

**SUBJECT – ENGLISH CORE**

Month	Name of Chapter	Objective/Aim	Project
April	Reading: Comprehension Passage	To enhance comprehension skills	Step 1 of the Project.... Discussing the aim and objective of the English Project
	Writing: Notice	To impart the skill of notifying specific information	
	Report Writing (School Magazine & Newspaper)	To enhance the skill of critical thinking and presenting facts/data in a coherent manner	
	The Last Lesson	To arouse patriotic feelings and love for the mother tongue	
	Lost Spring	To create awareness about the hazards of child labour	
	My Mother at Sixty-Six	To kindle care and concern for ageing parents	
	Third Level	To make students aware of the intermingling of present and past, as a way to escape from anxiety and tension.	
	The Tiger King	To point out problems caused by the conceit of those in power	
May	Reading Comprehension	To enhance comprehension skills	Brainstorming on the given topic and preparing the initial pages of the project file. (to be done as part of Holiday Homework)
	Writing: Invitation/Replies (Formal)	To develop the skill of extending a cordial request to invite, accept or decline the invite	Q1. Art Integration- Create the cover page of the following lessons presenting symbolic meaning and aspect the lessons try to convey Lost Spring- R No 1-15 Keeping Quiet- R No 16-30 The Tiger King- R No 31-45
	Writing: Letters to the Editor	To enhance the skill of corresponding through written communication	Q2. Read, cut and paste FOUR NEWSPAPER REPORTS, rewrite any one of them in around 120 - 150 words, and record a video of the same in your voice. The recorded video should be spontaneous expression of the child and should not be a paper reading exercise. Remember, your report must answer..... What happened, when, where and other relevant details.
	Deep Water	To promote a 'never say die' spirit	
	Journey Towards the End of the Earth	To point out the relevance of educational tours in understanding global issues.	Q3. The year of 2025 has been declared by the UN as the International Year of Glaciers' Preservation. It aims to raise global awareness about the crucial



			<p>role glaciers play in the climate system and the impact of their melting on communities, ecosystems and economies. Discuss the objectives, plan of action and significance of this programme in detail.</p> <p>How does 'Journey to the End of the Earth' connect geological history with the current climate crisis? How can the lesson be considered a call to action for climate awareness?</p>
	Keeping Quiet	To highlight the importance of introspection and mutual understanding	
<b>July</b>	Reading Comprehension	To enhance comprehension skills	
	Writing: Letters- Job Application	Skill of corresponding through written communication	
	Indigo	To highlight the role of Gandhi Ji and the Champaran episode in the Freedom movement.	
	The Rattrap	To understand the value of honesty, kindness, and compassion	
	The Enemy	To promote a humanitarian approach and discard enmity	
<b>August</b>	Reading Comprehension	To enhance comprehension skills	Final compilation of the project file
	Writing: Invitation/ Replies (Informal)	To develop the skill of extending a cordial request to invite, accept or decline the invite	
	Writing: Article	To enhance the skill of critical thinking and presenting ideas in a coherent manner	
	Poets and Pancakes	To appreciate the struggle of people related to film industry.	
	A Thing of Beauty	To explore and enjoy the sensual beauty of nature	
	The Roadside	To draw attention towards the problems of unprivileged people of the society	
	On the Face of it	To draw attention towards the problems of physically challenged people, and sensitize the students towards their needs and feelings.	
<b>September</b>	Reading Comprehension	Revision	
	Writing: Article Writing	To develop the skill of putting forth ideas/views, and opinions coherently	
	Aunt Jennifer's Tigers	To create awareness about problems related to gender discrimination	
	The Interview	To introduce the concept of an Interview in the arena of journalism.	



	Memories of Childhood	To generate awareness about issues related to caste and creed discrimination	
<b>October</b>	Reading Comprehension	Revision	Submission of Project File
	Writing Skills	Revision	
	Going Places	To create awareness about the harms of over-fantasizing and hero worshipping	
<b>November</b>	Reading: Comprehension	Revision	
	Writing: Report	Revision	
	Letter Writing	Revision	
<b>December</b>	Pre-Board I	Complete Syllabus	
<b>January</b>	Pre-Board II	Complete Syllabus	

### Exam Syllabus

Terminal	Half Yearly	Pre-Board I	Pre-Board II
Reading Comprehension, Notice, Letter to Editor, Report Writing (School Magazine) Literature- The Last Lesson, Lost Spring, My Mother at Sixty-Six, Keeping Quiet, The Third Level, The Tiger King	Reading Comprehension, Notice, Invitation (Formal & Informal) & Replies, Letter to Editor, Job Application. Report Writing (School Magazine & Newspaper), Article Writing Literature- The Last Lesson, Lost Spring, Deep Water, The Rattrap, Indigo, Poets and Pancake, My Mother at Sixty-Six, Keeping Quiet, A Thing of Beauty, The Third Level, The Tiger King, Journey to the End of the Earth, The Enemy Internal Assessment- ASL & Project	Reading Comprehension, Notice, Invitation (Formal & Informal) & Replies, Letter to Editor, Job Application. Report Writing (School Magazine & Newspaper) Literature- The Last Lesson, Lost Spring, Deep Water, The Rattrap, Indigo, Poets & Pancakes, The Interview, Going Places, My Mother at Sixty Six, Keeping Quiet, A Thing of Beauty, Aunt Jennifer's Tigers, A Roadside Stand The Third Level, The Tiger King, Journey to the End of the Earth, , On the Face of It, Memories of Childhood (Complete Syllabus)	Complete Syllabus (As in Pre Board I)



