions, stoichiometry and calculations based on stoichiometry	• laws of chemical combination • Mole concept and molar mass; percentage composition, • empirical and molecular formula; • chemical reactions, • stoichiometry based calculations	Pedagogy-Learning by doing, contextual learning	Basic Laboratory Techniques; Cutting glass tube and glass rod Bending a glass tube Drawing a glass jet Boring a cork
	CH-2 Structure of Atom	➢ Bohr's model and its limitations concept of shells and subshells ➢ dual nature of matter and light, de Broglie's relationship, Heisenberg's uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, ➢ rules for filling electrons in orbitals - Aufbau principle ➢ Pauli exclusion principle, and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.	• Bohr's model and its limitations • de Broglie's relationship • Heisenberg's uncertainty principle • concept of orbitals • quantum numbers, shapes of s, p and d orbitals • rules for filling electrons in orbitals -	Pedagogy-Computational Thinking, Context based learning Preparation of model of Aafbau Principle, Hund rule and stability of half filled and full filled orbitals by using small coloruful thermocol balls /beads and matchsticks, glue,straws etc.	Preparation of pure crystals of copper sulphate & alum from their crude samples. Preparation of solution of different strengths to understand the concept of molarity
JUNE JULY	CH-3 Classification of Elements & Periodicity in Properties	➢ Modern periodic law and the present form of periodic table ➢ periodic trends in properties of elements - atomic radii, ionic radii, Ionization enthalpy and electron gain enthalpy, electro negativity, valence. ➢ Nomenclature of elements with atomic number greater than 100.	• Modern form of periodic table • periodic trends in properties of elements. • Nomenclature of elements with atomic number greater than 100.	Pedagogy - Teaching in conversational mode rather than in the modes of authoritarian monologue.	Conceptual questions and worksheet

	CH-4 Chemical Bonding and Molecular Structure	➢ Valence electrons, Ionic bond, Covalent bond : bond parameters. ➢ Lewis structure, polar character of the covalent bond, covalent character of ionic bond, ➢ valence bond theory ,resonance, geometry of covalent molecules, ➢ VSEPR theory, concept of hybridization, ➢ involving s, p and d orbitals and shapes of some simple molecules molecular orbital; theory of homo nuclear diatomic molecules➢ (qualitative idea only), Hydrogen bond.	• Ionic bond, Covalent bond : bond parameters. polar covalent bond, • covalent character of ionic bond, valence bond theory resonance, • geometry of covalent molecules • VSEPR theory, • concept of hybridization molecular orbital theory • Hydrogen bond.	Conceptual questions, worksheet based on reasoning questions and numerical The hybridization of orbitals (sp3,sp2,sp)can be shown by making Rangoli using different colours . Lobe can be drawn in different colours Similarly the LCAO in MOT can be shown by making charts using different colours or animation using graphics.	Preparation of standard solution of oxalic acid Preparation of standard solution of Sodium bicarbonate
AUGUST	CH-5 States of matter	➢ Three states of matter- Intermolecular interactions, type of bonding, melting and boiling points. ➢ Gas Laws-Boyle's law, Charle's law, Avagadro's law and Gay Lussac law ➢ Ideal gas equation. Kinetic energy and molecular speed (Elementary Idea) ➢ Derivation from ideal behavior,	• Intermolecular interactions, • Role of gas laws in derivation the concept of the molecule, • Boyle's law. Ideal behaviour, • Deviation from ideal behaviour,	Pedagogy – Content attainment approach,Context based learning ,On line assessment and quizzes	Determination of strength of given solution of sodium hydroxide by titrating it against standard solution of oxalic acid
	CH-6 Thermodynamics	➢ Concepts of system, types of systems, surroundings. ➢ Work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics - Internal energy and enthalpy ➢ heat capacity and specific heat, measurement of ΔH and ΔU, Hess's law of constant heat summation ➢ enthalpy of bond dissociation, combustion, formation, atomization, sublimation, ➢ Phase transition, ionization, solution and dilution ➢ second law of thermodynamic Introduction of entropy as a state function, free energy change for equilibrium.	• Concepts of systems & surroundings. • Work, heat, energy, extensive and intensive properties, state functions. • First law of thermodynamics - Internal energy and enthalpy, heat capacity and specific heat • measurement of ΔH and ΔU, Hess law • Introduction of entropy as a state function • free energy change for equilibrium. • Third law of Thermodynamics	Pedagogy- Computational Thinking, Context based learning Numerical, to understand the concepts of Thermo Chemistry, First law of Thermodynamics, Enthalpy and Gibb's Energy etc.	

		➢ Third law of Thermodynamics (Chief description)			
OCTOBER	CH-7 Equilibrium	➢ Equilibrium in physical and chemical processes, dynamic nature of equilibrium law of mass action, equilibrium constant ➢ factors affecting equilibrium-Le Chatelier's principle ➢ ionic equilibrium-ionization of acids and bases, strong and weak electrolytes, ➢ degree of ionization, ionization of polybasic acids, acidic strength concept of pH Henderson Equation ➢ Hydrolysis of salts (elementary idea) Buffer solutions, solubility product. Common ion effect (with illustrative examples).	• Equilibrium in physical and chemical processes, • dynamic nature of equilibrium • law of mass action, equilibrium constant, factors affecting equilibrium-Le Chatelier's principle, • Ionic equilibrium-ionization of acids and bases • strong and weak electrolytes • degree of ionization • concept of pH , Hydrolysis of salts (elementary idea) • Buffer solutions • solubility product • Common ion effect	Pedagogy-Computational Thinking, Context based learning Numerical based on Equilibrium constant, dissociation constant, pH etc.	Determination of strength of given solution of hydrochloric acid by titrating it against standard solution of sodium bi carbonate
NOVEMBER	CH-8 Redox Reaction	Concept of oxidation and reduction, redox reaction, oxidation number, balancing redox reactions in terms of gain or loss of electron and change in oxidation number	• Concept of oxidation and reduction, • redox reaction, oxidation number, balancing redox reactions,	Pedagogy – Content attainment approach, understanding of redox reaction and understanding the concept of balancing, assessment and quizzes	Salt analysis
	CH-9 Hydrogen	➢ Position of hydrogen in periodic table ➢ Occurrence, isotopes, preparation, properties and uses of hydrogen ➢ Hydrides - ionic, covalent and interstitial; physical and chemical properties of water, heavy water; ➢ hydrogen as a fuel	• Position of hydrogen in periodic table, • occurrence, isotopes, preparation, properties and uses of hydrogen, • hydrides water, heavy water;		Salt analysis

DECE-MBER	CH-10 S- Block Elements	➢ General Introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, ➢ diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ironic radii), ➢ trends in chemical reactivity with oxygen, water, hydrogen and halogens,uses.	• Anomalous properties of the first element of each group, • diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ironic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens, uses.	Pedagogy – Crossover learning, Content attainment approach, assessment and quizzes Cooperative learning	Salt analysis
	CH-11 P-Block Elemets	➢ General introduction to p-block elements ➢ Group 13 elements: General introduction, electronic configuration, occurrence, Variation of properties, oxidation states, trends in chemical reactivity, ➢ anomalous properties of first element of the group; Boron-physical and chemical properties, some important compounds: borax, boric acids, boron hydrides. Aluminum: uses, reactions with acids and alkalies. ➢ Group 14 elements : General introduction, electronic configuration, occurrence, Variation of properties, oxidation states, trends in chemical reactivity, ➢ anomalous behavior of first element, Carbon-catenation, allotropic forms, physical and chemical properties, uses of some important compounds: oxides. ➢ Important compounds of silicon and a few uses: silicon tetrachloride, silicones, silicates and zeolites & their uses.	➢ Group 13 & 14 elements : General introduction, anomalous behaviour of first element,	Pedagogy – Content attainment approach,Conceptual clarity,Inquiry and discovery based learning, assessment and quizzes Different minerals can be collected by the students from surroundings and identification of the shapes and colour of these crystals. All mineral (quartz,mica, zeolite) have different type of silicate unis .	Salt Analysis
JANUARY	CH-12 Organic chemistry -Some Basic Principles and Techniques	➢ General introduction, methods of purification, methods of qualitative and quantitative analysis, ➢ classification and IUPAC nomenclature of organic compounds ➢ Electronic displacements in : a covalent bond Inductive effect, electromeric effect, resonance and hyper conjugation. ➢ Homolytic and heterolytic fission of a covalent bond : free. radicals, carbocation and carbanion; electrophiles	➢ General introduction, methods of purification methods of qualitative and quantitative analysis, ➢ classification and IUPAC nomenclature of organic compounds ➢ Electronic displacements in : a covalent bond		Salt Analysis

		and nucleophiles, types of organic reactions.	,Homolytic and heterolytic fission of a covalent bond : free. radicals, carbocation and carbanion; electrophiles and nucleophiles, types of organic reactions.		
	CH-13 Hydrocarbons	➢ Classification of hydrocarbons Alkanes - Nomenclature, Isomerism conformation (chemically) physical properties, chemical reactions ➢ Alkenes - Nomenclature, structure of double bond (ethyne) geometrical isomerism, physical properties, methods of preparation; ➢ Chemical reactions; addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. ➢ Alkynes - Nomenclature, structure of triple bond (ethyne),physical properties, methods of preparation; chemical reactions: acidic character of alkynes, ➢ addition reaction of hydrogen, halogen, hydrogen halides and water. ➢ Introduction, IUPAC Nomenclature, Benzene, resonance, Aromaticity, Chemical Properties; Mechanism of electrophilic substitution ; Nitration, sulphonation, Halogenation, Friedel Craft Reactions, Directive influence of functional group in monosubstituted benzene, Carcinogenicity and toxicity	• Alkanes - Isomerism conformation, physical & chemical properties including free radical, • mechanism of halogenation, combustion and pyrolysis. • Alkenes -structure of double bond (ethene) geometrical isomerism, methods of preparation; physical & chemical properties, addition of reactions (Markovnikov's addition and peroxide effect),. • Alkynes - Nomenclature, structure of triple bond (ethyne), methods of preparation; physical & chemical properties, acidic character of alkynes, addition reactions	Pedagogy-Mechanism of reactions by using audiovisual aids	Salt Analysis
	CH-14 Environmental Chemistry	➢ understand the meaning of environmental chemistry ➢ define atmospheric pollution, list reasons for global warming. green house effect and acid rain; ➢ identify causes for ozone layer depletion and its effects; ➢ give reasons for water pollution and know about international ➢ standards for drinking water; ➢ describe causes of soil pollution;	➢ To understand the type of pollution ➢ Ozone layer depletion ➢ Acid Rain ➢ Green Chemistry	➢ Pedagogy-Learning by doing, contextual learning	

		➢ suggest and adopt strategies for control of environmental pollution; ➢ appreciate the importance of green chemistry in day to day life.			

Sports Integrated Activity_ In competitive sports some athletes use performance enhancing drugs which is unethical. These drugs act on the central nervous system to modulate mental function and behaviour, increasing an individual's sense of excitement and decreasing the sense of fatigue. Students are to find the names of such drugs with chemical name and formula, adverse effect etc.

REFERENCE BOOKS-NCERT CLASS XI (Part-1 &Part-2)
PRADEEP NEW COURSE CHEMISTRY CLASS XI (Vol & Vol II)
COMPREHENSIVE PRACTICAL CHEMISTRY CLASS XI

SUBJECT : BIOLOGY

MARKING SCHEME:
TOTAL MARKS: 70

UNITS	TITLE	MARKS
1	DIVERSITY OF LIVING ORGANISM	15
2	STRUCTURAL ORGANISATION IN ANIMALS & PLANTS	08
3	CELL STRUCTURE AND FUNCTION	15
4	PLANT PHYSIOLOGY	15
5	HUMAN PHYSIOLOGY	17
	TOTAL	**70**

MONTH	TOPICS	SUB-TOPICS	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY	PRACTICALS

April and May	**Diversity Of Living Organism**. 1.The Living World 2. Biological Classification 3. Plant Kingdom 4.Animal Kingdom	1.What is Living, Biodiversity, Three domains of life, Binomial Nomenclature 2. Two Kingdom, Five Kingdom classification, details of Kingdom Monera, Protista and Fungi. 3. Algae and its types, Bryophytes and its types, Gymnosperms - life cycles. 4. Salient points of Phylum Porifera, Platyhelminthes, Cnidaria	To make them comfortable in understanding the concept of using microscope. To help them in developing idea about primitive cell and the advanced organisms evolved. To analyses the types of biodiversity in kingdom Plantae and Animalia and to make a record.	To develop skill to relate evolution and classification. To give technique to learn classification in a simple way To arrange all phylum and division of plant kingdom and Animal kingdom in flow chart which help in making the learning process faster	1. Parts of a compound microscope. 2.**SPECIMENS** of Bacteria, Oscillatoria, S p i r o g y r a , R h i z o p u s , Mushroom, Yeast, Liverwort, Moss, Fern, Pinus, one monocot and one dicot and one lichen. 3. **SPECIMENS** of -Amoeba, Hydra, Liverfluke, Ascaris, Leech, Earthworm, Prawn, Silkworm, Honeybee, Snail, Starfish, Shark, Rohu, Frog, Lizard, Pigeon and Rabbit **ART INTEGRATED ACTIVITY**. Prepare a power point presentation on Biodiversity and Online Intersection class XI Panel Discussion with English and Biology faculty
June and July	**Structural Organisation in Plants and Animals** 5. Morphology of Flowering Plants 7. Structural organization in Animal	5. **FLOWER** Inflorescence, Flower and its parts Aestivation and Placentation 7 **.ANIMAL TISSUES** Epithelial tissue and its types, Connective tissue and its types, Muscular tissue and Nervous tissue.	To develop skill of making diagram of Flowers. Floral Diagram and Floral Formula of Family Solanaceae or Liliaceae To visualize and understand various types of animal tissues and their location structure and function	Dissection of flowers to understand floral description and floral formula. Family: Solanaceae or Liliaceae Demonstration of structure Animal tissues Online. Display of types of tissue with concept mapping . Brain Storming sessions with hands on activities.	4. **FLORAL DISSECTION** Dissection of Flower – Family Solanaceae or Liliaceae Distribution of Stomata **5. PERMANENT SLIDES** Study of tissues, diversity in shapes, sizes of plant and animal cel l s , pal i sade, collenchyma, parenchyma, sclerenchyma, xylem and p h l o e m , S q u a m o u s epithelium, Muscle fibres, Mammalian Blood Smear.

MONTH	TOPICS	SUB-TOPICS	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY	PRACTICALS

August	**Cell Structure and Function** **8. Cell – The Unit of Life** **9. Biomolecules** **10. Cell Cycle and Cell Division**	1. Cell as basic structural and functional unit of life, difference between prokaryote/eukaryote, Cell membrane, and cell organelles like mitochondria, plastids, chloroplast and nucleus 2. Structures of carbohydrates, proteins, fats, nucleic acids 3. Mitosis and meiosis,	To understand cell as basic structural and functional unit of life. To anayle and draw structure and function of different cell organelles. To study different Bio molecules, their structure and function. To comprehend the new terms and process of cell division To understand the steps and phases of Mitosis and Meiosis	Interactive discussion on discovery of cell, osmosis, plasmolysis and comparison between prokaryotic and Eukaryotic cell. Making diagrams of plant cell animal cell with visualization of organelles structure and their function.	1.Study of different phases of mitosis onion root tip, and animal cells (grasshopper). **Art Integrated Activity** Prepare Mitosis and Meiosis Cards Using Beautiful colours and creativity to show crossingover, terminalisation of chaismata, chromosomes moving over spindle fibers . solve it like a jig saw puzzle online in group of 6.
September	**Plant Physiology** **13. Photosynthesis in higher Plants** **14. Respiration in Plants** **15. Plant Growth and Development**	Steps of photosynthesis, Light and dark reaction, Role of chlorophyll, Cyclic and noncyclic photo-phosphorylation, Calvin Cycle, Hatch and Slack Cycle, Photorespiration, Factors. Glycolysis, Fermentation, Aerobic respiration, TCA cycle, ETS and oxidative phosphorylation, and RQ values. Plant growth Regulators	To Comprehend new terms and cycles pertaining to Photosystems I & II To analyse the steps of metabolic enzymes mediated cycles of respiration To understand the role of Auxin, Gibberellin, Cytokinin, Ethlene, ABA in Plant growth and development	Drawing various cycles and discussion about enzyme mediated processes. Case Studies, Hands on Activities Pair and Share with Peer teaching methods Interactive Discussion and Reasoning Questionnaire	1. Separate plant pigments through paper chromatography. 2. To study the rate of respiration in flower buds / leaves / germinating seeds.
October and November	**Human Physiology** **17. Breathing and Exchange of Gases** **18. Body Fluids and Circulation**	Cellular Respiration, Respiratory Organs, Respiratory Volume Disorders Blood and Lymph Cardiac cycle &	To comprehend the mechanism of breathing, Calculate respiratory Quotient. To understand hypertension, CAD, Angina pectoris Cardiac arrest, heart failure.	Drawing various cycles and discussion about enzyme mediated processes. Case Studies, Hands on Activities	To test the presence of Sugar in Urine To test the presence of Albumin in Urine. **Art Integrated Activity** Rhythm and Rap –

	19. Excretory Products and Their Eliimination	regulation of cardiac activity Modes of Excretion, Human excretory system, Kidney function and disorders.	To analyse regulation of kidney function- Renin- angiotensin, Atrial natriuretic factor, ADH.	Pair and share with Peer teaching methods	Students will Prepare a Rap song on Human Systems (Circulatory, Digestive, Respiratory, Nervous etc.)and prepare a video. This activity can be in a Pair or group.
December	**Human Physiology** **20. Locomotion and Movement** **21. Neural Control and Coordination** **22. Chemical Coordination and Integration**	Skeletal muscles, Muscle contraction Nervous system in humans, CNS, PNS & ANS ,nerve impulse. Endocrine Glands hormones and Their functions with disorders.	To understand the Sliding filament theory of muscle contraction in humans To analyse the role of hormones in human body, their importance and feed back mechanism of control	Prepare Mind maps Case Studies Pair and Share with Self assessment methods	**Sports Integrated Activity** Yoga and Muscle Contraction and Relaxation- Spread your mats and perform : Sukhasana, Tadasana, Shashankasana, Padamasana, Naukasana, Vrikshasana.
January and February	**Revision & Annual Exams**	Assignments and Sample Papers.	To revise and Prepare for exams,	One to one problem solving Remedial classes Personal guidance.	