**SUBJECT – GEOGRAPHY**

Month	Name of the Chapter	Objective/Aim	Subject Enrichment Activity	Project
<b>April</b>	Fundamentals Of Human Geography (Book 1) CH-1 Human Geography Nature and scope	To understand the fields and sub fields of Human Geography		
	Fundamentals Of Human Geography (Book 1) CH-2 World Population	To understand the age structure, sex ratio, rural- urban distribution in World		
	India People and Economy (Book 2) CH-1 Population: Density, Growth and Composition	To understand the age structure, sex ratio, rural- urban distribution in India	Map work	
	Practical Work in Geography-II CH-1 Data – Its source and compilation	Type and sources of data: Primary, Secondary and other sources		C.B.S.E. based Project file from given topics/ chapters.
<b>May</b>	Fundamentals Of Human Geography (Book 1) CH-3 Human Development	To understand the concept of human development with reference to population ratio, literacy and occupational structure	Map work	
	India People and Economy (Book 2) CH-2 Human Settlements	To understand the types and distribution of settlements		
	Practical Work in Geography-II CH-2 Data Processing	Tabulating and processing of data, measures of central tendency		C.B.S.E. based Project file from given topics/ chapters.
	Practical Work in Geography-II CH- 3 Graphical Representation of data	General rules for drawing graphs, diagrams and maps		
<b>July</b>	Fundamentals Of Human Geography (Book 1) CH-4 Primary Activities	To understand the types and distribution of agricultural practices around the globe	Map work	
	Fundamentals Of Human Geography (Book 1) CH- 5 Secondary Activities	To understand the growth and development of various types of industries, Industrial regions		
	India People and Economy (Book 2) CH-3 Land Resources and Agriculture	To understand the land use categories and agricultural land use in India, crop distribution	Map work	
	India People and Economy (Book 2) CH-4 Water Resources	To understand the importance of water as a resource	Map work and case study	



<b>August</b>	Fundamentals Of Human Geography (Book 1) CH- 6 Tertiary and Quaternary Activities	To understand the growth and development of various types of industries.		
	Fundamentals Of Human Geography (Book 1) CH-7Transport and Communication	To understand the different types of means of transport and communication connecting countries of the world	Map work	
	India People and Economy (Book 2) CH-5 Mineral and Energy Resources	To understand the distribution and economic importance of different types of minerals	Map work and case study	
	India People and Economy (Book 2) CH-6 Planning and Sustainable Development in Indian Context	To understand the importance of planning and sustainability for the development of an area	Case studies	
	Revision and Half Yearly Examination			
<b>September</b>	Fundamentals Of Human Geography (Book 1) CH- 8 International Trade	To understand concerns related to international Trade		
	India People and Economy (Book 2) CH-7Transport and Communication	To understand the different types of means of transport and communication connecting important centres across India.	Map work	
<b>October</b>	India People and Economy (Book 2) CH-8 International Trade	To understand the changing patterns of composition of India's trade	Map work	
	India People and Economy (Book 2) CH-9 Geographical Perspective on Selected Issues and Problems	To understand the causes and consequences of different types of pollution, measures to be taken	Case study	
	Practical Work in Geography-II CH-4Use of Computer in Data Processing and	Hardware and software usage		C.B.S.E. based Project file from given topics/ chapters.
<b>November</b>	Revision and Preboard-I			
<b>December</b>	Revision and Preboard-II			
<b>January</b>	Revision			
<b>February</b>	Revision			

**Exam Syllabus**

<b>Terminal</b>	<b>Half Yearly</b>	<b>Pre-Board I</b>	<b>Pre-Board II</b>
<b>Book 1:</b> CH- 1, 2 <b>Book 2:</b> CH- 1, 2	<b>Book 1:</b> CH-1,2,3, 4 <b>Book 2:</b> CH-1, 2, 3 Book 3 Practical	<b>Book 1 &amp; 2</b> Complete syllabus	<b>Book 1 &amp; 2</b> Complete syllabus Book 3 Practical



**SUBJECT – POLITICAL SCIENCE**

Month	Name of the Chapter	Learning Objective/Outcome	Enrichment Activities
<b>BOOK-1- Contemporary World Politics &amp; BOOK-2- Politics in India Since Independence</b>			
<b>April</b>	B2 Ch 1- Challenges of Nation-Building  B2 Ch 2 -Era of One-Party Dominance  B2 Ch 3. Politics of Planned Development	Nation and Nation Building. Sardar Vallabh Bhai Patel and Integration of States. Legacy of partition: challenge of 'refugee' Resettlement. Political conflicts over language. Linguistic Organization of States.  Changing nature of India's Economic Development Planning Commission and Five-Year Plans, National Development Council, NITI Aayog. Two models of development Design or plan of development. Aims and objectives of the first two five-year plans. • Replacement of Planning Commission by National Institution for Transforming India (NITI Aayog)	Quiz
<b>May</b>	B1 Ch1- The End of Bipolarity  B1 Ch 2 - Contemporary Centres of Power B1 Ch 3 Contemporary South Asia	Disintegration of Soviet Union, Unipolar World, Middle East Crisis – Afghanistan, Gulf War, Democratic Politics and Democratization – CIS and the 21st Century (Arab Spring) Organizations: European Union, ASEAN, SAARC, BRICS. Nations: Russia, China, Israel, India, Japan and South Korea Conflicts and efforts for Peace Democratization in South Asia: Pakistan, Nepal, Bangladesh, Sri Lanka, Maldives.	Cbse Project
<b>July</b>	B2 Ch 4-India's External Relations  B1 Ch 4 - International Organizations	Principles of Foreign Policy; India's Changing Relations with Other Nations: US, Russia, China, Israel; India's Relations with its Neighbours: Pakistan, Bangladesh, Bhutan, Nepal, Sri Lanka and Myanmar; India's Nuclear Programme. Principal Organs, Key Agencies: UNESCO, UNICEF, WHO, ILO, Security Council and the Need for its Expansion.	Youth Parliament
<b>August</b>	B1 Ch 5 Security in the Contemporary World. B1 Ch 6 - Environment and Natural Resources B2 Ch 5. Challenges to Restoration of the Congress System Revision	Security: Meaning and Types; Terrorism.  Environmental Movements, Global Warming and Climate Change, Conservation of Natural Resources. Challenge of Political Succession after Nehru • Split in Congress and opposition unity. New Congress led by Indira Gandhi • Restoration of the Congress system. Half Yearly	Presentation
<b>September</b>	B1 Ch 7- Globalization B2 Ch 6.- The Crisis of Democratic Order	Globalization: Meaning, Manifestation and Debates  One Party Dominance, Total Revolution, Ram Manohar Lohia and Socialism, National Emergency, Democratic Upsurges	



<b>October</b>	B2 Ch 7- Regional Aspirations B2 Ch 8 -Recent Developments in Indian Politics	Rise of regional parties. Punjab Crisis. The Kashmir Issue, Movements for Autonomy. Era of Coalitions, National Front, United Front, United Progressive Alliance (UPA) – I & II, National Democratic Alliance (NDA) I, II, III & IV, Issues of Development and Governance.	Debate
<b>November</b>	Pre-Board and Revision		