Book: Science and Technology (NCERT)

SUBJECT : ACCOUNTANCY

Units		Periods	Marks
Part A: Financial Accounting-1			
	Unit-1: Theoretical Framework	**25**	**12**
	Unit-2: Accounting Process	**90**	**40**
Part B: Financial Accounting-II			
	Unit-3: Financial Statements of Sole Proprietorship from Complete and Incomplete Records	**40**	**20**
	Unit-4: Computers in Accounting	**05**	**08**
Part C: Project Work		**15**	**20**

MONTH	UNIT/ TOPIC	SUB TOPIC	LEARNING OUTCOMES	PRACTICALS/ ACTIVITIES/INNOVATIVE PEDAGOGY	PROJECT
APRIL	Unit 1: Theoretical Framework	Accounting: Meaning, objectives. Accounting as source of information, internal	Students would be able to	• Class Interaction: Group Discussion- Usage of	Making caricature depicting various accounting terms

	Unit 2:Accounting Process	and external users of accounting information and their needs. Qualitative Characteristics of accounting information- reliability, relevance, understandability and comparability. Basic accounting terms- assets, Liability, Capital, Expense, Income, Expenditure, Revenue, debtors, Creditors , Goods, Cost, Gain, Stock, Purchases, Sales, Loss ,Profit , Voucher, Discount, Transaction, Drawings. **Unit 2: Theory Base of Accounting** **Accounting Principles:** meaning and nature. Accounting Concepts: Entity, Money Measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition, Matching, Accrual, Full Disclosure, Consistency, Conservatism, Materiality. Accounting Standards- Concept, Process of accounting- from recording of business transactions to preparation of trial balance. Bases of Accounting_ Cash Basis, accrual Basis	• Apply different basic accounting terms in different transactions • explain meaning and nature of accounting principles and IFRS • compare bases of accounting- cash basis and accrual basis	Accounting and Accountancy in everyday life. • Practice Assignment : Classification of items into different accounting heads • Theory Base of Accounting- concepts, Principles & Assumptions	
MAY	Accounting equation and Rules of debit and credit	Voucher and Transaction: origin of transaction- Source Documents and vouchers, Preparation of Accounting Vouchers Accounting Equation- Meaning and Analysis of transaction using accounting Equation approach Rules of debit and credit. .	Students would be able to • apply the rules of debit and credit in business transactions • show business transactions in the form of Accounting Equation • appreciate the purpose of source documents of accounts	• Practice Assignment : Accounting Equation – Practical Problems (Textbook) Source Documents & Vouchers Class test : Accounting Equation + Rules of Debit and Credit	Collection of vouchers. Students will be made to fill up the vouchers and post the same to ledger accounts

JULY	Journal , Ledger and Cash book	Recording of transactions: Books of Original entry- journal;	Students would be able to • Post journal entries to Ledger. • record entries in Journal • Prepare a Trial Balance. • prepare different types of cash book	• Practice Assignment : Comprehensive Question (Journal, Ledger, Trial Balance) Class Test: Journal, Ledger and trial Balance.	Design a board game based on journal entries
AUGUST	Subsidiary Books Bank reconciliation Statement	Special purpose books- Purchases book, Purchases return book, Sales book, Sales return book, Cash Book(simple and double column) Ledger: meaning, utility, format, posting from journal to ledger and balancing of accounts Bank Reconciliation Statement: Meaning, Need and preparation	Students would be able to • Prepare other subsidiary books. • prepare Bank Reconciliation Statement	• Textual Illustrations: Bank Reconciliation statement: Reasons for difference between Cash book and Pass Book • Practice Assignment- Bank Reconciliation Statement: Practical Problems(Textbook)	--------

SEPTEMBER &OCTOBER	Bills Of Exchange Depreciation	**Unit 6: Accounting for Bills Of Exchange** Bill Of Exchange: Definition, features, parties, specimen. Important Terms: Term of a bill. Days of grace, date of maturity, Bill at sight, Negotiation, Endorsement, Discounting of a bill, Dishonour of a bill **Unit 5 : Depreciation , Provisions and Reserves** Depreciation: meaning and need for charging depreciation, factors affecting depreciation, methods of charging depreciation - straight line method and reducing balance method, preparation of disposal account. Reserves: Revenue reserve, Capital reserve, general reserve, specific reserve and secret reserve	Students would be able to • Pass Journal entries for Bill Transactions in different cases. • Prepare Asset Accounts to record depreciation by using different methods of calculating depreciation	• Practice Assignment : Bill of Exchange- Different cases – Practical Problems(Textbook) Class Test : Bills of Exchange and Depreciation	Role play of various parties to a bill of exchange and effect of various transactions on these parties Write a Rap song based on the concept of Depreciation and methods of Charging depreciation
NOVEMBER	Financial statements (without adjustments)	**Unit 7: Financial Statements with and without adjustments** Financial Statements: meaning and users. Capital Expenditure and Deferred revenue Expenditure, Trading and Profit and loss account: Gross Profit, Operating Profit and Net Profit. Balance Sheet: need, grouping and marshalling of assets and liabilities. Vertical and Horizontal presentation of financial statements.	Students would be able to • Record depreciation in provision for depreciation Account • Distinguish between provisions and reserves and different types of reserves • Appreciate grouping and marshalling of assets and liabilities • Classify capital and revenue expenditure, capital and revenue receipts prepare Financial Statements of sole proprietorship		

	Financial statements (with adjustments)	Adjustments in preparation of financial statements with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation, loss by fire, bad debt, provision for bad debts, provision for discount on debtors, managers commission. Preparation of Trading and Profit &loss account and Balance sheet of a sole proprietorship	Students would be able to • prepare financial syayements with adjustments • calculate profit from incomplete records	To prepare the final accounts of a proprietor from a case study which will be given to the students	--------
DECEMBER	Rectification of errors	**Unit 4:Trial balance and Rectification of Errors** Trial Balance : Meaning, objectives and Preparation Types of errors: error of omission, commission, principle and compensating errors. Rectification of errors using suspense account	Students would be able to • Classify errors into different types • Rectify errors by rectifying journal entries • Prepare suspense account	Discussion Method + Question Answer Method	Identifying a business unit and finding out various transactions taking place. Make journal, ledger, and trial balance. Prepare final accounts also Quiz based on rectification of errors
JANUARY	Computers in accounting	• Introduction to AIS and computers • Automation of accounting process - meaning	Students would be able to • appreciate automation of accounting process • compare manual and computerized accounting • source of accounting software	Discussion Method + Question Answer Method	--------

Recommended Reference Books:

1. Double entry book keeping by T.S. Grewal
2. Accountancy for class XI by D.K Goel

Note: Buying of the reference book is not compulsory

SUBJECT : ENTREPRENEURSHIP

S.NO	UNIT	MARKS
1	Entrepreneurship, What, Why and How	15
2	An Entrepreneur	
3	Entrepreneurial Journey	20
4	Entrepreneurship as Innovation and Problem Solving	
5	Understanding the Market	15
6	Business Arithmetic	20
7	Resource Mobilisation	
8	Project Work (Practicals)	30

MONTH	CHAPTER	SUB UNIT	ACTIVITY
APRIL	• **Entrepreneurship : Concepts and Functions**	• Entrepreneurship-Concept, Functions, Need and Importance • Myths about Entrepreneurship	Prepare a power point presentation on any entrepreneur of your choice.
MAY	• **Entrepreneurship : Concepts and Functions**	• Pros and Cons of Entrepreneurship • Process of Entrepreneurship	
JULY	• **An Entrepreneur** • **Entrepreneurship Journey**	• Types of Entrepreneurs • Competencies and Characteristics: Ethical Entrepreneurship • Entrepreneurial Values, Attitudes and Motivation • Mindset of an Employee and an Entrepreneur –Difference • Generation of Ideas • Feasibility Study • Opportunity Assessment	**ARTISTIC TALENT & ENTREPRENEURS:** Identify and present the entrepreneurial skills of any musician/writer/artist
AUGUST	• **Entrepreneurship Journey**	• Business Plan Preparation • Execution of Business Plan • Role of Society and Family in the growth of an entrepreneur • Challenges faced by women in Entrepreneurship	PROJECT ON WOMEN ENTREPRENEURS Eg: Biocon (CASE STUDY)
SEPTEMBER	• **Entrepreneurship Innovation and Problem Solving**	• Entrepreneurs- as problem solvers • Innovation and Entrepreneurial Ventures • Social Entrepreneurship –Concept and Importance • The role of technology / social media in creating new forms of firms, organizations, network and cooperative cluster. • Barriers to Entrepreneurship. • Support structure for promoting Entrepreneurship (various government schemes)	Role play on problem solving & leadership qualities in context to M S Dhoni.

OCTOBER	• **Concept of market**	• Market- Traditional and E-commerce – Concept and Role • Types of Business –Manufacturing, Trading and Services • Market Forces: Sellers, consumers and competitors • Expanding Markets: Local to global, Strategies needed • Marketing Mix: Concept and Elements • Pricing and Factors affecting Pricing • Market survey: Concept, Importance and Process.	Develop a logo for a product/Create an ad mad show for your favourite product.
NOVEMBER	• **Business Finance and Arithmetic**	• Simplified Cash Register and Record Keeping • Unit of Sale, Unit Price and Cost-for single product or service • Types of Costs-Start up, Variable and Fixed • Break Even Analysis –for single product or service • Taxes	Presentation on the three components of cost: Start up cost, Variable Cost & Fixed Cost with respect to a
DECEMBER	• **Resource Mobilization**	• Types of Resources-Human, Capital and other Resources • Selection and utilization of human resources and professionals like Accountants, Lawyers, Auditors, Board Members, etc. • Role and Importance of a Mentor	PROJECT ON KNOW THY STATE CRAFT
JANUARY FEBRUARY	• **Resource Mobilization**	• Various sources of Information	

Recommended Reference Books:-

1. Entrepreneurship-Class XI-CBSE India
2. Entrepreneurship-Class XII –CBSE India

SUBJECT : HISTORY

Paper 80
Marks 3 Hours

THEME	UNITS	NO. OF PERIODS	MARKS
	Introduction to World History	3	
Section A: Early Societies		**17**	8
	Introduction	2	
1	Evolution of Man		
2.	Writing and City Life	15	
Section B: Empires		**37**	20
.	Introduction	7	
3.	An empire across three continents	15	
4.	Central Islamic lands	15	
5	Nomadic Empires		
Section C: Changing Traditions		**36**	20
	Introduction	7	
6	Three orders	14	
7	Changing cultural traditions	15	
8	Confrontation of Cultures		
Section D: Paths to Modernization		**52**	28
	Introduction	7	
9	The Industrial Revolution	15	
10	Displacing indigenous People	15	
11	Paths to modernization	15	
	Map work (units 1-11)	**10**	4
	Project Work	**10**	20
	Total	**165 Periods**	**100 marks**

MONTH	UNIT/ TOPIC	LEARNING OBJECTIVES	PRACTICALS/ ACTIVITIES/INNOVATIVE PEDAGOGY	LEARNING OUTCOMES
APRIL	CH-1 : SECTIO EARLY SOCIETIES CH-2 : Writing and City Life	Introduction From the Beginning of Time Early Cities Focus: Iraq, 3rd millennium BCE (a) Growth of towns. (b) Nature of early urban societies. (c) Historians' Debate on uses of writing. Factors leading to rise of cities. Developments Writing and its evolution Occupations Urban and rural life Political, social, economic and cultural aspects.	Art Integration Compare the early man with the modern man PPT/ Videos Observations Quiz Question Answers Sources Case studies Analysis Debate Discussion Trace the legacy of writing. Map work Pictures Observations Analysis	Effort in these senior secondary classes would be to emphasize to students that history is a critical discipline….. a process of enquiry, a way of knowing about the past, rather than just a collection of facts. ➢Familiarize the learner with ways of reconstructing human evolution. Discuss whether the experience of present-dayhunting-gathering people can be used to understand early societies. ➢Familiarize the learner with the nature of early urban Centre's. ➢Discuss whether writing is significant as a marker of civilization. Integration with Economics, Political science, Sociology,English and Art
MAY	CH-3 An Empire across Three Continents	An Empire across Three Continents Focus: Roman Empire, 27 BCE to 600 CE. (a) Political evolution (b) Economic expansion (c) Religio-cultural foundation (d) Late Antiquity. (e) Historians' views on the institution of Slavery	Sports Integration Enlist the sports of Roman Empire and how they have evolved. Documentary on Roman Empire Three Continent Map work Quiz Question Answers Sources Case studies PPT/ Videos Observations Analysis Discussion Art Integration Virtual Tour of Rome	They learnt to appreciate how historians follow the trails that lead to the past, and how historical knowledge develops. Enable students to store/relate/compare developments in different situations, analyze connections between similar processes located in different time periods, and discover the relationship between different methods of enquiry within history and the allied disciplines.
JUNE JULY	CH-4 Central Islamic Lands	Focus: ➢Understand what the crusades meant in these regions and how they were experienced.	Discussion on Teaching of Islam Talks on economy and society PPT/ Videos Observations	The themes helped as to (i) focus on some important developments in different spheres- political, social, cultural and economic,

LY	CH-5 Nomadic Empires	Focus: the Mongol, 13th to 14th century states.➢Familiarize the learner with the military achievements	Analysis Research on Genghis Khan Achievements PPT/ Videos Observations Quiz Question Answers Sources Case studies	Through the study of these themes students will acquire a sense of the wider historical processes as well as an idea of the specific debates around them. Integration with Economics, Political science, Sociology,English and Art
JULY	CH-6 Three Orders CH-7 Changing Cultural Traditions CH-8 Confrontation of Cultures	Three Orders (14) Focus: Western Europe, 13th -16th century (a) Feudal society and economy. (b) Formation of states. (c) Church and Society. (d) Historians' views on decline of feudalism Focus on Europe, 14th to 17th century. (a) New ideas and new trends in literature and arts. (b) Relationship with earlier ideas (c) The contribution of West Asia. (d) Historians' viewpoints on the validity of the notion 'European Renaissance'. ➢Familiarize the learner with the nature of the economy and society of this period and the changes within them. ➢Show how the debate on the decline of feudalism helps in understanding processes of transition. Explore the intellectual trends in the period. ➢ Introduce the debate around the idea of 'Renaissance'	Flowchart Tabular form Mapwork ppt/ videos Observations Analysis Talk & Discussion on Renaissance Debate Research Comparative study Discussion on slavery PPT/ Videos Observations Analysis Quiz Question Answers Sources Case studies Discussion on cultural aspects and diversities	Help to form an (a) an overview of the theme under discussion, (b) a more detailed focus on one region of study, (c) an introduction to a critical debate associated with the issue. Enable students to store/relate/compare developments in different situations, analyze connections between similar processes located in different time periods, and discover the relationship between different methods of enquiry within history and the allied disciplines. Learn to make comparative studies. Respect different cultures and diversities. Integration with Economics, Political science, Sociology,English and Art IT SKILLS AND MORAL VALUES

AUGUST	CH-9 The Industrial Revolution	The Industrial Revolution (15) Focus on England, 18th and 19th century. (a) Innovations and technological change (b) Patterns of growth. (c) Emergence of a working class. (d) Historians' viewpoints, Debate on 'Was there an Industrial Revolution?'➢Understand the nature of growth in the period and its limits. ➢Initiate students to the debate on the idea of industrial revolution.	Debate :merits & demerits Discussion Comparison : India & England ppt/ videos Observations Analysis Quiz Question Answers Sources Case studies	Understanding needs of industrial revolution and its impact till date Integration with Economics, Political science, Sociology,English and Art IT SKILLS AND MORAL VALUES
SEPTEMBER	CH-10 Displacing Indigenous People	Focus on North America and Australia, I8th -20th century. (a) European colonists in North America and Australia. (b) Formation of white settler societies. (c) Displacement and repression of local people. (d) Historians' viewpoints on the impact of European settlement on indigenous population.	Discussion on their problems and challenges. Solutions videos/ppt Observations Analysis Need OF Modernisation Effects Merits and demerits Case studies Quiz Question Answers Sources	➢ Overlapping between themes intends to convey a sense that chronological divides and periodization do not always operate in a neat fashion.
	Ch -11 Paths to Modernization*	Focus Historians' Debate on the meaning of modernization ➢Sensitize students to the processes of displacements that accompanied the development of America and		Learn to compare , analyse and critically give views on different issues.
	ART INTEGRATION	**POSTERS , PROJECTS , MAPWORK, SURVEYS, PPT, BROCHURES , SLOGANS ,ACTIVITIES PICTURES, SOURCES, PAINTINGS, POETRY ,LITERATURE, PPT, VIDEOS ,ACTIVITIES**	Map Art Divide and Conquer Forget-Me-Not Diorama Folk Art Transformation Film Recreations Documentaries Write History Hero History	Integration with Economics, Political science, Sociology,English and Art IT SKILLS AND MORAL VALUES CASE STUDIES AS PER CBSE SAMPLES CLASS XII ,BOOK I WILL BE DONE FOR EFFECTIVE LEARNING ,

			Twisted Timeline	

- Text books : Themes in World History : Themes in Indian History I
- Reference Book : Full marks , Together with (not mandatory)
- Google classroom material : Uploaded Additional Study Materials
- Map Practice as per NCERT / CBSE List

SUBJECT : POLITICAL SCIENCE

Part A: Indian Constitution at Work

UNITS	CONTENTS	MARKS
1	Constitution	12
2	Election and Representation	10
3	The Legislature	
4	The Executive	08
5	The Judiciary	
6	Federalism	10
7	Local Governments	
	Total	40

Part B: Political Theory

UNITS	CONTENTS	MARKS
8	Political Theory: An Introduction	06
9	Liberty	08
10	Equality	
11	Justice	08
12	Rights	
13	Citizenship	10
14	Nationalism	
15	Secularism	08
16	Development	
	Total	40

MONTH	UNIT/ TOPIC	SUB TOPIC \ CONTENT	PRACTICALS/ ACTIVITIES/INNOVATIVE PEDAGOGY	LEARNING OUTCOMES
MAY -JULY APRIL	CH-1 : THE CONSTITUTION WHY AND HOW? ------- CONSTITUTION AS A LIVING DOCUMENT THE PHILOSOPHY OF THE CONSTITUTION : RIGHTS IN THE INDIAN CONSTITUTION POLITICAL THEORY: AN INTRODUCTION EQUALITY	Constitution: Why and How, The making of the Constitution, the Constituent Assembly, Procedural achievements and Philosophy of the Constitution. Constitution as a Living Document Are Constitutions static? The procedure to amend the Constitution. Why have there been so many amendments? Basic Structure and Evolution of the Constitution. Constitution as a Living Document. The importance of Rights, Fundamental Rights in the Indian Constitution, Directive Principles of State Policy, Relationship between Fundamental Rights and and Directive Principles. What is Politics? What do we study in Political Theory? Putting Political Theory to practice. Why should we study Political Theory? Significance of Equality. What is Equality? Various dimensions of Equality. How can we promote Equality?	Discussion on challenges and solutions 1947-2021 Making of the Constitution References present and past Facts: news related Case studies Events : after and before Newsletter Art Integrated Activities • Rights of children • Rights of women Articles on given topics Cartoon analysis and observations Newspaper references as examples recent sources and case studies Debate Discussion Observation Cartoon s Observations	Enable students to understand the historical processes and the circumstances in which the Constitution was drafted. Integration with Economics, History and Art Provide opportunity for students to become familiar with the diverse visions that guided the makers of the Indian Constitution. Enable students to identify certain key features , Philosophies and Principles of the Constitution and compare these to other constitutions in the world. To understand Fundamental Rights , Fundamental Duties and Directive Principles To analyse Politics and issues . Know Equality and how difficult the concepts are from reality. Meaning and definition. Integration with Economics, History , English and Art

-MAY-JULY	CH-3 ELECTION AND REPRESENTATION -------- FREEDOM	Elections and Democracy, Election System in India, Reservation of Constituencies, Free and Fair Elections, Electoral Reforms. The Ideal of Freedom. What is Freedom? Why do we need constraints? Harm principle. Negative and Positive Liberty	Newspaper references as examples recent sources and case studies Discussion Debate, 2014 / 2019 Elections as case study Cartoon Analysis A COMPARATIVE STUDY Art Integration Nelson Mandela Gandhiji Tagore Aung Sui Ki	Develop the skills for logical reasoning and abstraction. Inculcate attention to and respect for viewpoints other than one's own. Introduce students to the different political thinkers in relation to a concept and in everyday social life. Enable students to meaningfully participate in and develop internal concerns of the political life that surrounds them.
JUNE-JULY	CH-4 EXECUTIVE SOCIAL JUSTICE CH-5 LEGISLATURE RIGHTS	What is an Executive? Different Types of Executive. Parliamentary Executive in India, Prime Minister and Council of Ministers. Permanent Executive: Bureaucracy. What is Justice? Just Distribution. Justice as fairness. Pursuing Social Justice. Why do we need a Parliament? Two Houses of Parliament. Functions and Power of the Parliament, Legislative functions, control over Executive. Parliamentary committees. Self regulation.	Pictatorial Research on Parliament & its working NEW PARLIAMENT Integration with Economics and Maths Newspaper references as examples recent sources and case studies Discussion on concepts Cartoon Analysis Debate, 2014 / 2019 Elections as case study videos and PPT /Modules	Develop the skills for logical reasoning and abstraction. Inculcate attention to and respect for viewpoints other than one's own. Introduce students to the different political thinkers in relation to a concept and in everyday social life. Enable students to meaningfully participate in and develop internal concerns of the political life that surrounds them.

		What are Rights? Where do Rights come from? Legal Rights and the State. Kinds of Rights. Rights and Responsibilities		Sports Integration sports person nomination as Rajya Sabha member. Integration with Economics, History, English and Art
AUGUST - SEPTEMBER / OCTOBER	CH-6 JUDICIARY CITIZENSHIP CH-7 FEDERALISM NATIONALISM CH-8 LOCAL GOVT	Why do we need an Independent Judiciary? Structure of the Judiciary, Judicial Activism, Judiciary and Rights, Judiciary and Parliament What is citizenship? Citizen and Nation, Universal Citizenship, Global Citizenship What is Federalism? Federalism in the Indian Constitution, Federalism with a strong Central Government, conflicts in India's federal system, Special Provisions. Nations and Nationalism, National Self-determination, Nationalism and Pluralism Why do we need Local Governments? Growth of Local Government in India, 73rd and 74th Amendments, implementation of 73rd and 74th Amendments.	Discussion on concepts Cartoon Analysis Debate, 2014 / 2019 Elections as case study Latest Updates Modules videos and PPT Discussion on challenges and solutions References present and past Facts: news related Events : after and before Articles on given topics Cartoon analysis and observations PPT and videos Case studies Discussion on challenges and solutions References present and past Facts: news related Events : after and before Articles on given topics Cartoon analysis and observations	Introduce students to the different political thinkers in relation to a concept and in everyday social life. Enable students to meaningfully participate in and develop internal concerns of the political life that surrounds them. Familiarise students with Power Sharing at different levels. Concept of Federalism Union of States Nationalism Sense of Belongingness Sports Integration Yoga Day and sports leads to Nationalism Panchayati Raj system Local Government Need and necessity Secularism Respect to all the religions

	SECULARISM	What is Secularism? What is Secular State? The Western and the Indian approaches to Secularism. Criticisms and Rationale of Indian Secularism.		Moral values Integration with Economics, History and Art….IT
NOVEMBER	PEACE DEVELOPMENT	What is Peace? Can violence ever promote peace? Peace and the State. Different Approaches to the pursuit of peace. Contemporary challenges to peace. What is development? Dominant, development Model and alternative conceptions of development.	Discussion on challenges and solutions Video/ppt on World Peace References present and past Facts: news related Events : after and before Articles on given topics Cartoon analysis and observations	Developed the skills for logical reasoning and abstraction. · Inculcate attention to and respect for viewpoints other than one's own. · Introduce students to the different political thinkers in relation to a concept and in everyday social life. Relation between Peace and Development
	ART INTEGRATION	**POSTERS, CARTOONS, PROJECTS, MAPWORK, SURVEYS, PPT, BROCHURES, SLOGANS, ACTIVITIES**	Map Art Divide and Conquer Forget-Me-Not Diorama Folk Art Transformation Film Recreations Documentaries Write History Hero History Twisted Timeline	**CLASS XII BOOK II WILL BE TAKEN UP FOR SMOOTH AND EFFECTIVE LEARNING IN CLASS XII.** CASE STUDIES AS PER CBSE SAMPLES

- Text books : Indian Constitution at work and Political Theory : Politics in India since Independence, Class XII, Published by NCERT
- Reference Book : Full marks , Together with (not mandatory)
- Google classroom material : Lok Sabha & Rajya Sabha debates.
- NEWSPAPER , NEWS AND ARTICLES RELATED TO NATIONAL AND INTERNATIONAL EVENTS AND ITS IMPACT
- Uploaded Additional Study Materials

SUBJECT : ECONOMICS

Marks Distribution of the CBSE Class 11 Economics Syllabus

Theory : 80 Marks

Duration : 3 Hours

Project : 20 Marks

Units		**Marks**
Part B	**Statistics for Economics**	
	Introduction	**13**
	Collection, Organisation and Presentation of Data	**27**
	Statistical Tools and Interpretation	
		40
Part B	**Introductory Microeconomics**	
	Introduction	**4**
	Consumer's Equilibrium and Demand	**13**
	Producer Behaviour and Supply	**13**
	Forms of Market and Price Determination under perfect competition with simple applications	**10**
		40
Part C	**Project Work**	**20**
	Theory Paper (40+40 = 80 Marks)	

MONTHS	**CHAPTER**	**LEARNING OBJECTIVES**	**ACTIVITY/INNOVATIVE PEDAGOGY**	**LEARNING OUTCOMES**

APRIL	**Statistics for** **Economics** What is Economics Meaning, Scope, Functions and Importance of Statistics Collection of Data **Introductory Micro Economics** Introduction	To enable the students to – ➢ Understand the basic nature of the Subject of Economics. ➢ Understand the meaning, definition, content, scope and nature of statistics. ➢ Understand the nature of data according to source ➢ Analysing the method of primary data collection ➢ Know the meaning of Micro Economics ➢ Know the meaning & types of Central problem. ➢ Know the concept of Opportunity cost	Prediction of the economic future of the country through poster making competition ➢ Assignments- Introduction to microecoomics ➢ Initiating collection of data on the basis of methods learnt . ➢ Smart class Module: What is an economy, statistics and economy ➢ Referring to real datas of NSO	Students would understand the – ➢ Functions and application of statistical tools. ➢ Importance of statistics for various sections of society ➢ Limitations of statistics and cases of mistrust ➢ The nature and methods of collection of data and its application in real life ➢ The Concept of PPC ➢ Characteristics, Shifts and Applications of PPC ➢ Concept of Opportunity Cost and its application ➢ Understand the concept of Opportunity cost and Marginal opportunity cost
MAY	**Statistics for** **Economics** Collection of Data **Introductory** **Microeconomics** Consumer's Equilibrium and Demand	To enable the students – ➢ Analyse the method of Primary data collection ➢ Know about the various methods of random & non random sampling ➢ Advantages and disadvantages of primary and secondary data ➢ Importance of NSSO Explain the Concept of Consumers Equilibrium through cardinal approach -Explain the Law of Diminishing Marginal Utility	➢ Reference to data from Census and NSSO ➢ Project on collection of some data by each student from a primary source and from a secondary source ➢ Students are also encouraged to read newspapers and magazines. Many a days the last 10 minutes of class are spent in discussing any terminology, ideas or views that students may not 6 have understood. Further, newspapers offer opinions on curriculum related topics which can be used as a basis or tool to facilitate discussions on a given topic. Newspaper and magazine articles make very good case studies (discussed later) when they are without any opinions and views.	Students would understand the – ➢ The nature and methods of collection of data and its application in real life ➢ Understand that conditions of consumer equilibrium ➢ Nature of primary data & secondary data Understand the difference between Random and Non random sampling · Nature of sampling Errors

JULY	**Introductory** **Microeconomics** Consumer's Equilibrium and Demand **Statistics for** **Economics** Organisation of Data	To enable the Students to know – ➢ Concept of Indifference Curve Analysis ➢ The concept of budget line and budget constraint ➢ Concept of Consumer's Equilibrium ➢ Elaborate the concept of Elasticity of Demand ➢ Concept of elasticity of demand and use of percentage method. ➢ Know the concepts of Demand and its determinants and Types of goods: Normal and inferior goods. · Differentiate between different types of series Concept of exclusive and inclusive series	➢ **Assignment –** ordinal approach, demand and elasticity of demand. ➢ Role play to show and enact preference of ocnsumers for one product over theother- in regular times and during sale times. ➢ Raw data to be organized into various types of series, group discussion on usage of sampling method ➢ Smart class Module: Indifference Curve analysis, organization of data ➢ **Peer- Teaching and Learning**: Students teaching each other in a variety of ways is another strategy to enhance learning. Some of the ways through which students learn from each other	Students would understand the – ➢ Consumer Equilibrium conditions in case of one good & two good ➢ Understanding the significance of indifference curves ➢ Understanding the reason behind downward demand sloping budget line ➢ The role of budget line and its application in everyday life ➢ Understand the usage concept of Elasticity of Demand in Business ➢ Concept of universe and sample

AUGUST	**Statistics for Economics** Tabular Presentation Diagrammatic and Graphic Presentation Measures of Central Tendency – Arithmetic Mean **Introductory Microeconomics** Produer's Behaviour and Supply	To enable the students to – ➢ Understand the objectives to prepare a table and its application in project reports · Know about parts of a table. ➢ Various ways of presenting the data diagrammatically and with the help of types of bar Diagrams and graphical presentation ➢ Meaning of arithmetic mean and weighted mean, along with their computations. Application of various methods to calculate mean (direct, short cut, step deviation) ➢ Differentiate between stock and supply ➢ State and explain Law of supply and factors affecting supply. ➢ Know the meaning of production function ➢ Importance and concept of Law of Variable Proportion	➢ **Assignments –** tabulation, diagrammatic and graphical presentation Assignments- production function Diagrammatic and graphic presentation of 'The impact of Covid-19 on Tourism, hospitality and Entertainment industry'.	Students would understand the – ➢ Relevance of various types of diagrams and graphs ➢ Understand the meaning & definition of various concepts and key terms in diagrammatic and graphical presentation · Know the meaning of production function ➢ Differentiate between long run and short run ➢ The phases of law of variable proportion with the help of TP & MP ➢ Compiling the situation where law of variable proportion is applied in everyday life. Application of measures of Central Tendency in everyday life. Application of Averages in industry and business

SEPTEMBER	**Statistics for Economics** Measures of Central Tendency – Arithmetic Mean	To enable the students to understand the- ➢ Meaning of arithmetic mean and weighted mean, along with their computations. Application of various methods to calculate mean	➢ **Smart Class Module**- Mean (Exercises) **Project based learning**: I believe that we are all well versed with project work in Economics and its advantages in delivering content. Under the project based learning approach, students are given a real world situation which they analyse and present using their academic knowledge and creativity. Project work takes the central ideas of a topic beyond the academic curriculum.	To enable the students to understand the – ➢ Meaning of arithmetic mean and weighted mean, along with their computations. Application of various methods to calculate mean
OCTOBER	**Statistics for Economics** Measures of Central Tendency – Median and Mode Measures of Dispersion **Introductory** **Microeconomics** Producer's Behvaiour and Supply Costs	To enable the students to understand the – ➢ Application of Mode and Median in different types of situations ➢ Numerical Computation of Median in different types of series ➢ Application of Partitional value ➢ Application of Mode and its computation by Grouping Method and Analysis Table Method ➢ Meaning of dispersion and its measures (both absolute and relative) ➢ Learning the concept of cost in economics producers and differentiating between fixed and variable cost, implicit and explicit cost. Relation between different kind of costs.	➢ **Smart Class Module**: Measures of Central Tendencies (Median and Mode) ➢ **Pair Learning**: This strategy is particularly effective when revision needs to be undertaken before an examination. For instance, in order to revise the different equilibria studied in microeconomics – consumer, producer and market	Students would understand the – ➢ Application of positional averages (Median) in different spheres of life. Apply the concepts of Cost in Everyday Life. Application of Fixed Costs and Variable Costs in everyday life.