### Exam Syllabus

Terminal	Half Yearly	Pre-Board I	Pre-Board II
Book 1: CH - 1, 2 Book 2: CH – 1, 2,3	Book 1: CH -1,2, 3,4,5,6 Book 2: CH – 1,2,3,4,5	Complete syllabus	Complete syllabus



**SUBJECT – ECONOMICS**

Month	Name of the Chapter	Objective/Aim	Subject Enrichment Activity	Project
<b>April</b>	Circular flow of income  Some basic concepts of Macro Economics  Indian Economy on the eve of independence	To acquainting the students with circular flow of money in two sector economy, --real and money flow To familiarize the students with the meaning of Meaning of Macro Economics, some basic concepts, Meaning of real and nominal National Income To familiarize the students with the state of Indian economy at the time of independence & its main features. Problems and policies of agriculture. industry and foreign trade	Prepare a presentation on the treatment of various items in the calculation of domestic and national income	
<b>May</b>	Measurement of National Income  Indian economy (1950-1990)	To make the students acquainting about GDP and its related aggregates, Value of output and value added' Three methods of calculating N.I. Income, Expenditure and Product method Students will come to know about the long-term objective of our plans to develop all the aspects of the Economy		Project
<b>July</b>	Money and Banking  Determination of Income and employment Economic reforms since 1991	To enhance the knowledge of the students regarding Money—Its meaning. Supply of money. Money creation by commercial Banks. Central Banks—Meaning and its functions Aggregate Demand and its components, propensity to consume and save, Investment multiplier To acquainting the students regarding the need and features of LPG policy	Class presentation over fiscal and monetary measures to combat the situation of inflation and deflation.	
<b>August</b>	Determination of Income and employment  Human capital formation  Rural Development	Short term equilibrium, Meaning of full and involuntary unemployment Problem of excess and deficient demand, measures to correct it—Fiscal and monetary policy To make the learners aware regarding the meaning of human capital, human capital formation, its sources, Importance of education To make the learners aware regarding the current challenges faced the Indian economy with reference to rural development	Process of multiplier will be explained through class activity	
<b>September</b>	Employment	Employment-Growth, informalisation and other issues Revision & Half Yearly - Examination	Prepare a report on various schemes launched by Government to	



			create job opportunities	
<b>October</b>	Budget and the Economy  Balance of payment  Environment and sustainable development Development experience of India: A comparison with neighbors	To develop Awareness among Students about Meaning, objectives, components Revenue and capital Budget, Budget Deficit Revenue, Fiscal and Primary deficit BOP account-meaning and component Foreign Exchange Rate—Meaning of fixed, floating and managed floating exchange rate, Determinants of exchange rate in a free market. Environment and sustainable development—effects on economic development on resources and environment. To develop the awareness among students regarding comparative development of India and its neighboring countries other issues	information regarding ex rate between rupee and major currencies of the world Approximately 70 lakh vehicles are added on roads of metropolitan cities. Which type of resources do you think are undergoing depletion and related problems? Prepare report on it.	
<b>November</b>	Revision and Pre-Board 1			
<b>December</b>	Revision and Pre-Board 2			
<b>January</b>	Revision and Board Practicals			
<b>February</b>	Revision and Board Exams			

### Exam Syllabus

Terminal	Half Yearly	Pre-Board I	Pre-Board II
Macro Eco Chap 1- 4 IED Chap 1-2	Macro Eco- Unit 1-3 IED Chap 1 - 5	Complete Syllabus	Complete Syllabus

**SUBJECT – MATHEMATICS**

Month	No. and Name of Chapter	Learning Objective	Enrichment Activities
<b>April</b>	Ch-1 Relations and Functions	To understand the different types of relations and functions along with their co-domain and range.	1.To verify that the relation $R$ in the set $L$ of all lines in a plane, defined by $R = \{(l, m) : l \parallel m\}$ is an equivalence relation.
	Ch-2 Inverse Trigonometric Functions	To understand the behavior of inverse trigonometric function which plays very important role in calculus.	2.To verify that function is one but not onto
	Ch-3 Matrices	Use of matrix in the nature of solutions of systems of simultaneous equations.	3.To verify that function is not one but onto.
	Ch-4 Determinants	To learn about determinant and their uses in different areas.	
<b>May</b>	Ch-5 Continuity and Differentiability	To clear the concept of continuity and differentiability and their relationship between different types of functions	4.To draw the graph of $\sin_{-1}x$ , using the graph of $\sin x$ and demonstrate the concept of mirror reflection (about the line $y=x$ ).
	Ch-6 Application of Derivatives	To use derivatives in determining the rate of change of various quantities	5.To understand the concepts of increasing and decreasing functions.
<b>July</b>	Ch-7 Integrals	To find the anti-derivative of a function (also known as finding the integral) and to apply this concept to solve problems involving area calculation and related rates.	6.To understand the concept of maxima & minima and verify it analytically
	Ch-8 Application of Integrals	To find the area bounded by the graph of a function under given conditions	
<b>August</b>	Ch-8 Application of Integrals (Cont...)	To find the area bounded by the graph of a function under given conditions	7.To Calculate the area of the closed curves using integration.
	Ch-9 Differential Equations Revision (Half Yearly exams)	To search unknown function that satisfies the equation which contain the derivative of unknown function	
<b>September</b>	Ch-10 Vector Algebra	To study vector, that are helpful in describing and analysing many physical solutions.	
<b>October</b>	Ch-11 Three-Dimensional Geometry	To tell the use of vector algebra in 3D which makes its study simple and elegant.	8. To measure the shortest distance between two skew lines and verify it Analytically
	Ch-12 Linear Programming	To determine the optimum values of a linear functions subject to constraints expressed a linear equation or inequalities.	9. To solve the Linear Programming Problem graphically.