NOVEMBER		To enable the students to- ➢ Learn diagrammatic depiction of revenue concepts and the trends in schedules Concept of GST- Goods and Services tax	➢ **Smart Class Module** ➢ **Peer- Teaching and Learning**: Students teaching each other in a variety of ways is another strategy to enhance learning Integrating it with art of exhibiting through Nukkad natak- Its impact.	
DECEMBER	**Introductory** **Microeconomics** Forms of Market	To enable the students to understand the– ➢ Understand the concept of different types of market structure ➢ To compare and contrast the different features of perfect and imperfect market forms ➢ Differentiate between product differentiation and price differentiation ➢ Know about the difference in the revenue curves of perfect competition	➢ **Assignment:** Application based questions on Market Forms ➢ ➢ Discussion on real examples of Various Market Forms	Students would understand the –

JANUARY	**Introductory** **Microeconomics** Price Determination	To enable students to understand ➢ Dynamics of changes in the equilibrium price and quantity Concept of rationing and minimum support price.	The economics behind the great cricket game- The IPL- Identifying and the decision behind choosing the players ,teams , the pricing of the tickets and the number of games per year.. **Assignments** - Price determination and application of Index numbers. ➢ **Smart Class Module**- Market Equilibrium, price control Policies and Index Numbers ➢ **Wall magazine**: Another way of asking children to read and present content is through a wall magazine. Again this task allows students to display their creative skills in displaying the content. It builds team spirit and makes learning enjoyable.	Students would understand the – ➢ Changes in equilibrium price and quantity due to changes in factors affecting demand and supply. ➢ Chain reaction under different situations of dynamics of equilibrium ➢ Application of price ceiling and price flooring by the Government

Reference book – 1. Introductory statistics for economics- Author - T K Jain and VK Ohri- VK publishers
2. Introductory microeconomics - Author- Mr. Sandeep Garg -Dhanpat Rai publications

SUBJECT : HOME SCIENCE

Weightage of contents (Unit wise)

UNITS		MARKS
	Introduction to Home Science	**02**
UNIT – I	Understanding oneself: Adolescence	**20**
UNIT - II	Understanding Family, Community and Society	**15**
UNIT – III	Childhood	**15**
UNIT – IV	Adulthood	**18**
	PRACTICAL	**30**
	TOTAL	**100**

MONTH	UNIT/ CHAPTER	SUB TOPIC	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY/ ART INTEGRATION/ SPORTS/ INTERDICIPLINARY APPROACH	ACTIVITY/ PRACTICAL/PROJECTS
April	Ch- 1 Introduction HEFS Evolution of the disciple **Unit I: Understanding oneself: Adolescence** Ch- 2 Understanding the self	Evolution of the disciple and its relevance to quality of life • 'Who am I'? • Development and Characteristics of the self Influences on identity - Biological and physical changes - Socio-cultural contexts - Emotional changes - Cognitive changes	**Students would be able to-** -Understand the evolution and meaning of Human ecology and Family Science. -Relate and understand the Development and Characteristics of the self -Note the Influences on identity - Biological and physical changes - Socio-cultural contexts - Emotional changes - Cognitive changes	Lecture method - Build a new situation, a new problem and provide a solution. Students will visit one class of preprimary, primary, Sr. secondary each to note the Ht. and Wt. of two children from each class to study the physical differences according to age.	1. Study of physical self with reference to: a) Age, height, weight, hip size, round chest/bust, round waist b) Age at menarche: girls c) Growth of beard, change in voice: boys d) Colour of hair and eyes 2. Understanding oneself with reference to : a) Development norms b) Peers, both male and female c) Health Status d) Garment sizing 6. a) Record own emotions for a day in different contexts b) Reflect on the "why" of these emotions and ways of handling them
May	Ch-3 Food, nutrition, health and fitness Ch-4 Management of resources - Time, Money, Energy and Space-	• Balanced Diet • Food Groups • Diet for Adolescent • Factors influencing eating behaviours, Eating disorders. • Human and Non-human Resources • Managing Resources	**Students would be able to-** -Apply the knowledge of Balanced Diet and importance of Food Groups in their daily life. - Analyse the eating disorders common during adolescents. -Learn and understand the concept of conservation of resources. -Relate the management process with decisions making process.	- Crossover Learning by Visiting a Restaurant or Canteen (to have the exposure of commercially storing of food items) - learning by doing students will prepare their own house budgets with the help of their mother or father Prepare videos in Groups on the topic - Science in Kitchen. Create a you tube channel and upload the videos	3. a) Record own diet for a day b) Evaluate qualitatively for adequacy 5. a) Record one day's activities relating to time use and work b) Prepare a time plan for oneself

July	Ch-5 Fabric around us- Ch 6 Media and Communication Ch- 7 Effective Communication Skills	• Classification • Yarn Processing • Fabric Production • Textile Finishing • Properties of Fibres • Communication and Communication Technology • What is media • What is communication technology Meaning of communication skills Types of communication skills • Thinking • Reading • Writing • Listening • Speaking • Non verbal communication	**Students would be able to-** -Learn the basic properties of the various fibers. -Develop the skill related to care and maintenance of clothes. • Understand What is Communication • Classify communication • How does communication takes place • Classification of communication technologies • Modern communication technologies Understand the meaning of communication skills Apply the knowledge based on various communication skills.	- Context based learning by encouraging students to read associated books available in library. - Theater in Education A short skit will be prepared and shown in the class related to the importance of family and community relationships. Presentation based learning. Students will prepare presentations on the topic assigned and present it in the class.	4. a) Record the fabrics and apparel used in a day b) Categorize them according to functionality 8. Relationship of fibre properties to their usage: a) Thermal property and flammability b) Moisture absorbency and comfort 7. List and discuss 4-5 areas of agreement and disagreement with a) Mother b) Father c) Siblings Friends d) Teacher How would you resolve the disagreements to reach a state of harmony and mutual acceptance?

August	**Unit II: Understating family, community and society** Ch-9 Relationships and interactions with 'significant others'. Ch – 10 Concerns and needs in diverse contexts	• Family • School – peers and educators Community and Society A. Nutrition, Health and Hygiene • Social, Mental and Physical Health • Health Care • Indicators of Health • Factors affecting nutrition well being • Problems and Consequences - Under Nutrition - Malnutrition • Hygiene and Sanitation **C**. Resources availability and management • Time management • Space management	**Students would be able to-** -Understand the importance, types and functioning of family. -More sensitive towards norms of the society. -Apply the knowledge based on Nutrition, Health and Hygiene and explain the Social, Mental and Physical Health of a person. -Relate the Problems and Consequences of Under Nutrition, Hygiene and Sanitation -Utilise the time and energy effectively to maximize output. -maximize utilization of space.	- Theater in Education A short skit will be prepared and shown in the class related to the importance of family and community relationships. – Learning by doing Students will prepare nutritious recipes in the Home science lab. Kitchen Ninjas – Students will cook different dishes garnish and present them aesthetically. Click the pictures and combine them to form a Video presentation.	10. Preparation of different healthy snacks for an adolescent suitable in her/his context.

September / October	**Unit III: Childhood** Ch- 11 Survival, Growth and Development Ch- 12 Nutrition, Health and Wellbeing	• Areas of Growth & development • Stages of Growth & development • Types - Physical, Motor, cognitive, language, socio – emotional • From Birth to 12 months a. Immunization b. Health and Nutrition problems • 1 to 6 years a. Guidelines and planning of balanced meal b. Low cost food c. Feeding children with special needs d. Immunization • 7 to 12 years a. Planning Diets b. Healthy Habits	**Students would be able to-** -State the Areas of Growth & development and Stages, Types of development - Physical, Motor, cognitive, language, socio – emotional. - Apply knowledge related to various childhood Diseases, Immunity, its types and Health and Nutrition problems. - Learn the concept classification, functions and sources of Protein, Carbohydrate, Fats, Vitamins and Minerals.	- Crossover Learning Visit a crèche to improve conceptual understanding. Prepare a research paper in groups , investigating the Discrimination for Girls prevalent in different states of Modern India – Presentation based learning. Students will prepare presentations on the topic assigned and present it in the class.	9. Study one female adult and one male adult in the age range of 35 to 60 years with reference to: a) Health and illness b) Physical activity and time management c) Diet behaviour d) Coping with challenges e) Media availability and preferences
Novem-ber	Ch- 14 Our Apparel **Unit IV: Adulthood** Ch- 15 Health and wellness	• Functions and selection of clothes • Clothing needs of children-Birth to adolescent and for CWSN • Aspects/Parameters of healthy person • Achieving fitness	**Students would be able to-** -Explain the Functions and selection of clothes -Understand Clothing needs of children from Birth to adolescent. - Apply the Parameters of healthy person in their own life and understand the importance of achieving fitness.	– Learning by doing Students will observe and compare children between one to six years of age and between two to five years of age involved in any activity. Then compare their activities in terms of difficulty level. - Crossover Learning. Visit to a leading Fashion Institute to give the exposure to the students about some of the career options related to Home Science. – Use of technology. Videos and PPT related to the chapter will be shown.	
Decemb-er	Ch- 16 Financial management and planning	• Planning • Types of family income • Budget • Money management • Saving and Investment	**Students would be able to-** -Adopt various ways of supplementing family income, Saving and Investment.	- A workshop on Savings and Investment will be organized with the help of Bank officials.	12. Plan a budget for self for a given situation/purpose. List five problems faced by self or family as consumer. Suggest solutions to overcome the same.

	Ch – 17 Care and maintenance of fabrics	• Mending • Laundry • Stain removal • Finishing • Ironing • Dry cleaning • Storage • Fabric care • Care label	- To explain the Principles and methods of Washing and finishing Clothes.	- Workshop by a leading fashion Institute on the topic – Self grooming. Athlete nutrition plan - Students will prepare the Diet Chart for Athletes (Boys /Girls) comprising adequate nutrients.	11. Study of labels on: a) Food b) Drugs and cosmetics c) Fabrics and apparel d) Consumer durables
January	Revision of difficult chapters			-– Students will solve the worksheets having previous paper questions**.** Students will prepare a presentation and present it before X class students on the topic – Why Home Science is still not popular among students	

Text book : Class XI Human Ecology and Family Sciences Part I and Part II, NCERT
Reference books: Home Science (Human Ecology and Family Sciences)Class XI, By Sharda Gupta, New Saraswati House (India) Pvt. Ltd
Note:

- The students are required to bring the ingredients for the cooking classes.
- They should follow all the rules of safety and hygiene and follow the dress code i.e. apron and head cover for girls and laboratory coat and head cover for boys during cooking practical.

SUBJECT : PSYCHOLOGY

Psychology is introduced as an elective subject at the higher secondary stage of school education. As a discipline, psychology specializes in the study of experiences, behaviours, and mental processes of human beings within a socio-cultural historical context. This course purports to introduce the learners to the basic ideas, principles, and methods in Psychology. The emphasis is to create interest and exposure needed by learners to develop their own knowledge base and understanding.

The course deals with psychological knowledge and practices which are contextually rooted. It emphasizes the complexity of behavioural processes and discourages simplistic cause-effect thinking. This is pursued by encouraging critical reasoning, allowing students to appreciate the role of cultural factors in behaviour, and illustrating how biology and experiences shape behaviour.

It is suggested that the teaching - learning processes should involve students in evolving their own understanding, therefore, teaching of Psychology should be based on the use of case studies, narratives, experiential exercises, analysis of common everyday experiences, etc.

Objectives:

- To develop appreciation about human mind and behaviour in the context of learners' immediate society and environment.
- To develop in learners an appreciation of the nature of psychological knowledge and its application to various aspects of life.
- To enable learners to become perceptive, socially aware and self-reflective.
- To facilitate students' quest for personal growth and effectiveness, and to enable them to become responsive and responsible citizens.

One Theory Paper : 3 Hours
Marks: 70

UNITS	TOPICS	PERIODS	WEIGHTAGE IN MARKS
I	What is Psychology?	16	7
II	Methods of Enquiry in Psychology	20	10
III	The Bases of Human Behaviour	20	8
IV	Human Development	16	6
V	Sensory, Attentional and Perceptual Processes	20	8
VI	Learning	22	9
VII	Human Memory	20	8
VIII	Thinking	18	7
IX	Motivation and Emotion	18	7
	Total	**170**	**70**

MONTH	UNIT/ TOPIC	SUB TOPICS	LEARNING OUTCOMES	PRACTICALS/ ACTIVITIES/INNOVATIVE PEDAGOGY	PRACTICALS/ ACTIVITIES/PROJECT
APRIL	CH-1 What is Psychology?	➢ Introduction What is Psychology? ➢ Psychology as a Discipline ➢ Psychology as a Natural Science ➢ Psychology as a Social Science ➢ Understanding Mind and Behaviour ➢ Popular Notions about the Discipline of Psychology ➢ Evolution of Psychology ➢ Development of Psychology in India ➢ Branches of Psychology ➢ Themes of Research and Applications ➢ Psychology and Other Disciplines ➢ Psychologists at Work ➢ Psychology in Everyday Life	Students would be able to – ➢ understand the concept of psychology ➢ To be able to differentiate between mind and behaviour ➢ Will be able to compare, contrast psychology as a discipline, science or a social science ➢ Will be able to critically evaluate ➢ will be able evolution of psychology ➢ Will be able to assess the development of psychology in India ➢ Will be able to enumerate the characteristics of different branches of psychology ➢ Will be able to explain relationship between psychology and other disiplines ➢ To critically evaluate the various themes of research and application ➢ To be able to state the importance of psychology in our everyday life	Project Based Learning –to get clarity about the various schools of psychology and the eminent psychologist ➢ Class assignments ➢ Assignment Booklet	➢ Project on the life and work of eminent psychologist and the various schools of Psychology that they founded. ➢ Assignment Booklet ➢ Class assignments Psychology is full of fascinating figures rife with intriguing stories and anecdotes. Consider such famous individuals as Sigmund Freud, B.F. Skinner, Harry Harlow, or one of the many other eminent psychologists and write a paper about them. Your paper might focus on many different elements of the individual's life, such as their biography, professional history, theories, or influence on psychology
May	CH-2 Methods of Enquiry in Psychology	➢ Goals of Psychological Enquiry ➢ Steps in Conducting Scientific Research ➢ Alternative Paradigms of Research ➢ Nature of Psychological Data ➢ Some Important Methods in Psychology Observational Method Experimental Method Correlational Research Survey Research Psychological Testing Case Study	Students will be able to- ➢ explain the goals of psychological enquiry ➢ To be able to state and describe the steps of conducting a psychological research ➢ To explain the alternative approaches of research ➢ To describe the various types of data ➢ To critically evaluate the various methods conducting psychological research	➢ Project Based Learning –to prepare a project on a psychologically relevant issue using the methods of psychological enquiry ➢ Class assignment ➢ Assignment booklet	➢ Prepare a project on a psychologically relevant issue using the methods of psychological enquiry ➢ Class assignment ➢ Assignment booklet

		➢ Analysis of Data Quantitative Method Qualitative Method ➢ Limitations of Psychological Enquiry ➢ Ethical Issues	➢ Understand and differentiate between different methods of data analysis. ➢ Describe the limitations of psychological research ➢ To state the ethics of conducting a research		
JULY	CH-3 The Bases of Human Behaviours	➢ Evolutionary Perspective ➢ Biological and Cultural Roots ➢ Biological Basis of Behaviour ➢ The Nervous System ➢ The Endocrine System ➢ Heredity: Genes and Behaviour ➢ Cultural Basis of Behaviour ➢ Concept of Culture ➢ Enculturation ➢ Socialisation ➢ Acculturation	Students will be able to: ➢ Explain the concept of evolution and state its features ➢ To evaluate the role of culture and heredity in developing behaviour ➢ To critically evaluate structure of a neuron and its function ➢ To discuss in detail the various parts and functions of nervous system ➢ To analyse the role of culture in shaping behaviour ➢ Enlist the cultural processes and discuss its impact on behaviour ➢ Explain the concept of socialization and significance of various agents of socialization in behaviour ➢ To describe the concept of acculturation and the various starategies	➢ Adaptive teaching- inorder to help the students understand physiological basis of behaviour information is presented in the form of tables and flow charts. Reference is made to diagrams and charts. ➢ Class assignment ➢ Assignment Booklet	➢ Class assignment ➢ Assignment Booklet
JULY/ AUGUST	CH- 4 Human Development	➢ Meaning of Development	Students will be able to: ➢ state the characteristics of development ➢ Differentiate between development, growth. Maturation and evolution	➢ Adaptive teaching- inorder to help the students understand the various developmental stages information is presented in the form of tables and flow charts. ➢ Class assignment	➢ Class assignment ➢ Assignment Booklet

		➢ Life-Span Perspective on Development ➢ Factors Influencing Development ➢ Context of Development ➢ Overview of Developmental Stages	➢ Enlist the factors influencing development Critically examine and analyse the various stages of development	➢ Assignment Booklet	
AUGUST	CH-5 Sensory, Attentional, and Perceptual Processes	➢ Knowing the World Nature and Varieties of Stimulus ➢ Sense Modalities ➢ Attentional Processes ➢ Perceptual Processes Processing Approaches in Perception ➢ Illusions ➢ Socio-Cultural Influences on Perception	Students will be able to: ➢ Understand and state the various types of sense modalities ➢ Describe in detail the structure of eye and the ear ➢ Explain the concept of psychophysics ➢ State the functional limitation of sense organs ➢ To describe the term attention ➢ Differentiate between selective, sustained and divided attention ➢ To critically examine the theories of selective attention ➢ Describe the signs and symptoms of ADHD ➢ Describe the concept of perception and its approaches ➢ To state the principles of perceptual organization ➢ Critically evaluate the concept of depth perception ➢ Describe the various cues responsible for perception of depth and distance ➢ Explain the concept of constancy and state the features of its types ➢ Describe the phenomena of illusion	➢ Cross over learning by linking the various group processes with the daily life of the learner ➢ Learning through argumentation ➢ Class assignments	➢ Practical- To assess the span of attention of an individual based on Millers theory of span of attention ➢ Class assignments ➢ Assignment booklet ➢ The Psychology of Colours- Prepare a Booklet depicting how colours influence our personality, mood/emotions and cultural significance of that colour.

			➢ To describe the types of illusions experienced by humans ➢ Discuss the role of culture and environment in perception.		
SEPTEMBER/ OCTOBER	CH-6 Learning		Students will be able to: ➢ Understand the concept of learning ➢ State the features of learning ➢ To critically examine the process of classical conditioning ➢ State the factors that influence learning through classical conditioning ➢ To critically examine the process of operant conditioning ➢ Identify and list the factors responsible for learning through operant conditioning ➢ Describe observation as an effective means of learning ➢ To enlist the stages of skill development ➢ Explain the various learning styles ➢ Critically evaluate the signs and symptoms learning disabilities ➢ Reflect and describe the role of various learning principles in shaping everyday life behaviour	➢ Cross over learning by linking the various group processes with the daily life of the learner ➢ Learning through argumentation ➢ Class assignments ➢ Assignment booklet	➢ Practical- To assess the effect of meaningfulness of study material on verbal learning ➢ Class assignments ➢ Assignment booklet ➢ Prepare a research paper investigating the effect of music therapy on alleviating learning disorders

AUGUST	CH-5 Sensory, Attentional, and Perceptual Processes	➢ Knowing the World Nature and Varieties of Stimulus ➢ Sense Modalities ➢ Attentional Processes ➢ Perceptual Processes Processing Approaches in Perception ➢ Illusions ➢ Socio-Cultural Influences on Perception	Students will be able to: ➢ Understand and state the various types of sense modalities ➢ Describe in detail the structure of eye and the ear ➢ Explain the concept of psychophysics ➢ State the functional limitation of sense organs ➢ To describe the term attention ➢ Differentiate between selective, sustained and divided attention ➢ To critically examine the theories of selective attention ➢ Describe the signs and symptoms of ADHD ➢ Describe the concept of perception and its approaches ➢ To state the principles of perceptual organization ➢ Critically evaluate the concept of depth perception ➢ Describe the various cues responsible for perception of depth and distance ➢ Explain the concept of constancy and state the features of its types ➢ Describe the phenomena of illusion ➢ To describe the types of illusions experienced by humans ➢ Discuss the role of culture and environment in perception.	➢ Cross over learning by linking the various group processes with the daily life of the learner ➢ Learning through argumentation ➢ Class assignments	➢ Practical- To assess the span o attention of an individual base on Millers theory of span of attention ➢ Class assignments ➢ Assignment booklet ➢ The Psychology of Colours- Prepare a Booklet depicting ho colours influence our personality, mood/emotions ar cultural significance of that colour.

OCTOBER/ NOVEMBER	CH 7- Human Memory		Students will be able to: ➢ State the components of memory ➢ Critically analyze the various stages of information processing model of memory ➢ Describe the levels of processing ➢ Differentiate between the different types of long term memory ➢ Understand the process of organization of information in memory ➢ To discuss whether memory is a reproductive or a constructive process ➢ Critically evaluate the theories related to forgetting ➢ Suggest appropriate strategies to enhance memory	➢ Cross over learning by linking the various group processes with the daily life of the learner ➢ Class assignments ➢ Assignment booklet	➢ Prepare a Power point Presentation on the different types of Memory disorders that are prevalent in different stages of development ➢ Prepare a chart/ Video/presentation consisting information of Yogic exercises that can boost and enhance memory
November	CH 8- Thinking	➢ Nature of Thinking ➢ Building Blocks of Thought ➢ The Processes of Thinking ➢ Problem Solving ➢ Reasoning ➢ Decision-making ➢ Nature and Process of Creative Thinking ➢ Nature of Creative Thinking ➢ Process of Creative Thinking ➢ Developing Creative Thinking ➢ Barriers to Creative Thinking ➢ Strategies for Creative Thinking ➢ Thought and Language ➢ Development of Language and Language Use	Student are able to - ➢ Understand the basis of thinking processes ➢ To delineate the process of problem solving ➢ Identify the barriers in problem solving by giving relevant examples ➢ Describe reasoning and differentiate between its types ➢ Differentiate between judgment and decision making ➢ To evaluate the concept of reasoning and describe its types ➢ Describe the stages of creative thinking ➢ Identify the barriers in creative thinking ➢ Suggest strategies to enhance creative thinking	➢ Cross over learning by linking the various thinking processes used by us in everyday life ➢ Adaptive teaching- inorder to help the students understand the various cognitive processes involved in thinking information is presented in the form of tables and flow charts. charts. ➢ Class Assignment ➢ Assignment booklet	➢ Activities on Critical thinking, problem solving and reasoning ➢ Class assignments ➢ Assignment booklet

			➢ To critically examine the relationship between language and thought ➢ To outline the course of language development and its usage.		
December / January	CH 9- Motivation and Emotion	➢ Nature of Motivation ➢ Types of Motives ➢ Biological Motives ➢ Psychosocial Motives ➢ Maslow's Hierarchy of Needs ➢ Self-Motivation ➢ Nature of Emotions ➢ Physiological Bases of Emotions ➢ Physiology of Emotion ➢ Lie Detection ➢ Cognitive Bases of Emotions ➢ Cultural Bases of Emotions ➢ Expression of Emotions ➢ Culture and Emotional Expression ➢ Culture and Emotional Labeling ➢ Managing Negative Emotions ➢ Post-Traumatic Stress Disorder Management of Examination Anxiety ➢ Enhancing Positive Emotions ➢ Emotional Intelligence	Student are able to - ➢Understand the process of motivation –motivation cycle ➢ To describe the different types of motives ➢ Critically evaluate Maslow's Hierarchy of need ➢ Describe the basic emotions in humans ➢ To describe the role of culture in developing emotions ➢ Differentiate cultural expression of emotions ➢ Suggest relevant strategies to manage negative emotions ➢ Suggest relevant strategies to enhance positive emotions	➢ Cross over learning by linking relevance of Maslow's hierarchy of need in understanding human behavior in psychology as well as in business ➢ Learning through argumentation ➢ Class Assignment ➢ Assignment booklet	➢ Class assignments ➢ Assignment booklet ➢

NCERT Textbook Psychology

SUBJECT : PHYSICAL EDUCATION

- Physical Fitness Test -6 Marks
- Proficiency in Games and sports (Skill of any one game of choice from the given list*) - 7 Marks
- Yogic Practices - 7 Marks
- Record File - 5 Marks
- Viva Voce (Health/Games and sports/Yoga) - 5 Marks

MONTH	TOPICS	SUB-TOPICS	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY	PRACTICALS
April and May	Unit-1. Changing Trends and career in Physical Education Unit-2,Olympic Value Education	Meaning and definition of Physical Education Aims and Objectives of Physical Education Career options in Physical Education Competitions in various Sports at National & International Level Khelo India Program Olympics, Paralympics & Special Olympics Olympic Symbols, Ideals, Objectives and Values of olympics International Olympic Committee · Indian Olympic Association	To make them comfortable in understanding the concepts To help them in developing idea about Khelo India	To develop skills of Khelo India programs. Understanding of facts and making new ideas	Physical Fitness Test:- Two items of AAHPER and maintain its Record File (50 M Standing Start, Sit and Reach)
May and July	Unit-3,Physical Fitness, Wellness and Lifestyle Unit-4,Physical Education and Sports for CWSN (Children with Special Needs-Divyang)	Meaning and Importance of Physical Fitness, Wellness and Lifestyle Components of Physical Fitness and Wellness Components of Health related fitness Aims and Objectives of Adaptive Physical Education Organization Promoting Adaptive Sports (Special Olympics Bharat; Paralympics; Deaflympics) ·Concept of Inclusion, Its need and Implementation Role of various professionals for Children with Special needs (counsellor, Occupational Therapist, Physiotherapist, Physical Education teacher, Speech Therapist and special Educator)	To make them aware about Physical Fitness, wellness and life style To get knowledge about Special Olympics Bharat.	Visualization of health related fitness with diagrams Interactive discussion about role of therapist and counsellor	Record File:-Labelled diagram of 400mtr. Track and field with computation **ART INTEGRATED ACTIVITY** Draw diagram Or paste pictures of Field Equipment and Sports men of any one game of your choice. Prepare a photo album.

August and September	Unit-5,Yoga Unit-6,Physical Activity and Adventure Sports	Meaning and Importance of Yoga, Yoga for concentration and Relaxation Leadership qualities and Role of a Leader Creating Leaders through Physical Education Leadership Training Meaning, Objectives and Types of Adventure Sports (Rock Climbing, trekking, River Rafting, Mountaineering, Surfing and Paragliding) Safety Measures to Prevent Sports Injuries	To visualize and understand different yoga asanas. Learning by Doing Method	Lecture cum demonstration Use of videos and PPT to discuss Adventure Sports	**ART INTEGRATED ACTIVITY** · Computation of BMI from Family or Neighborhood and Graphical presentation of the Data in a placard with heading fight Obesity Record File:-Pictorial Presentation of Any five asanas for improving Concentration
October and November	Unit-7,Test ,Measurement and Evaluation Unit- 8, Fundamentals of Anatomy, physiology and kinesiology in sports	Define Test, Measurement and Evaluation Importance of Test, measurement and Evaluation in Sports Calculation of BMI and Waist-Hip Ratio Somato Types (Endomorphy, Mesomorphy, Ectomorphy) · Measurement of Health related fitness Definition and Importance of Anatomy, Physiology and Kinesiology Function of Skeleton System, Classification of Bones and Types of Joints Properties and Functions of Muscles Function and Structure of Respiratory System and Circulatory System · Equilibrium-Dynamic and Static and Centre of Gravity and its application in Sports	To make understanding about BMI computation To visualize and understand Human Skeleton and Bones	Display of types of Somato types with the help of flow charts . Brain Storming sessions with hands on activities	Practice the Skills of Any one Individual Game of your choice from the Given List ·Record File:-Explanation and List of current national Awardees (Dronacharya Award, Arjuna Award, Rajiv Gandhi Khel Ratna Award)
December and January	Unit9,Psychology and Sports Unit-10,Taining and Doping in Sports	Definition and importance of Psychology in Physical Education and Sports Define and Differentiate between Growth and Development Developmental Characteristics at Different stages of Development Adolescent Problems and their Management	To develop understanding of Growth and Development. To interpret the importance of developmental characteristics	Discussion about Adolescent Problems. Case Studies, Hands on Activities Pair and Share with Peer teaching methods	List of the games :- Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce and Unified Basketball, [CWSN {children with Special Needs} **ART INTEGRATED ACTIVITY**

		Meaning and Concept of sports Training Principles of Sports Training Warming Up and Limbering Down Skill ,Technique and Style. Concept and Classification of Doping. Prohibited Substances and their side Effects. Dealing with Alcohol and Substance abuse	To analyse concept of doping		Panel Discussion on Say No to Drugs and Alcohol! Say Yes to life.
January and February		Revision Annual Examination	Learn and Prepare for exam	Personal attention and Problem solving	

PRACTICAL WORK

List of the games :- Athletics, Archery, Badminton, Boxing, Chess, Judo, Shooting, Skating, Swimming, Taekwondo, Tennis Aerobics, Gymnastics, Rope-Skipping, Yoga, Bocce and Unified Basketball [CWSN {children with Special Needs} Annual Examination

Book: Physical Education (NCERT)
Essentials of Physical Education – Dr Loveleena Nadir & Dr Anil Nadir (Sultan Chand)

SUBJECT : LEGAL STUDIES

S NO	UNITS	MARKS
1.	Theory and nature of Political Institutions	15

2.	Nature and Sources of Law	15
3.	Historical Evolution of Indian Legal System	10
4.	Judiciary: Constitutional, Civil and Criminal Courts and Process	20
5.	Family Justice system	20
6.	Project on Unit 2	20
	TOTAL	**100**

MONTH	UNIT/TOPIC	SUB TOPICS	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY	PROJECT
May-June	Unit 1 – Theory and nature of political institutions	Organs of government- Legislative, Executive and Judiciary Separation of powers Basic features of constitution of India	Students will be able to- ● Gain knowledge about SOP ● Analyse situational questions and learn to apply legal principles	● Conduct a research on different forms of government present in and around the globe ● Interpret and solve hypothetical factual questions by applying facts and principles of real constitutional cases ● Assignment booklet questions discussed.	A student is required to select any 5 decided cases related to the curriculum. Research on the case studies must include the following points- ● Name of the case ● Parties to the case ● Nature of the case- Civil, Criminal or Constitutional. ● Facts of the case and issues involved ● Decision of the case. ● Focus should be on the decision of the case wherein the ratio

					decidendi and Obiter Dicta can be clearly identified and marked • The difference between the two parts must also be highlighted. The project file will be assessed in the following format- **Presentation and preparation of file**- 5 marks **Research work**- 5 marks **Application of the understanding of legal concept**- 5 marks **Viva**- 5 marks
May-June	Unit 2- Nature and Sources of laws	Nature and meaning of law Classification of law- International and Municipal Law Sources of law- Custom, legislation and Judicial Precedent Law reform	• Importance of judicial precedents, legislations and custom as a source of law is memorised Law reforms taken place in pre independent and post independent eras are also studied.	Case solving method used to make the learners to read, interpret and analyse cases and find the difference between Ratio Decidendi and Obiter Dicta	1. To make a video presentation on famous judges of India and giving a brief description of their work 2. Making PPT presentation on Latin terms used in law
July-Aug	Unit 3- Historical Evolution of the Indian legal system	Ancient Indian law Administration of Justice in British India Making of the Indian constitution	Students will be able to- • Understand and learn different kinds of ancient laws prevalent in India. • To know the contributions made by drafting committee in making the Indian constitution.	Research conducted by learners on the methods and techniques used by courts during British era to resolve disputes of Indian nationals. Assignment booklet questions discussed	Students are required to research on the process of Broadcasting, applicability of this act and recent developments.
Sept-Oct	Unit 4- Judiciary: Constitutional, Civil and Criminal courts and process	Constitution: Roles and Impartiality Hierarchy of Courts The Civil Court structure Structure and Functioning of	Students will be able to- • Understand the concepts of FIR, Trial, bail, threefold jurisdiction of Supreme Court and so on. • Study the 3 major parts of a decision- Order, Judgement and Decree	• Diagrammatic presentation of criminal and civil courts structure with their respective powers. • Doctrine of pith and substance, colourable legislation and severability explained through cases • Landmark cases decided by Supreme court are discussed	Create a Law book titled "Learning the Law" explaining the topics related to present day to day scenario or topics related with statutes/acts or case studies. For eg- Stages of Crime, Writs u/a 32 and 226, Triple Talaq, Article 21, Opportunities for students after pursuing law and so on

		Criminal Courts in India Other Courts in India	Interpret hypothetical questions and analyse accordingly	to show its powers and independence U/A 50	
Nov-Dec	Unit 5 – Family Justice System	Introduction to family laws Institutional framework Marriage and Divorce Children Domestic Violence Property, Succession and Inheritance	Students are able to- • Understand the concepts of marriage divorce, inheritance, maintenance, Mehr, etc. w.r.t personal laws of different religions. Role of family courts and the method of conciliation used to resolve matrimonial disputes, PWDVA, CEDAW, Types of Succession are learned.	• Emphasis is done on problem solving method- by giving situational based questions on different topics and making the students to solve by interpreting it. • Amendments to such laws made by the apex court are highlighted • Assignment booklet questions discussed.	Make a PPT presentation on Sports Broadcasting in India by referring to **Sports Broadcasting Signals (Mandatory sharing with Prasar Bharti) Act, 2007.**

INTEGRATION OF LEGAL STUDIES WITH A SUBJECT-

WITH ARTS-

1. **Case Recreations-** Students may recreate a landmark case decided by Apex Court showing its facts and judgment. Since they have to act it out which not only help them to showcase their acting skills but are also required to film it which would be done by using videography, editing and other techniques.