	Ch-13 Probability	To find the probability of different situations under the given conditions.	10.To explain the computation of conditional probability of a given event A, when event B has already occurred, through an example of throwing a pair of dice.
<b>November</b>	Pre Board I and Revision		
<b>December</b>	Pre Board II and Revision		
<b>January – February</b>	Practical Exams and Revision		

### Exam Syllabus

Terminal	Half Yearly	Pre-Board I	Pre-Board II
Ch. 1, 2, 3, 4, 5, 6.	Ch. 1 to 9	Complete Syllabus	Complete Syllabus

**SUBJECT – COMPUTER SCIENCE WITH PYTHON**

Month	Chapter Name	Objective / Aim	Lab Activity
<b>March - April</b>	Ch – 1 Review of Python Basics	Revision of the basics of Python topics covered in Class XI (Tokens; simple datatypes; notion of a variable; keywords; operators and their precedence, Conditional statements; Notion of iterative computation and control flow; Lists, tuples, and dictionary; Strings	1. Input a string and determine whether it is a palindrome or not; convert the case of characters in a string. 2. Find the largest/smallest number in a list/tuple 3. Input a list of numbers and swap elements at the even location with the elements at the odd location. 4. Input a list/tuple of elements, search for a given element in the list/tuple. 5. Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have scored marks above 75.
	Ch – 2 Functions	Functions: scope, parameter passing, mutable/immutable properties of data objects, pass arrays to functions, return values, Functions using libraries: mathematical, and string functions, scope of variables, main() function	1. Write a random number generator that generates random numbers between 1 and 6 (simulates a dice) using functions.
<b>May</b>	Ch – 3 Exception Handling in Python	To make a student understand the concept of Exceptions and how to handle them. Types of errors.	1. WAP using try except block to implement exception and its handling.
	Ch – 4 Data File Handling	File handling: open and close a file, read, write, and append to a file, standard input, output, and error streams, relative and absolute paths, Types of files – Text file, Binary file, CSV file.	1. Read a text file and display the number of vowels / consonants / uppercase/lowercase characters in the file. 2. Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message. 3. Create a CSV file by entering user-id and password, read and search the password for given user-id.
<b>July</b>	Ch – 5 Data Structures in Python	Data-structures: lists, stacks, & various operations associated with it.	1. Write a Python program to implement a stack using list.
	Ch – 6 Computer Networks	Structure of a network: Types of networks, cloud and IoT, public vs. private cloud, wired and wireless networks; concept of a client and server; Network devices such as NIC, switch, hub, router, and access	



		points; MAC address, main idea of routing. IP addresses, routing table, router, DNS, and web URLs, TCP; Protocols: 2G, 3G, 4G, Wi-Fi. Basic network tools; HTTP (basic idea), working of email, secure communication: encryption and certificates (HTTPS), network applications: remote desktop, remote login, HTTP, FTP, SCP, SSH, POP/IMAP, SMTP, VoIP, NFC	
August	Ch – 7 Relational Database and SQL	Relational databases: idea of a database and the need for it, relations, keys, primary key, foreign key; Use SQL commands to create a table, keys, and foreign keys; insert/delete an entry, delete a table. Basic SQL: select, project, SQL commands: aggregation functions, having, group by, order by, joins.	Create a student table and insert data. Implement the following SQL commands on the student table: 1. ALTER table to add new attributes / modify data type / drop attribute 2. UPDATE table to modify data 3. ORDER By to display data in ascending / descending order 4. DELETE to remove tuple(s) 5. GROUP BY and find the min, max, sum, count and average ● Similar exercise may be framed for other cases.
September	Half Yearly Examination		
October	Ch – 8 Interface Python With SQL	Interface Python with an SQL database, connecting SQL with Python, creating database connectivity applications, perform insert, update & delete queries, display data by using fetchone(), fetchall() & rowcount.	Integrate SQL with Python by importing suitable module.
November	Revision		
<b>Project:</b> The aim of the class project is to create something that is tangible and useful using Python file handling/ Python-SQL connectivity. This should be done in groups of two to three students. The aim here is to find a real-world problem that is worthwhile to solve.			

### Exam Syllabus

Terminal	Half Yearly	Pre-Board I	Pre-Board II
Ch – 1, 2, 3, 4	Ch – 1 to 7	Complete Syllabus	Complete Syllabus



**SUBJECT – INFORMATICS PRACTICES**

Month	Unit Name	Chapter Name	Objective / Aim	Lab Activity
March & April	Unit 1: Data Handling using Pandas and Data Visualization	Data Handling using Pandas -I	<p>Introduction to Python libraries- Pandas, Matplotlib.</p> <p>Data structures in Pandas - Series and data frames.</p> <p>Series: Creation of series from ndarray, dictionary, scalar value; mathematical operations; series attributes, head and tail functions; selection, indexing and slicing.</p> <p>Data Frames: creation of data frames from dictionary of series, list of dictionaries, text/CSV files, display, iteration. Operations on rows and columns: add (insert /append) , select, delete (drop column and row), rename, Head and Tail functions, indexing using labels, Boolean indexing, joining, merging and concatenation of data frames.</p> <p>Importing/Exporting Data between CSV files and Data Frames. (For practical's only)</p>	<ol style="list-style-type: none"> <li>1. Create a panda's series from a dictionary of values and a ndarray</li> <li>2. Given a Series, print all the elements that are above the 75th percentile.</li> </ol>
May & July		Data handling using Pandas – II	<p>Descriptive Statistics: max, min, count, sum, mean, median, mode, quartile, Standard deviation, variance.</p> <p>Data Frame operations: Aggregation, group by, Sorting, Deleting and Renaming Index, Pivoting.</p> <p>Handling missing values – dropping and filling.</p> <p>Importing/Exporting Data between MySQL database and Pandas.</p>	<ol style="list-style-type: none"> <li>3. Create a Data Frame quarterly sales where each row contains the item category, item name, and expenditure. Group the rows by the category and print the total expenditure per category.</li> <li>4. Create a data frame for examination results and display row labels, column labels data types of each column and the dimensions.</li> <li>5. Filter out rows based on different criteria such as duplicate rows.</li> <li>6. Importing and exporting data between pandas and CSV file</li> </ol>
		Data Visualization	<p>Purpose of plotting, drawing, and saving of plots using Matplotlib (line plot, bar graph, histogram, pie chart, frequency polygon, box plot and scatter plot).</p>	<ol style="list-style-type: none"> <li>1. Given the school result data, analyses the performance of the students on different parameters, e.g subject wise or class wise.</li> </ol>