2. **Documentaries-** Short documentaries will be shown to students based on landmark cases. They are required to mimic it or create their own event similar to the facts shown in the documented video in order to make their own video presentations based upon which questions shall be put up to other group of students. It will be more like a team play where one team will prepare documentary and the other will answer questions.

ACTIVITIES INVOLVING MULTIPLE INTELLIGENCIES-

a. Moot Court
b. Group Discussions
c. Debates
d. Extempore

TEXT BOOK - Legal Studies Class XI, CBSE Publication

REFERENCE BOOKS - The Constitution of India Bare Act, Advocates Act, 1961, The Hindu Marriage act 1955, Muslim Law of Marriage Dower Divorce and Maintenance

Book by Kahkashan Danyal

SUBJECT : PAINTING

LEARNING OUTCOMES

A Theory(History of Indian Art)

The objective of including the history of Indian Art for the students is to familiarize them with the various styles and modes of art expressions from different parts of India. This would enrich their vision and enable them to appreciate and develop an aesthetic sensibility to enjoy the beauty of nature and life .The students will also have an opportunity to observe and study the evolution of its mutations and synthesis with other style and the rise of an altogether newstyle. The students should be made aware of art as a human experience. The teachers should be able to expose them to the wide range of artistic impressions , the media and the tools used. The history of Indian art is along one. Hence the students would be acquainted with brief glimpses of the development of Indian visual art as are required for concept formation. Examples included in the course of study are selected because of their aesthetic qualities and are intended purely as guidelines.

B Practical

The purpose of introducing practical exercises in painting is to help and enable the students:

- To develop skill of using drawing and painting material (surface, tools and equipment, etc.) effectively.
- To sharpen their observation skills through study of common objects and various geometrical and non-geometrical forms found in life and nature.
- To develop their skills to draw and paint these observations.
- To develop an understanding of painting-composition (The use of elements and the principles of painting-composition).
- Tocreatetheformsandthecolourschemesinimaginationwithanabilitytoexpressthemeffectivelyindrawingandpainting.
- To express the different feelings and moods of life and nature in lines, forms and colours.

Unit Wise Weightage

Theory

UNIT	UNIT NAME	NO. OF PERIODS	MARKS
1.	History of Indian Art Pre-historicrock paintings and art of Indus Valley	12	10

2.	Buddhist, Jain and Hindu Art	24	10
3.	Temple Sculptures, Bronzes and Artistic of Indo-Islamic architecture	36	10
	Total	**72**	**30**

Practical

UNIT	UNIT NAME	NO. OF PERIODS	MARKS
1.	Nature and Objects Study	50	25
2.	Painting Composition	50	25
3.	Portfolio Assessment	48	20
	Total	**148**	**70**

Portfolio Assessment Method

Introduction: The Art Portfolio will consist of a compilation of all art works, from sketch to finished product. The submission would include both the original and improved versions of assigned tasks reflective of gradual improvement. Step by step development of the work will be assessed in all units.
Components of a Portfolio:

- Schedule of work
- Research Skills
- Resources and materials
- Study of connections with artist's / art movements
- Art making skills
- Personal artist statement

MONTH	UNIT/ TOPIC	SUB -TOPIC	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY/ART INTEGRATION/INTERDICIPLINARY APPROACH	ACTIVITY/PRACTICAL /PROJECTS
APRIL	**THEORY** **UNIT – I** Introduction to Elements and Principles of art Pre-historic Rock Paintings and Art of Indus Valley (2500 B.C. to 1500 B.C.) **PRACTICAL** Still Life study	**Pre-Historic Rock-Paintings** Introduction 1)Period and Location 2)Study and appreciation of following Pre-historic paintings: (i)Wizard's Dance, Bhimbethaka • Foreshortening, • perspective eyes-level • Fixed point of Vanishing point • Ratio-proportion, sketching • Light and shadow	**Students would be able to –** -Comprehend about domains and principles of growth and development. -demonstrate their skill, evidence of process and the exploration of a wide range of subjects. -Display Skills: Aesthetic judgement and organizational skills should be demonstrated in the process of work presented by a student.	➢ **Pedagogy-cross over learning by linking the various group processes with the daily life of the learner.** ➢ **Assignment Booklet** ➢ The student develops the ability to: *Respect, appreciate and demonstrate an open mind towards the artistic expression of others meaning. ➢ **Pedagogy-cross over learning by linking the various group processes with the daily life of the learner.** ➢ **Assignment Booklet** ➢ The students develop the ability to: *Be sensitive towards other's creations. *Be ready to research and transfer his/her learning to his/her own art ➢ **Pedagogy-learning by doing.** ➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a candidate** ➢ **Assignment Booklet**	To make students identify Critical evaluation and aesthetic judgement applied. - To make the student aware about our domains and principles of growth and development of art in India. - To make the students understand and learn about the origin and development of Pre-Historic Rock Paintings and Art of Indus Valley during 2500 B.C. to1500 B.C. - To make them understand about the meaning characteristics and need of growth and development. - To make the student achieve emotional, cognitive, social, cultural maturity.
MAY	**THEORY** **UNIT – I** Paintings and Art of Indus Valley (2500 B.C. to 1500 B.C.)	B. **Paintings and Art of Indus Valley (2500 B.C. to 1500 B.C.)** Introduction Period and Location. (a)Harappa &Mohenjo-daro 2.Study and appreciation of following: Sculptures and Terracottas: (i)Dancing girl (Mohenjo-daro). (ii)Male Torso (Harappa)	**Students would be able to –** Display Skills: Aesthetic judgement and organizational skills should be demonstrated in the process of work presented by a student. -Display Skills: Aesthetic judgement and organizational skills should be demonstrated in the process of work presented by a student.	➢ **Pedagogy-learning through Discussion.** ➢ **Assignment Booklet** ➢ **Pedagogy-learning by doing.** ➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a student.**	-To make the student understand the amalgamation of style, tradition and custom leads to new art form. -To make the students understand and learn about the origin and development of art of Indus Valley Civilization.

	PRACTICAL Still Life study	(iii)Mother Goddess (Mohenjo-daro) • Foreshortening, • Perspective eyes-level • Fixed point of Vanishing point • Ratio-proportion, sketching • Light and shadow			
JUNE	Summer vacation				
JULY	**THEORY** **UNIT – II** **Buddhist, Jain and Hindu Art** (3rd century B.C. to 8th century A.D.) **PRACTICAL** Still Life study	1)General Introduction to Art during Mauryan, Shunga, Kushana (Gandhara and Mathura styles) and Gupta period: 2)Study and appreciation of following Sculptures: i)Lion Capital from Sarnath (Mauryan period) ii) Chauri Bearer from Didar Ganj (Yakshi) (Mauryan period) Iii)Bodhisattva head from Taxila (Kushan period-Gandhara style) iv)Seated Buddha from Katra Mound, Mathura-(Kushan Period-Mathura Style) v)Seated Buddha from Sarnath (Gupta period) vi)Jain Tirathankara (Gupta period) • Foreshortening, • Perspective eyes-level • Fixed point of Vanishing point • Ratio-proportion, sketching • Light and shadow	**It is expected that the students skills**: - will demonstrate evidence of process and the exploration of a wide range of subjects. -will use different range of media and material in order to express them. **-** Possess information and communication technology skills	➢ **Pedagogy-cross over learning by linking the various group processes with the daily life of the learner.** ➢ **Assignment Booklet** ➢ The learner develops the ability to: *Be sensitive towards other's creations. *Be ready to research and transfer his/her learning to his/her own art. The student develops the ability to: • Apply theoretical knowledge in practical contexts • Be resourceful and organize information effectively ➢ **Assignment Booklet** ➢ **Pedagogy-learning by doing.** ➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a student.**	- To make the students understand and learn about the origin and development of Art during Mauryan, Shunga, Kushana (Gandhara and Mathura styles) and Gupta period: - To make the student understand the amalgamation of style, tradition and custom leads to new art form. -To foster creativity and self expression (basic understanding of colour concept and application in relation to colour and texture of the material used by the student). - To make the student achieve emotional, cognitive, social, cultural maturity.
AUGUST	**THEORY** **UNIT - II** **Introduction to Ajanta**	Introduction to Ajanta Location,	**It is expected that the students skills**:	➢ **Pedagogy-context based learning by encouraging students to read associated books available in library.**	- To make the students understand and learn

		period, No. of caves, Chaitya and Vihara, paintings and sculptures, subject matter and technique etc.	- will demonstrate evidence of process and the exploration of a wide range of subjects. -will use different range of media and material in order to express themselves. **-** Possess information and communication technology skills	➢ **Assignment Booklet** ➢ The learner develops the ability to: *Be sensitive towards other's creations. *Be ready to research and transfer his/her learning to his/her own art ➢ **Pedagogy-Learning by Doing.** ➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a student.** ➢ **Assignment Booklet**	about the Ajanta caves painting. -To make the students understand and learn about the followings: •Demonstrate an understanding of basic colour principles, colour mixing and representation. •Employ a variety of traditional and experimental techniques and processes •Use a variety of media and materials
	PRACTICAL **Still Life study**	• Foreshortening, • Perspective eyes-level • Fixed point of Vanishing point • Ratio-proportion, sketching • Light and shadow		➢ The learner develops the ability to: *Be sensitive towards other's creations. *Be ready to research and transfer his/her learning to his/her own art	
SEPTEMBER	**THEORY** **UNIT - II** **Introduction to Ajanta**	Study and appreciation of Following Painting and Sculpture: (i)Padmapani Bodhisattva (ii)Mara Vijay	**It is expected that the student's skills**: - will demonstrate evidence of process and the exploration of a wide range of subjects. -will use different range of media and material in order to express themselves. **-** Possess information and communication technology skills -	➢ **Pedagogy-cross over learning by linking the various group processes with the daily life of the learner.** ➢ **Assignment Booklet** ➢ The learner develops the ability to: *Be sensitive towards other's creations. *Be ready to research and transfer his/her learning to his/her own art. • Discover their potential for creativity, self-expression and visual awareness through painting. • Feel confident with the chosen medium as a means of communicating and generating ideas. • Develop observation, recording, manipulation and application skills. • Experiment with a range of media and techniques. • Understand the basic principles of colour. ➢ **Pedagogy-Learning by Doing.**	-To make the students understand and learn about the followings: •To make the student understand and Appreciate Ajanta art. • Observe, record, analyses, interpret a variety of subjects, including : –the manufactured environment –the natural environment –the human figure • Demonstrate an understanding of basic colour principles, colour mixing and representation. •Employ a variety of traditional and experimental techniques and processes
	PRACTICAL **Landscape (water colour)**	• Fixed point of Vanishing point • Ratio-proportion, sketching Light and shadow • Golden Ratio			

				➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a student.**	•Use a variety of media and materials ••Present evidence of personal enquiry and self-expression
OCTOBER	**<u>THEORY</u>** **UNIT – III Temple Sculpture, Bronzes and artistic aspects of Indo-Islamic Architecture** **<u>PRACTICAL</u>** Landscape (acrylic colour)	Artistic aspects of Indian Temple sculpture (6th Century A.D. to 13th Century A.D.) Introduction to Temple Sculpture (6th Century A.D. to 13th Century A.D)	**Students would be able to –** -Comprehend about domains and principles of growth and development. -demonstrate their skill, evidence of process and the exploration of a wide range of subjects.	➢ **Pedagogy-cross over learning by linking the various group processes with the daily life of the learner.** ➢ **Assignment Booklet** ➢ The students develop the ability to: *Respect, appreciate and demonstrate an open mind towards the artistic expression of others meaning. Discover their potential for creativity, self-expression and visual awareness through painting. • Feel confident with the chosen medium as a means of communicating and generating ideas. • Develop observation, recording, manipulation and application skills. • Be sensitive towards other's creations. ➢ **Pedagogy-learning by doing.** ➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a candidate.**	To make the students understand and learn about the Temple Sculpture during Chola Dynasty. To make the students understand and learn about the followings: •Demonstrate an understanding of basic colour principles, colour mixing and representation. •Employ a variety of traditional and experimental techniques and processes •Use a variety of media and materials •Observe, record, analyses, interpret a variety of subjects, including: –the manufactured environment –the natural environment –the human figure •Present evidence of personal enquiry and self-expression
NOVEMBER	**<u>THEORY</u>** **Temple Sculpture, Bronzes and artistic aspects of Indo-Islamic Architecture**	Study and appreciation of following Temple-Sculptures: (i)Descent of Ganga (Pallava period, Mahabalipuram) (ii)Ravana shaking Mount Kailash (Rashtrakuta period, Ellora)	**It is expected that the students skills:** -will use different range of media and material in order to express themselves. Step by step development of the work will be assessed in all units *Resources and materials	➢ **Pedagogy-Use of technology PPT and Images related to the chapter will be shown.** ➢ **Assignment Booklet** • Appears enthusiastic and willing to study artistic expressions from other cultures or regions of the world that are very different from own. ➢ **Pedagogy-learning by doing.**	To make the students understand and learn about the origin and development of Modern trend of painting in Indian art. - To make students identify Critical

	PRACTICAL Still Life study HUMAN DRAWING	(iii)Trimurti (Elephanta, Maharashtra) (iv)Lakshmi Narayana (KandariyaMahadev Temple) • Foreshortening, • perspective eyes-level • Fixed point of Vanishing point • Ratio-proportion, sketching Light and shadow	*Study of connections with artists/art movements *Art making skills Picture of the final work (reflective skills)	➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a student.** ➢ **Pedagogy-Visit to National Gallery of Modern art to highlight the importance of archive and development of art.** **SPORTS ACTIVITY** **Students will be introduce with Human Drawing and body Structures.** **Students will find the Dynamic in drawing while making sports figures.**	evaluation and aesthetic judgement applied. Students are required to produce evidence that demonstrates a creative approach to problem-solving. Evidence should also include the ability to interpret a given brief and original approaches to produce a solution.
DECEMBER	**THEORY** Temple Sculpture, Bronzes and artistic aspects of Indo-Islamic Architecture **PRACTICAL** Landscape (acryliccolour)	Study and appreciation of following Temple-Sculptures: 1. Cymbal Player, Sun Temple (Ganga Dynasty, Konark, Orissa) 2. Mother and Child (Vimal-Shah Temple, Solanki Dynasty, Dilwara, Mount Abu, Rajasthan) .	**It is expected that the students skills:** -will use different range of media and material in order to express themselves. Step by step development of the work will be assessed in all units *Resources and materials *Study of connections with artists/art movements *Art making skills Picture of the final work (reflective skills)	Pedagogy-cross over learning by linking the various group processes with the daily life of the learner. **Assignment Booklet** The students develop the ability to: *Respect, appreciate and demonstrate an open mind towards the artistic expression of others meaning. Discover their potential for creativity, self-expression and visual awareness through painting. • Feel confident with the chosen medium as a means of communicating and generating ideas. • Develop observation, recording, manipulation and application skills. Be sensitive towards other's creations. *Be ready to research and transfer his/her learning to his/her own art. ➢ **Pedagogy-learning by doing.** Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a candidate.	- To make the student understand the Temple Sculpture, Bronzes -To make the students understand and learn about the followings: •Employ a variety of traditional and experimental techniques and processes •Use a variety of media an Observe, record, analyses, interpret a variety of subjects, including: –the manufactured environment –the natural environment –the human figure •Present evidence of personal enquiry and self-expression.