				<ol style="list-style-type: none"> <li>For the Data frames created above, analyze, and plot appropriate charts with title and legend.</li> <li>Take data of your interest from an open source (e.g., data.gov.in), aggregate and summarize it. Then plot it using different plotting functions of the Matplotlib library.</li> </ol>
<b>August</b>	Unit 4: Societal Impacts	Societal Impacts	Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open-source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act. E-waste: hazards and management. Awareness about health concerns related to the usage of technology.	Explain the impact of technology on society including gender and disability issues.
	Unit 2: Database Query using SQL	Database Query using SQL	Math functions: POWER (), ROUND (), MOD (). Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM (). Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME (). Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*). Querying and manipulating data using Group by, Having, Order by. Operations on Relations - Union, Intersection, Minus, Cartesian Product, JOIN (Cartesian Join, Equi Join, Natural Join)	<ol style="list-style-type: none"> <li>Create a student table with the student id, name, and marks as attributes where the student id is the primary key.</li> <li>Insert the details of a new student in the above table.</li> <li>Delete the details of a student in the above table.</li> <li>Use the select command to get the details of the students with marks more than 80.</li> <li>Find the min, max, sum, and average of the marks in a student marks table.</li> <li>Find the total number of customers from each country in the table (customer ID, customer Name, country) using group by.</li> </ol>





				7. Write a SQL query to order the (student ID, marks) table in descending order of the marks
<b>October &amp; November</b>	Unit 3: Introduction to Computer Networks	Introduction to Computer Networks	Introduction to networks, Types of networks: LAN, MAN, WAN. Network Devices: modem, hub, switch, repeater, router, gateway Network Topologies: Star, Bus, Tree, Mesh. Introduction to Internet, URL, WWW, and its applications- Web, email, Chat, VoIP. Website: Introduction, difference between a website and webpage, static vs dynamic web page, web server and hosting of a website. Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug-ins, cookies	<ul style="list-style-type: none"> <li>• Learn terminology related to networking and the internet.</li> <li>• Identify internet security issues and configure browser settings.</li> </ul>

**Project Work:**

The aim of the class project is to create tangible and useful IT applications. The learner may identify a real-world problem by exploring the environment. e.g., Students can visit shops/business places, communities or other organizations in their localities and enquire about the functioning of the organization, and how data are generated, stored, and managed.

The learner can take data stored in csv or database file and analyze using Python libraries and generate appropriate charts to visualize. If an organization is maintaining data offline, then the learner should create a database. using MySQL and store the data in tables. Data can be imported in Pandas for analysis and visualization.

Learners can use Python libraries of their choice to develop software for their school or any other social good.

Learners should be sensitized to avoid plagiarism and violation of copyright issues while working on projects. Teachers should take necessary measures for this. Any resources (data, image etc.) used in the project must be suitably referenced.

The project can be done individually or in groups of 2 to 3 students. The project should be started by students at least 6 months before the submission deadline.

**Exam Syllabus**

Terminal	Half Yearly	Pre-Board I	Pre-Board II
UNIT-I Data Handling using Pandas-I Data Handling using Pandas-II	UNIT-I Data Visualization UNIT-IV Societal Impacts UNIT-II Database Query using SQL	UNIT-I Data Handling using Pandas -I Data Handling using Pandas -II Data Visualization UNIT-IV Societal Impacts UNIT -II Database Query using SQL	Complete Syllabus



**SUBJECT – ARTIFICIAL INTELLIGENCE**

Month	Unit Name	Learning Outcomes
April	<b>Part A: Unit I: Communication Skills IV</b>	<p>Students will be able to:</p> <ul style="list-style-type: none"><li>Identify the barriers to active listening.</li><li>Identify the stages of active listening.</li><li>Follow the steps towards removing barriers for active listening.</li><li>Demonstrate basic writing skills.</li><li>Identify the basic parts of speech, such as nouns, pronouns, adjectives, verbs and adverbs.</li><li>Use capitalization and punctuation rules for sentences.</li><li>Explain the usage of parts of speech and identify them in a sentence.</li><li>Identify supporting parts of speech, such as articles, conjunctions, prepositions and interjections.</li><li>Identify the different parts of a sentence.</li><li>Differentiate between active and passive voice.</li><li>Compose different types of sentences.</li></ul>
	<b>Part B: Unit I: Python Programming II</b>	<ul style="list-style-type: none"><li>Apply the fundamental concepts of the NumPy and Pandas libraries to perform data manipulation and analysis tasks</li><li>Import and export data between CSV files and Pandas Data Frames, ensuring data integrity and consistency</li></ul>
	<b>Part B: Unit II: Data Science Methodology: An Analytic Approach to Capstone Project</b>	<ul style="list-style-type: none"><li>Integrate Data Science Methodology steps into the Capstone Project.</li><li>Identify the best way to represent a solution to a problem.</li><li>Understand the importance of validating machine learning models</li><li>Use key evaluation metrics for various machine learning tasks</li></ul>
May	<b>Part A: Unit II: Self-Management Skills IV</b>	<ul style="list-style-type: none"><li>Explain the meaning of motivation.</li><li>Describe the type of motives.</li><li>Differentiate between intrinsic and extrinsic motivation.</li><li>Describe the meaning of positive attitude.</li><li>Identify the steps for being positive in life.</li><li>Identify ways to be result oriented.</li><li>Make an action plan.</li><li>Explain the meaning of personality.</li><li>Describe basic personality traits.</li><li>Describe common personality disorders.</li></ul>
	<b>Part B: Unit I: Python Programming II</b>	<ul style="list-style-type: none"><li>Apply the fundamental concepts of the NumPy and Pandas libraries to perform data manipulation and analysis tasks</li><li>Import and export data between CSV files and Pandas Data Frames, ensuring data integrity and consistency</li></ul>
	<b>Part B: Unit III: Making Machines See</b>	<ul style="list-style-type: none"><li>Explain computer vision and its significance in visual data analysis.</li><li>Understand key stages of computer vision, including acquisition, preprocessing, feature extraction, and analysis.</li><li>Identify real-world applications in fields like healthcare, surveillance, and autonomous vehicles.</li><li>Analyze challenges such as ethics, privacy, and technical limitations.</li><li>Explore future advancements and transformative potential of computer vision.</li><li>Develop basic skills in using OpenCV and deploying machine learning</li></ul>