				SPORTS ACTIVITY **Painting Composition on The Topic –"MY FAVOURITE SPORTS"** **In order to explore their favourite sports through art.**	
JANUARY	**<u>THEORY</u>** Temple Sculpture, Bronzes and artistic aspects of Indo-Islamic Architecture **<u>PRACTICAL</u>** Still Life study	Bronzes: (1) Introduction to Indian Bronzes (2) Method of casting (solid and hollow) (3) Study and appreciation of following south Indian Bronze: (i) Nataraja (ii)Uma	**Students would be able to –** Display Skills: Aesthetic judgement and organizational skills should be demonstrated in the process of work presented by a candidate. **It is expected that the students skills:** -will use different range of media and material in order to express themselves. Step by step development of the work will be assessed in all units *Resources and materials *Study of connections with artists /art movements *Art making skills Picture of the final work (reflective skills)	➢ **Pedagogy-cross over learning by linking the various group processes with the daily life of the learner.** ➢ **Assignment Booklet** ➢ The students develops the ability to: *Respect, appreciate and demonstrate an open mind towards the artistic expression of others meaning. Discover their potential for creativity, self-expression and visual awareness through painting. • Feel confident with the chosen medium as a means of communicating and generating ideas. • Develop observation, recording, manipulation and application skills. • Be sensitive towards • other's creations. *Be ready to research and transfer his/her learning to his/her own art ➢ **Pedagogy-learning by doing.** ➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a candidate.**	- To make the student understand the Temple Sculpture, Bronzes and artistic aspects of Sculpture. -To make the students understand and learn about the followings: •Demonstrate an understanding of basic colour principles, colour mixing and representation. •Employ a variety of traditional and experimental techniques and processes •Use a variety of media and materials •Observe, record, analyses, interpret a variety of subjects, including : –the manufactured environment –the natural environment –the human figure •Present evidence of personal enquiry and self-expression

				SPORTS ACTIVITY **Students will make poster on the topic "FIT INDIA" to spread awareness about sports and fitness.**	
FEBUARY	**<u>THEORY</u>** **UNIT – III** **Temple Sculpture, Bronzes and artistic aspects of Indo-Islamic Architecture** **<u>PRACTICAL</u>** Landscape (acrylic colour)	Artistic aspects of the Indo-Islamic architecture: (1)Introduction (2)Study and appreciation of following architectures: (i)Qutab Minar, Delhi (ii)Taj Mahal, Agra (iii)Gol Gumbad of Bijapur	**Students would be able to –** Display Skills: Aesthetic judgement and organizational skills should be demonstrated in the process of work presented by a candidate. **It is expected that the students skills:** -will use different range of media and material in order to express themselves. Step by step development of the work will be assessed in all units *Resources and materials *Study of connections with artists/art movements *Art making skills Picture of the final work(reflective skills)	➢ **Pedagogy-cross over learning by linking the various group processes with the daily life of the learner.** **Assignment Booklet** The students develop the ability to: *Discover their potential for creativity, self-expression and visual awareness through painting. • Feel confident with the chosen medium as a means of communicating and generating ideas. • Develop observation, recording, manipulation and application skills. Be sensitive towards other's creations. *Be ready to research and transfer his/her learning to his/her own art ➢ **Pedagogy-learning by doing.** ➢ **Sound aesthetic judgment and organizational skills should be demonstrated in the process of presented by a candidate.**	- To make the student understand the Artistic aspects of the Indo-Islamic architecture -To make the students understand and learn about the followings: •Demonstrate an understanding of basic colour principles, colour mixing and representation. •Employ a variety of traditional and experimental techniques and processes •Use a variety of media and materials •Observe, record, analyses, interpret a variety of subjects, including : –the manufactured environment –the natural environment –the human figure •Present evidence of personal enquiry and self-expression

<u>Text Book -</u>History of Indian Art (Full Circle Publication)

Note: Portfolio Assessment Method:

The Art Portfolio will consist of a compilation of all artworks, from sketch to finished product. The submission would include both the original and improved versions of assigned tasks reflective of gradual improvement .Step by step development of the work will be assessed in all units.

SUBJECT : INFORMATICS PRACTICES

Unit No.	Unit Name	Marks
1	Computer Systems and Organisation	05
2	Introduction to Python	25
3	Data Handling using NumPy	15
4	Database concepts and the Structured Query Language	20
5	Introduction to Emerging Trends	05
6	Practicals	30
TOTAL		**100**

Month	Topic	Sub Topic	Learning Outcomes	Innovative Pedagogy/ Art Integration/ Interdisciplinary Approach	Practical
April	**Computer Systems and Organisation**	• Introduction to computers and computing: evolution of computing devices, components of a computer system and their interconnections, Input/ Output devices. • Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns. • Software: purpose and types – system and application software, generic and specific purpose software.	Ability to develop a basic understanding of computer systems - architecture, OS, mobile and cloud computing. Types of Input and Output Devices	Prepare a presentation on Input, Output Devices Types of software.	--

May	**Basics of Python**	• Familiarization with the basics of Python programming: a simple "hello world" program, process of writing a program, running it, and print statements; simple data-types: integer, float, string. • Introduce the notion of a variable, and methods to manipulate it (concept of L-value and Rvalue even if not taught explicitly) • Knowledge of data types and operators: accepting input from the console, assignment statement, expressions, operators and their precedence.	Ability to understand basic computational thinking. Ability to understand the notion of data types, data structures.	Python Coding using IDLE or Google colab. Assignment booklet for practice.	Basic Python Programs based on Input / Output statements and operators.
July	Conditional Statements in Python	• if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers, and divisibility. • Notion of iterative computation and control flow: for, nested for, flowcharts, decision trees and pseudo code; write a lot of programs: interest calculation, primarily testing, and factorials. • Idea of debugging: errors and exceptions; debugging: pdb, break points.	Ability to appreciate the notion of an algorithm, and understand its structure, including how algorithms handle corner cases	Python Coding using IDLE or Google colab. Sample codes to predict output and errors. Assignment booklet for practice	Python programs using Selection / looping constructs
August	Lists, tuples and dictionary	• Finding the maximum, minimum, mean; linear search on list/tuple of numbers, and counting the frequency of elements in a list using a dictionary.	Ability to understand the concept of Lists, Tuples and Dictionary sequence data types.	Python Coding using IDLE or Google colab. Assignment booklet for practice.	Python programs using Lists, Tuples and Dictionaries

		• Introduce the notion of accessing elements in a collection using numbers and names.		Group presentation on ideal/safe settings of Social Media apps	
September	**HALF YEARLY EXAMINATION**				
October	Data Handling using NumPy	• Data and its purpose, importance of data, structured and unstructured data, data processing cycle, basic statistical methods for understanding data - mean, median, mode, standard deviation and variance. • Introduction to NumPy library, NumPy arrays and their advantage, NumPy attributes, creation of NumPy arrays; from lists using np.array(), np.zeros(),np.ones(),np.arange() indexing, slicing, and iteration; concatenating and splitting array; • Arithmetic operations on one dimensional and two dimensional arrays. Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays.	Explain what is 'data' and analyse using NumPy	Python Coding using IDLE / colab Assignment booklet for practice.	Programs / commands to perform data analysis using NumPy module.
November	Database concepts and the Structured Query Language	• Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: concept of attribute, domain, tuple, relation, candidate key, primary key, alternate key, foreign key.	Explain database concepts and Relational Database Management Systems.	SQL commands Assignment booklet for practice. Prepare a SQL database to manage records of your favourite sport.	SQL commands for creating database, table, Altering Table, Removing database / table.

		• Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL: Creating a database, using database, showing tables using MySQL, Data Types : char, varchar, int, float, date			
December	Structured Query Language	• Data Definition Commands: CREATE, DROP, ALTER (Add and Remove primary key, attribute). • Data Query Commands: SELECT-FROM- WHERE, LIKE, BETWEEN, IN, ORDER BY, using arithmetic, logical, relational operators and NULL values in queries, Distinct clause Data Manipulation Commands: INSERT, UPDATE, DELETE.	Retrieve and manipulate data in RDBMS using Structured Query Language.	SQL commands Assignment booklet for practice.	SQL commands to insert records / edit records / viewing records / removing records.
January	Introduction to the Emerging Trends	• Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.	Identify the Emerging trends in the fields of Information Technology.	Create PPT on AI & its domains,	--
February	**ANNUAL EXAMINATION**				

TEXT BOOK : Informatics Practices with Python by Preeti Arora (Publisher : Sultan Chand)

REFERENCE BOOK : Question Bank and Sample paper by Rachna Sagar, IP with Python NCERT

SUBJECT : ENGINEERING GRAPHICS

1. Weightage of Contents (Unit Wise) :

UNIT	TOPIC	MARKS
I	**Plane Geometry** 1. Lines, angles and rectilinear figures 2. Circles, inscribing and circumscribing of circles	**10**
II	**Solid Geometry** 3. Orthographic projection of Points and Lines. 4. Orthographic projection of regular plane figures. 5. Orthographic projection of right regular solids. **6.** Section of solids **7.** Development	**30**
III	**Machine Drawing** 8. Orthographic projection of simple machine blocks 9. Isometric projection of plane figures (laminae).	**30**
	Practical	**30**
	Total Marks	**100**

MONTH	CHAPTER	SUB TOPICS	LEARNING OUTCOMES	ACTIVITY/INNOVATIVE PEDAGOGY/ART INTEGRATION/INTERDISCIPLINARY APPROACH
April	Ch.-1	Lines, Angles, Letters, Dimensioning, & Rectilinear Figures	Students will be able to learn the usage of different lines, angles and ratio to construct rectilinear figures with exact dimensions	Field Layout of various indoor and outdoor games

April	Ch.-2	Circles, Semicircles & Tangents	Students will be able to utilise circles, semi circle and tangent to create circular shapes for machine designing.	Drawing ellipse by Trammel and thread method
April, May, July, August, Septembe r	Ch.-3	Orthographic Projection(Point, Line, Plane, Solid)	Students will be able to analyse and understand how to convert 3D drawing to 2D drawings. This will help in improving their imagination skills.	Preparing Top view of a class room, home : drawing room/bedroom/ study room/ EG room with different objects therein
October	Ch.-4	Section of Solids	Students will be able to visualise the sectional views of machine parts cut in different shapes.	Preparing the section of solids (prisms, pyramids Etc.) with clay, soap, thermocol.
November	Ch.-5	Orthographic Projection of simple Machine Blocks, Development	Students will be able to imagine the formation of different 2D views from the single 3D view and vice versa	Developing different types of packaging boxes
December , January	Ch.-6	Isometric Projection	Students will be able to analyse and understand how to convert 2D drawing to 3D drawings. This will help in improving their imagination skills.	

Reference book : Engineering Graphics by Jasbir Singh (Full Mark Publication)

SUBJECT : ARTIFICIAL INTELLIGENCE

Total Marks: 100 (Theory - 50 + Practical - 50)

	UNITS	HOURS (Theory + Practical)	MAX. MARKS (Theory + Practical)
Part A	**Employability Skills**		
	Unit 1 : Communication Skills-III	10	10
	Unit 2 : Self-Management Skills-III	10	
	Unit 3 : ICTSkills-III	10	
	Unit 4 : Entrepreneurial Skills-III	15	
	Unit 5 : Green Skills-III	05	
	Total	**50**	**10**

Part B	**Subject Specific Skills**		
	Unit1: Introduction To AI	30	40
	Unit 2: *AI Applications & Methodologies**	30	
	Unit 3: Maths For AI	10	
	Unit 4: AI Values (Ethical Decision Making)	5	
	Unit 5: *Introduction To Storytelling**	20	
	Unit 6: *Critical & Creative Thinking**	5	
	Unit 7: *Data Analysis (Computational Thinking)**	30	
	Unit 8: Regression	30	
	Unit 9: Classification & Clustering	20	
	Unit 10: *AI Values (Bias Awareness)**	30	
	***Unit 2, 5, 6, 7 & 10 are to be Assessed through Practicals Only**		
	Total	**210**	**40**
Part C	**Practical Work –** • *Unit 2: AI Applications & Methodologies* • *Unit 5: Introduction To Storytelling* • *Unit 6: Critical & Creative Thinking* • *Unit 7: Data Analysis (Computational Thinking)* • *Unit 10: AI Values (Bias Awareness)*		
	Practical Examination		40
	Viva-Voce		
	Total		**40**
Part D	**Project Work/Field Visit**		
	Project/Ideation+ presentation		10
	Viva-Voce		
	Total		**10**
	GRAND TOTAL	**260**	**100**

MONTH	UNIT/ CHAPTER	SUB TOPIC	LEARNING OUTCOMES	INNOVATIVE PEDAGOGY/ ART INTEGRATION/ INTERDICIPLINARY APPROACH	ACTIVITY/ PRACTICAL/PROJECTS
April & May	**Unit 1: Introduction (knowledge)**	• Introduction-AI for everyone • What is AI? ○ Kids can AI • History of AI • What is Machine Learning • Difference between conventional programming and machine learning ○ How is Machine learning related to AI? • What is data? ○ Structured ○ Unstructured ○ Examples of unstructured data- text, images • Terminology and Related Concepts Intro to AI ○ Machine learning ○ Supervised learning (examples) ○ Unsupervised learning (examples) ○ Deep learning ○ Reinforcement learning ○ Machine Learning Techniques and Training ○ Neural Networks • What machine learning can and cannot do • More examples of what machine learning can and cannot do • Jobs in AI • Python – Basics • Communication Skills Art Integrated Activity A school has to select students for their	**Knowledge** – Define AI and ML **Comprehension** – What are the AI products/applications in society and how are they different from non-AI products/applications? **Evaluation** – What kind of jobs may appear in the future?	Pixel Activity Teachable Machine- Based on Data AI for Oceans	1. WAP to calculate factorial of a number 2. WAP to check whether the number is even or odd. 3. WAP to print table 4. WAP to check whether the number is prime or not 5. WAP to calculate the % of marks.

		upcoming sports meet. The school principal forms a group of three teachers (a selection jury) and entrusts them with the responsibility of selection of students based on the following criteria: • Students' Marks (in Grade X) • Students' Gender • Students' Age • Students' Emotional stability The school has a history of fair selection procedure and therefore only talented and bonafide students are able to secure a place in the sports team. In order to continue the same standard and selection procedure, the principal decides to share (with the jury) data of about 50 previous students' (who were selected) cases to study. The principal feels this will give the jury an opportunity to practice, which will eventually help them make a fair selection.			
July	Unit-2	Advance Python Self Assessment Skills	Programming Skills	Edge Detection Activity Neural Network- Sports Integrated	Activity- Semantris 1. Rohan went shopping for the various essential for his house. To help him maintain his essential better and the cost he incurred at those items, create a numpy array with the cost incurred on the items. The list with the incurred prices are as follows: *price = [100, 450, 33, 280, 135, 157, 680]*