		models online.
<b>July</b>	<b>Part A: Unit III: ICT Skills IV</b>	<ul style="list-style-type: none"> <li>Explain the importance and usage of spreadsheets, list different spreadsheet applications, open LibreOffice Calc and create a spreadsheet, identify components (parts) of a spreadsheet.</li> <li>Identify type of data, open a spreadsheet, enter, edit and delete data, select multiple cells, save and close a spreadsheet, print a spreadsheet.</li> <li>Add values directly in a spreadsheet, add values using formulas, add values using Sum() function, align (arrange) text in a cell, fit text into a cell, highlight the text.</li> <li>Sort data, add filters, protect spreadsheets with a password.</li> <li>Describe the advantages of digital presentation, list various presentation software, list features of a presentation, create a new presentation, save a presentation, close a presentation, open a presentation, print presentation slides.</li> </ul>
	<b>Part B: Unit IV: AI with Orange Data Mining Tool</b>	<ul style="list-style-type: none"> <li>Develop proficiency in utilizing the Orange Data Mining tool, enabling them to navigate its interface, employ its features, and execute data analysis tasks effectively.</li> <li>Demonstrate the ability to apply Orange in real-world scenarios across diverse domains of artificial intelligence, including data science, computer vision, and natural language processing (NLP), through hands-on projects and case studies</li> </ul>
	<b>Part B: Unit V: Introduction to Big Data and Analytics</b>	<ul style="list-style-type: none"> <li>Understanding Big Data, its types, advantages and disadvantages.</li> <li>Recognize the characteristics of Big Data.</li> <li>Explain the concept of Big Data Analytics and its significance.</li> <li>Analyze the future trends in the field of Big Data Analytics.</li> <li>Understanding the term Mining Data Streams.</li> </ul>
<b>August</b>	<b>Part A: Unit IV: Entrepreneurial Skills IV</b>	<ul style="list-style-type: none"> <li>Explain the qualities of an entrepreneur.</li> <li>What is entrepreneurship?</li> <li>Identify barriers and fears related to becoming an entrepreneur.</li> <li>Identify the attitudes that make an entrepreneur successful.</li> </ul>
	<b>Part B: Unit VI: Understanding Neural Networks</b>	<ul style="list-style-type: none"> <li>Explain the basic structure and components of a neural network.</li> <li>Identify different types of neural networks and their respective applications.</li> <li>Understanding machine learning and neural networks through hands-on projects, interactive tools, and Python programming.</li> </ul>
	<b>Part B: Unit VII: Generative AI</b>	<ul style="list-style-type: none"> <li>How Generative AI works.</li> <li>Differentiate between Generative AI and Discriminative AI and identify their use cases.</li> <li>Explore ethical, social, and legal concerns.</li> <li>Gain hands-on experience using AI tools to generate creative and analytical outputs, such as images, texts, and videos.</li> <li>Use the Gemini API to design and deploy a functional chatbot.</li> </ul>
<b>September</b>	Revision and Half Yearly Examination	
<b>October</b>	<b>Part A: Unit V: Green Skills IV</b>	<ul style="list-style-type: none"> <li>Understand the need of protecting environment</li> <li>Understand Green jobs and its significance</li> </ul>
	<b>Part B: Unit VIII: Data Story Telling</b>	<ul style="list-style-type: none"> <li>Understand the benefits of storytelling.</li> <li>Appreciate the role of data storytelling in data analysis, data science, and AI.</li> <li>Learn to combine data, visuals, and narrative to present complex information effectively.</li> <li>Gain skills to draw meaningful insights from data stories.</li> </ul>



<b>November</b>	Revision and Pre-Board I
<b>December</b>	Revision and Pre-Board II
<b>January</b>	Revision and Practical Examination.
<b>February</b>	Revision

### Exam Syllabus

<b>Terminal Test</b>	<b>Half Yearly</b>	<b>Pre – Board I</b>	<b>Pre – Board II</b>
Part A: Unit I, II Part B: Unit II, III	Part A: Unit I, II, III, IV Part B: Unit II, III, V, VI	Complete Syllabus	Complete Syllabus



**SUBJECT – PSYCHOLOGY**

Month	Name of the Chapter	Objective/ Aim	Lab Activity / Enrichment Activity	Project
April	Ch-1 Variations in Psychological Attributes	After studying this chapter students would be able to: <ul style="list-style-type: none"><li>• Develop the understanding of the importance of individual differences in human functioning.</li><li>• Explain different methods used to assess psychological attributes.</li><li>• Develop the understanding of how intelligence has different meanings in different cultures.</li></ul>	Intelligence Test	
May	Ch-2 Self and Personality	After studying this chapter students would be able to: <ul style="list-style-type: none"><li>• Develop the understanding of concepts of self and learn ways for self- regulation of behavior.</li><li>• Learn different methods of Personality assessment.</li><li>• Develop insight into the development of a healthy personality.</li></ul>	Personality Test	Development of Case Profile: Using appropriate Methods like Interview, Observation & Psychological Tests.
July	Ch-3 Meeting Life Challenges  Ch- 4 Psychological Disorders	After studying this chapter students would be able to: <ul style="list-style-type: none"><li>• Develop an understanding of nature, type, and sources of stress as life challenges.</li><li>• Learn ways to cope with stress.</li><li>• Develop the understanding of the factors that promote positive health and well-being.</li></ul> After studying this chapter students would be able to: <ul style="list-style-type: none"><li>• Develop the understanding of the basic issues in abnormal behavior and criteria used to identify such behavior.</li><li>• Explain the different models of abnormal behavior.</li><li>• Describe the major psychological disorders.</li></ul>	Self- concept Test	
August	Ch-5 Therapeutic Approaches	After studying this chapter students would be able to: <ul style="list-style-type: none"><li>• Familiarize themselves with the basic nature and process of Psychotherapy.</li><li>• Understand the use of psychological forms of intervention.</li><li>• Develop the understanding of how people with mental disorders can be rehabilitated.</li></ul>	Interest Test	



<b>September</b>	Ch-6 Attitude and Social Cognition	After studying this chapter students would be able to: <ul style="list-style-type: none"> <li>Understand what attitudes are, how they are formed and changed.</li> <li>Analyze how people interpret and explain the behavior of others.</li> <li>Comprehending the presence of others influences our behavior.</li> </ul>	Anxiety Test	
<b>October -</b>	Ch-7 Social Influence and Group Process	After studying this chapter students would be able to: <ul style="list-style-type: none"> <li>Develop an understanding of nature and types of groups and know how they are formed.</li> <li>Examine the influence of groups on individual behavior.</li> <li>Describe the process of cooperation and competition.</li> </ul>		
<b>November - February</b>	Revision & Pre – Board Examination			

### Exam Syllabus

Terminal	Half Yearly	Pre-Board I	Pre-Board II
Ch: 1 & 2	Ch: 1 to 4	Complete Syllabus	Complete Syllabus

**SUBJECT – COMMERCIAL ART**

Month	Name of the Lesson	Learning Objectives
<b>April</b>	<b>Ch. 1- Rajasthani school of miniature paintings</b> 1. Origin and development. 2. Sub school of Rajasthani school - i. Mewar ii. Kishangarh. iii. Jodhpur. iv. Jaipur. v. Bikaner. vi. Bundi. 3. Main features or characteristics of Rajasthani miniature paintings. 4. Study of some famous paintings.	The objective of including the history of Rajasthani paintings for the students is to familiarize them with the various styles and modes of art expression from different parts of Rajasthani. This would enrich their vision and enable them to appreciate and aesthetic sensibility to enjoy the beauty of nature and life.
<b>May</b>	<b>Ch. 2- Pahari school of miniature paintings</b> 1. Origin and development 2. Sub school of Pahari school of miniature- i. Basohli. ii. Guler. iii. Kangra. iv. Chamba. v. Garhwal 3. Main features or characteristics 4. Study of some famous paintings	The objective of including the history of Pahari paintings for the students is to familiarize them with the various styles and modes of art expression from different parts of Pahari. This would enrich their vision and enable them to appreciate and aesthetic sensibility to enjoy the beauty of nature and life.
<b>July</b>	<b>Ch. 3- Mughal school of miniature paintings</b> 1. Origin and development of Mughal school of miniature. 2. Main features or characteristics 3. Study of some famous paintings <b>Ch. 4- Decani school of miniature paintings</b> 1. Origin and development of Decani school of miniature.	The objective of including the history of Mughal and Decani paintings for the students is to familiarize them with the various style and modes of art expression from different parts of Mughal. This would enrich their vision and enable them to appreciate and aesthetic sensibility to enjoy the beauty of nature and life.
<b>August</b>	2. Sub school of Decani school - i. Ahmednagar. ii. Golkonda. iii. Bijapur. iv. Hyderabad. v. Berar. 3. Main features or characteristics, 4. Study of some famous paintings. <b>Ch. 5- Bengal school of paintings</b> 1. Evolution of Indian national flag	The objective of including the history of Decani and Bengal paintings for the students is to familiarize them with the various style and modes of art expression from different parts of Deccan and Bengal. This would enrich their vision and enable them to appreciate and aesthetic sensibility to enjoy the beauty of nature and life.
<b>September</b>	2. (A) Origin and development of Bengal school of paintings. (B) Main features or characteristics 3. Contribution of Indian artist in the struggle for national freedom movement. 4. Study of some famous paintings	The objective of including the history of Bengal paintings for the students is to familiarize them with the various styles and modes of art expression from different parts of Bengal. This would enrich their vision and enable them to appreciate and aesthetic sensibility to enjoy the beauty of nature and life.
<b>October</b>	<b>Ch. 6- The modern trends in Indian art</b> 1. Introduction	This would enable and enrich in students' artistic sense and sensibility towards Indian





	2. Study of following works of contemporary (modern) Indian art. 3. 1 – Paintings, 2 - Graphic print, 3 - Sculptures	Modern art Paintings, Graphic print and Sculptures.
<b>November</b>	Revision	

### Exam Syllabus

<b>Terminal</b>	<b>Half Yearly</b>	<b>Pre-Board I</b>	<b>Pre-Board II</b>
Rajasthani school of miniature, Pahari school of miniature, Mughal school of miniature	Rajasthani to Decani school of miniature paintings, Indian national flag, Bengal school of art.	Whole Syllabus	Whole Syllabus

**SUBJECT – HOME SCIENCE**

Month	Name of the Chapter	Objective/ Aim	Lab Activity/ Enrichment Activity	Project
April	Ch.1 Work, livelihood, and career.  Ch.2 Clinical Nutrition  Ch.3 Public Health and Nutrition	<ul style="list-style-type: none"><li>• Explain meaningful work, livelihood, careers, and entrepreneurship.</li><li>• Understand the concepts of standard of living and quality of life.</li><li>• Understand and describe the significance and scope of clinical nutrition and dietetics.</li><li>• Describe the role and function of a dietitian/clinical nutritionist/ medical nutrition therapist.</li><li>• Understand the significance and scope of public nutrition.</li><li>• Have knowledge about the nutritional problems of public health significance.</li></ul>	Planning of therapeutic meals	
May	Ch.4 Food Processing  Ch.5 Food Quality and Food Safety	<ul style="list-style-type: none"><li>• understand what food processing and technology is, its history, development and present status.</li><li>• Explain the significance and basic concepts of the subject.</li><li>• Explain the importance of various issues related to food safety and quality.</li><li>• Understand how food-borne illnesses occur</li></ul>	Prepare a PPT on different types of hazards	Project work
July	Ch.6 Early Childhood Care and Education  Ch.7 Management of Support Services, Institutions and Programmes for Children, Youth and Elderly	<ul style="list-style-type: none"><li>• understand the basic principles of Early Childhood Care and Education (ECCE) as they apply to Indian society.</li><li>• Understand the importance of early care and learning experiences for children.</li><li>• Explain why services, institutions and programmes are needed for children, youth, and elderly.</li><li>• Describe the aspects involved in management of institutions and programmes</li></ul>		
August	Ch. 8 Design for Fabric and Apparel  Ch. 9 Fashion Design and Merchandising Ch. 10 Care and Maintenance of Fabric	<ul style="list-style-type: none"><li>• Discuss the concepts of design.</li><li>• Recognise the elements that constitute design.</li><li>• Describe the fundamentals of fashion.</li> <li>• Discuss the significance of care and maintenance of fabrics and textile products</li></ul>	Flip book on principles/ elements of design	



<b>September</b>	Ch. 11 Hospitality Management	<ul style="list-style-type: none"> <li>Explain the importance of hospitality management.</li> <li>Describe the functioning of housekeeping department.</li> </ul>	Flow chart on different functions of housekeeping department	
<b>October</b>	Ch. 12 Consumer Education Ch. 13 Development Communication and Journalism	<ul style="list-style-type: none"> <li>Understand the role of Consumer Education and Protection</li> <li>Understand the importance of development Communication and Journalism for social change and development</li> </ul>	Prepare own food label of any product	Survey on different laws for consumers.
<b>November</b>	Pre-Board I			
<b>December</b>	Pre-Board II			
<b>January</b>	Revision			
<b>February</b>	Revision			