					Perform the following task on the list mentioned above: 1) Convert the list into a numpy array and print the same 2) Sort the array into ascending order 3) multiply each element by 2 4) Create a new array where Decrease the price of objects by 10% which are at odd positions and display it.
	Unit 2: AI Applications and Methodologies (Introduction) (Knowledge)	Present day AI and Applications • Key Fields of Application in AI ○ Chatbots (Natural Language Processing, speech) ○ Alexa, Siri and others ○ Computer vision ○ Weather Predictions ○ Price forecast for commodities ○ Self-driving cars • Characteristics and types of AI ○ Data driven ○ Autonomous systems Recommender systems o Human like • Cognitive Computing (Perception, Learning, Reasoning) Cognitive computing • Recommended deep-dive in NLP, CV, etc.* • AI and Society coursera-ai-for-everyone • The Future with AI, and AI in Action (Introduction) • Non-technical explanation of deep learning coursera-ai-for-everyone	**Knowledge** – Where can AI be applied (like in the field of Computer vision, Speech, Text, etc.), What is deep learning? **Comprehension** – How AI will impact our society **Analysis** – How should we get ready for the AI age (future)	Data Science – Art Integration- Plotting graphs using data Sets	Display the first 10 rows of data by modifying the function above using PANDAS. Complete the code given below. Fill in the blanks to find the average height of a class with 10 students whose height are given in the list height.
August	**Unit 3: Maths**	• Introduction to matrices		AI Project Cycle Presentation	Activity- LUIS

	for AI (Recap)	(Recap) • Introduction to set theory (Recap) ○ Introduction to data table joins • Simple statistical concepts • Visual representation of data, bar graph, histogram, frequency bins, scatter plots, etc. • With co-ordinates and graphs introduction to dimensionality of data • Simple linear equation Least square method of regression Sports Integrated Activity Using Image Classifier, identify the different sports Persons.	**Comprehension** – Linear Algebra, Statistics, Basics of Graphs and Set theory		He wants to create a password based smart system for the entry door of his house for any person to enter his house. Write a code which can take password as an input from the user and then check for the correct password which is "SECRET". The user can enter the password only 3 times and the system should print "You cannot enter the house after that".
Sept	**Unit 4: AI Values (Ethical decision making)** (Values)	AI: Issues, Concerns and Ethical Considerations • Issues and Concerns around AI • AI and Ethical Concerns • AI and Bias • AI: Ethics, Bias, and Trust Employment and AI	**Knowledge** – Ethics, Bias, Impacts of bias on society **Application** – Spot issue in data, Make arguments, Apply rules	Story Telling Activity	Problem Statement- Project- Chatbot, Story telling activity, Python Programming

	Unit 5: Introduction to story telling (Skills)	● Storytelling: communication across the ages ○ Learn why storytelling is so powerful and cross-cultural, and what this means for data storytelling ● The Need for Storytelling ● Story telling with data ○ By the numbers: How to tell a great story with your data. ● Conflict and Resolution ○ Everyone wants to resolve conflict, and a good data storyteller is there to help! ● Storytelling for audience ○ Your data storytelling depends on the background knowledge of your audience.	**Skill** – Imagination, mapping the plot into key events increasing memory retention. **Application**- Helping in creating blogs, videos, and other content.	Collection of Datasets	Data Collection & Exploration related to Project
October	**Unit 6: Critical and Creative thinking** (Skills)	• Design thinking framework ○ Right questioning (5W and 1H) ○ Identifying the problem to solve Ideate	**Skill –** Understanding the problem and being able to express the same **Creativity –** To be able to develop/innovate from design a solution	Exploring Data	Applying Algorithm to Project Display the first 10 rows of data by modifying the function above
	Unit 7: Data Analysis (Computational thinking) **(Skills)**	• Types of structured data ○ Date and time ○ String ○ Categorical • Representation of data • Exploring Data Exploring data (Pattern recognition) ○ Cases, variables and levels of measurement ○ Data matrix and frequency table ○ Graphs and shapes of	**Knowledge** – Types of structured data, statistical principals – frequency tables, mean, median, mode, range, etc. **Application** – Representing data in terms of graphs, statistical models **Synthesis** – To be able to	Presentation of Project	Evaluation of Algorithm Find out your data type

		distributions ○ Mode, median and mean ○ Range, interquartile range and box plot* ○ Variance and standard deviation* ○ Z-scores* ○ Example **Practice exercise**	represent a simple problem in terms of numbers		
November	**Unit 8: Regression** (Knowledge)	the line ○ Regression - How good is the line? ○ Correlation is not causation ○ Example contingency table	applications of these mathematical concepts.	System Maps- Loopy	Sorting values using pandas
December	**Unit 9: Classification& Clustering** (Knowledge)	● What is a classification problem? ● Examples - Simple binary classification ● Introduction to binary classification with logistic regression ● True positives, true negatives, false positives and false negatives • Where we should care more with examples • Example- false negative of a disease detection can have different implication than false positive, one will be more physical harm and other will be mental • **Practice exercise on simple Binary Classification model**	**Knowledge** – What is classification and its types, what kind of problems may be placed under the category of a classification problem **Applications** – Where to apply classification principals **Analysis** – Impact of the application of incorrect algorithms on society		Exploring our data Using Matplotlib visualizing the dataset

		• What is a clustering problem? • Why is it unsupervised? • Examples • **Practice exercise on simple Clustering model**	**Knowledge** – Clustering problems and its application, why is it called clustering **Application** – Application of clustering problem using standard models	Chatter bot for developing chat bots	
January	**Unit 10: AI Values** (Bias awareness)	• AI working for good • Principles for ethical AI • Types of bias (personal /cultural /societal) • How bias influences AI based decisions • How data driven decisions can be de-biased • **Hands on exercise to Detect the Bias** (Intro to AI)	**Knowledge** – What is ethics, Impact of ethics on society, the impact of bias on AI functioning **Evaluation** – Biases in data, how to de-bias or neutralize the biased data **Application** – Finding bias in acquired dataset	Uclassify for developing Capstone Project	Implementing the linear regression and other algorithms in Python

Text book : Material from CBSE

Reference books : Material from CBSE

SUBJECT – COMPUTER SCIENCE (083)

CLASS : XI

Unit No.	Unit Name	Marks
1	Computer Systems and Organisation	10
2	Computational Thinking and Programming	45
3	Society, Law and Ethics	10
4	Practicals	30
TOTAL		**100**

Month	Topic	Sub Topic	Learning Outcomes	Innovative Pedagogy/ Art Integration/ Interdisciplinary Approach	Practical

April	**Computer Systems and Organisation**	• Basic computer organisation: description of a computer system and mobile system, CPU, memory, hard disk, I/O, battery • Types of software: application, System, utility. • Memory Units: bit, byte, MB, GB, TB, and PB. • Boolean logic: OR, AND, NAND, NOR, XOR, NOT, truth tables, De Morgan's laws • Information representation: numbers in base 2, 8, 16, binary addition • Strings: ASCII, UTF8, UTF32, ISCII (Indian script code), Unicode • Running a program: Notion of an operating system, how an	Ability to develop a basic understanding of computer systems - architecture, OS, mobile and cloud computing.	Prepare a presentation on Types of software. Memory units and number representation using binary, octal, decimal and hexa decimal.	Algorithms to convert the numbers from one base to the other.

		operating system runs a program, idea of loading, operating system as a resource manager. • Concept of cloud computing, cloud (public/private), introduction to parallel computing.			
May	**Basics of Python**	• Familiarization with the basics of Python programming: a simple "hello world" program, process of writing a program, running it, and print statements; simple data- types: integer, float, string. • Introduce the notion of a variable, and methods to manipulate it (concept of L-value and Rvalue even if not taught explicitly) • Knowledge of data types and operators: accepting input from the console, assignment statement, expressions, operators and their precedence.	Ability to understand basic computational thinking. Ability to understand the notion of data types, data structures.	Python Coding in Lab. Assignment booklet for practice.	Basic Python Programs based on Input / Output statements and operators.
July	Conditional Statements in Python	• if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers, and divisibility. • Notion of iterative computation and control flow: for, while, flowcharts, decision trees and pseudo code; write a lot of programs: interest	Ability to appreciate the notion of an algorithm, and understand its structure, including how algorithms handle corner cases	Python Coding in Lab. Sample codes to predict output and errors. Assignment booklet for practice	Python programs using Selection / looping constructs

		calculation, primarily testing, and factorials. • Idea of debugging: errors and exceptions; debugging: pdb, break points.			
August	Lists, tuples and dictionary	• Finding the maximum, minimum, mean; linear search on list/tuple of numbers, and counting the frequency of elements in a list using a dictionary. • Introduce the notion of accessing elements in a collection using numbers and names.	Ability to understand the concept of Lists, Tuples and Dictionary sequence data types.	Python Coding in Lab. Assignment booklet for practice. Group presentation on ideal/safe settings of Social Media apps	Python programs using Lists, Tuples and Dictionaries
September	**HALF YEARLY EXAMINATION**				
October	Sorting & Strings	• Bubble and insertion sort; count the number of operations while sorting. • Compare, concat, substring; notion of states and transitions using state transition diagrams.	Ability to manipulate the list data. Learning the bubble sort and insertion sort algorithms.	Python Coding in Lab. Assignment booklet for practice. Real life examples – Google / Search engines match keywords using advanced searches.	Python programs to sort the data using bubble / insertion sort. Programs based on strings.
November	Introduction to Python modules	• Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median, mode).	Understand the concept of built in modules	Python Coding in Lab. Assignment booklet for practice. Prepare a python program to manage records of your favourite sport.	Python programs based on Math module, random module
December	Society, Law and Ethics - Cyber safety	• Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying	Ability to work in the cyber world with understanding of cyber ethics, cyber safety and cybercrime.	Prepare a questionnaire based on Cyber safety and ethics and conduct a survey on the awareness of level of people in the society.	Case study based on various cyber crimes.

		• Appropriate usage of social networks: spread of rumours, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules. • Safely accessing web sites: adware, malware, viruses, Trojans. • Safely communicating data: secure connections, eavesdropping, phishing and identity verification.		Prepare a poster on Cyber Safety.	
December	Society, Law and Ethics	• Intellectual property rights, plagiarism, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. • Privacy laws, fraud; cyber-crime- phishing, illegal downloads, child pornography, scams; cyber forensics, IT Act, 2000. • Technology and society: • understanding of societal issues and cultural changes induced by technology. • E-waste management: proper disposal of used electronic gadgets. • Identity theft, unique ids and biometrics. • Gender and disability issues while teaching and using computers.	Ability to make use the value of technology in societies, gender and disability issues and the technology behind biometric ids.	Make a presentation based on real case studies to spread awareness about Cyber ethics and Laws.	-

February	**ANNUAL EXAMINATION**

TEXT BOOK : Computer Science with Python by Preeti Arora (Publisher : Sultan Chand)

REFERENCE BOOK : Question Bank and Sample paper by Rachna Sagar
Computer Science with Python by Sumita Arora (Publisher : Dhanpat Rai)

SYLLABUS FOR BUSINESS STUDIES
CLASS XI (2021 – 22)

B Units		Periods	Marks
Part A	**Foundations of Business**		
	Nature and Purpose of Business	18	16
	Forms of Business Organisations	20	
	Public, Private and Global Enterprises	10	14
	Business Services	14	
	Emerging Modes of Business	5	10
	Social Responsibility of Business and Business Ethics	8	
	Total	**75**	**40**
Part B	**Finance and Trade**		
	Sources of Business Finance	28	20
	Small Business	16	
	Internal Trade	22	20
	International Business	4	
	Total	**70**	**40**
	Project Work	**30**	**30**

MONTH	UNIT/ TOPIC	SUB TOPIC	LEARNING OUTCOMES	PRACTICALS/ ACTIVITIES/INNOVATIV EPEDAGOGY	PROJECT
APRIL & MAY	Unit 1: Nature and Purpose of Business Unit 2: Forms of Business Organizations	Concept and Characteristics of Business. Business, Profession and Employment - distinctive features. Objective of Business Activities : Industry and Commerce. Industry - Types, Primary, Secondary Tertiary; Commerce: Trade and Auxiliaries. Business risk - nature and causes. Sole Proprietorship & Joint Hindu Family business - meaning, features, merits and limitations, Partnership - meaning, types, registration, merits, limitations, types of partners. Cooperative Societies - types, merits and limiations. Company : Private Ltd., Public Ltd. Merits and limitations.	Students would be able to • Know the history of commerce in India • discuss the concept and characteristics of business • understand the role of Commerce, trade and auxiliaries to trade and concept of business risk • understand the concept of Sole Proprietorship • list the different forms of business organization • compare various forms of business organizations • highlight the steps in the formation of a company	• Group discussion : Types of Human activities • Group Discussion : comparision between Features of sole properiotership and features of HUF Practice Assignment: case studies based on Partnership	Relating the concept to the real life situations Entire class will be divided in 5 groups. Each group comprising of 10 students. Each group will will perform a skit representing different features , merits and demerits of a form of business organization selected by them. Students will be made to work in groups. Each group will select and study a Business enterprise so as to find out whether the features , merits and demerits written in the text book actually apply to that enterprise or not

JULY	Business Services	Nature and types of Business Services - Banking, insurance, transportation warehousing, Communication. Banking - types of banks. Function of commercial banks, e-banking. Insurance - Principles, types of insurance : life, fire and marine insurance. Warehousing: types and functions.	Students would be able to • explain the nature and types of business services • give an overview of postal and telecom services • define insurance Activity	• Class Interaction: Various forms of business organisations • Quiz : Various forms of business organisations • Practice Assignment: HOTS questions on Banking and Insurance	----------
AUGUST	Unit 5: Emerging Modes of business Unit 6: Social Responsibility of Business and Business Ethics Unit 8 Entrepreneurship Development	E-Business - Meaning, scope and benefits, Resources required for successful e-business implementation. On-line transaction, payment mechanism, security and safety of business transactions. Concept of social responsibility. Cases of social responsibilities. Responsibility towards owners, investors, employees, consumers, government and community. Business and environmental protection. Business ethics : concept and elements Revision Half Yearly.	Students would be able to • describe the scope of e-business • describe the responsibility of business towards owners, employees, consumers, govt. , community • explain the role of business in environmental protection • Understand the concept of Entrepreneurship Development(ED), Intellectual Property Rights	• Group Discussion: BPO vs KPO	Students would be asked to prepare powerpoint presentation highlighting the emrging modes of business

SEPTEMBER & OCTOBER	Unit 8: Small Business Unit 7: Sources of Business Finance	Nature and significance Owner's fund and borrowed funds. Sources of raising finance : Equity and preference shares, Global Depository Receipt, American Depository receipt, Debentures and Bonds, Retained Profits, Public Deposits, Loan from financial institutions, Loan from commercial Banks, Trade Credit	Students would be able to • define MSMED Act, 2006 • discuss the nature and significance of business finance • distinguish between owners' funds and borrowed funds • appreciate the features of international sources of finance	• Class Interaction: NSIC and DIC ; Owner's Funds and Borrowed Funds	Design an advertisement for the Annual Sports Day
NOVEMBER	Unit 9: Internal Trade	Meaning and types of internal trade : wholesale and retail. Services of a wholesaler and a retailer, Types of retail trade : - Department Store, Super Market, Mall chain store, mail order business, consumer's cooperative stores - Automatic Vending Machine, - Role of chamber of commerce and industry in promotion of internal trade. .	Students would be able to • explain meaning and types of internal trade • appreciate the distinctive features of departmental store, chain stores and mail order business • Understand the concept of GST. • encourage students creativity and analytical skills by project work	• Quiz: Types of Retailers Practice Assignment: case studies based on types of Retailers	Students will be asked to visit a departmental store and a chain store interact with the staff difference in the two other form of retails shops will be discussed using the same strategy. Drawing Mind maps for different types of internal trade
DECEMBER	Unit 10: International Trade	Nature, importance and complexities involved in international	Students would be able to		----------

		Business. Ways of entering into international Business. Exports - Import Procedures and documerftation. Foreign Trade Promotion Organization support and incentives. Nature and importance of export. Processing Zones/special Economic Zones International Trade Institutions and agreement: WTO, World Bank and IMF	• discuss the benefits of international trade • understand export and import procedure • examine the role of WTO		
JANUARY	Unit 3: Public, Private and Global Enterprises	Private sector and public sector, forms of Organising Public sector enterprises, Departmental undertaking, Statutory Corporation, Government company. Changing role of public sector..	Students would be able to • explain the concept of private and public sector • explain the concept, features, merits and limitations of departmental undertaking, statutory corporation, govt. company • examine the changing role of public sector	• Practice Assignment: case studies based on Unit-3	Dialogue writing: Conversation between an employee of a Statutory corporstion and that of a Departmental undertaking , discussing the merits and demerits of their respective organisations

TEXT BOOK: BUSINESS STUDIES FOR CLASS XI (NCERT)

REFERENCE BOOK: BUSINESS STUDIES FOR CLASS XI BY SUBHASH DEY