### Exam Syllabus

Terminal	Half Yearly	Pre-Board I	Pre-Board II
Ch-1 Work, Livelihood and Career Ch-2 Clinical Nutrition Ch-3 Public Health and Nutrition Ch-4 Food Processing Ch-5 Food Quality and Food Safety Ch-6 Early Childhood Care and Education	Ch-1 Work, Livelihood and Career Ch-2 Clinical Nutrition Ch-3 Public Health and Nutrition Ch-4 Food Processing Ch-5 Food Quality and Food Safety Ch-6 Early Childhood Care and Education Ch-7 Management of Support Services, Institutions and Programmes for Children, Youth and Elderly Ch- 8 Design for Fabric and Apparel Ch-9 Fashion Design and Merchandising Ch- 10 Care and Maintenance of Fabric	Whole Syllabus	Whole Syllabus



**SUBJECT – HINDUSTANI MUSIC VOCAL**

Month	Name of the Topic	Objective/ Aim	Lab Activity/ Enrichment Activity	Project
<b>April</b>	Raag Bageshree parichay,\$ drut khayal, Taal Roopak parichay,\$ taal notation thah,dugun,tigun \$ chargun Brief Description- Alankar, Meend, Kan, Gram, Murcchna, Life Sketch- Bade Gulam Ali Khan, \$ Sangeet Ratnaker. Time theory of Raag	Basic knowledge of raag bageshree Knowledge of different laykaari through taal roopak on hands Knowledge of basic terms of classical music. Understand the contribution of our legend in classical music.  Explain to decide the time of raag.	Practice of Raag & taal in practical class.	
<b>May</b>	Raag Bhairav, Vilambit Khayal with Notation \$ Alap -Taan. Raag Bhairav parichay \$ drut Khayal. jhaptaal parichay Thah, dugun Life Sketch- Faiyaz Khan. Murkee, Alap -Taan. Time theory of Raag	To give knowledge of Vilambit laya through vilambit khayal. Basic knowledge of raag malkauns. To give basic knowledge of taal and different laykaari. Understand the contribution of our legend in classical music. To give knowledge of basic terms of classical music.	Practice of Raag & taal in practical class.	Music Practical file.
<b>July</b>	Raag Bhairav and raag bageshree drut khyal with alaap taan. Notation of taal roopak & jhaptaal on hands.	Practical knowledge of raag in detail. Recite taal on hands in different laya.	Practice of Drut khyal with alaap taan in practical class.	
<b>August</b>	Raag Malkauns Tarana & drut Khayal with Alap -Taan Taal Jhap taal Tigun & chargun laykari Taal Dhamar parichay & thah, dugun , tigun and chargun laykari. Time theory of raag Sangeet pariyaat khatka Murki , gamak.	Practice of laya through tarana (Madhya to drut laya ) To give basic knowledge of taal and different laykaari. Practice of taal in different laya. Explain to decide the time of particular raag. Discuss classical music of ancient time through sangeet pariyaat. To give basic knowledge of alankarik kriya.	Practice of tarana , drut khyal & taal in practical class.	
<b>September</b>	Raag Malkauns drut Khayal with Alap taan, Taal Dhamar Dugun, tigun & chargun taal notation. Life Sketch-Krishan rao Shanker Pandit, Tuning of taan pura.	Practical knowledge of raag in detail. Practice of taal in different laya. Understand the contribution of our legend in classical music. Explain the structure & tuning of taanpura through demonstration.	Demonstration of raag, taal & taanpura.	
<b>October</b>	Raag Malkauns Parichay Dhamar in raag malkauns thah \$ dugun.laykari \$ Notation. Raag Bhairav Vilambit Khayal	Basic introduction of raag malkauns. Practice of our ancient singing style Dhamar and vilambit khayal.	Practice of raag, drut khyal & dhamar in practical class.	



<b>November</b>	Malkauns- Dhamar with laykari. Tarana with Notation. Raag Bhairav and Bageshri drut khayal with Alap -Taan and notation. Revision and Pre-Board I	Practice of raag, taal & tarana in detail.	Practice & demonstration of different raag & taal.	
<b>December</b>	Pre-Board II			
<b>January</b>	Revision			

**Exam Syllabus**

<b>Terminal</b>	<b>Half Yearly</b>	<b>Pre-Board I</b>	<b>Pre-Board II</b>
Raag Bageshree parichay swar vistar, vilambit & drut khayal notation with Alap taan , raag bhairav parichay, drut khyal notation, Taal Roopak & Jhap taal with layekaree & Taal Notation. topics- Alankar, Meend, Kan, Gram, Murchhna, Sangeet Ratnaker. Murkee, Alap taan, Bade Gulam Ali Khan, & Faiyaaz Khan. Time theory of raag, raag pehchaan.	Raag malkuns drut khayal, tarana & dhamar with notation. Raag Bhairav Vilambit & drut khayal notation Taal Roopak, Jhaptaal & dhamar parichay & notation with laykaree. topics- time theory of raag, Sangeet Parijaat, tuning of Taan pura krishan shanker rao pandit, Bade Gulam Ali Khan. Sangeet Ratnaker, Murchhna, gram, Alankar, Meend, Kan, Murkee, Alap taan, Raag pehchaan.	Alankar, kan, Meend, khatka, Murki, Gamak, Alap, Taan, Gram, Murchhna. Sangeet Ratnaker, Sangeet Parizaat. Bade Gulam Ali Khan, Ali Khan, Faiyaaz Khan, Krishan Rao Shanker pandit, Time theory of raag, Tuning of Taan pura, Taal Roopak, Jhap taal, Dhamar parichay notation in laykaree. Raag Bageshree, Malkauns, & Bhairav parichay, swar vistar, raag pehchaan, notation, drut and vilambit khayal - dhamar, & tarana, Raag pehchaan.	Alankar, kan, Meend, khatka, Murki, Gamak, Alap, Taan, Gram, Murchhna. Sangeet Ratnaker, Sangeet Parizaat. Bade Gulam Ali Khan, Ali Khan, Faiyaaz Khan, Krishan Rao Shanker pandit, Time theory of raag, Tuning of Taan pura, Taal Roopak, Jhap taal, Dhamar parichay notation in laykaree. Raag Bageshree, Malkauns, & Bhairav parichay, swar vistar, raag pehchaan, notation, drut and vilambit khayal - dhamar, & tarana, Raag pehchaan.