



CBSE Aff. No.: 1030842

# Medi-Caps International School

## **MIS DIGEST** **(PEDAGOGICAL PLAN)**

**SESSION : 2020-21**

**CLASS - XI**



Dear Medi-Captains,

Learning is a process that continues throughout our life. It is not a process to meet an end, as there is no end to learning. Systematic learning is a key to success in life as a famous saying goes 'Failing to plan is a planning to fail' and we want you to succeed on every front. Hence this booklet has been designed in order to facilitate your planning.

MIS Digest has been prepared to give you a quick glance of the syllabus and information of the subject in brevity. We expect you to use it to the maximum in order to plan your learning. It will help you in decision making process by giving you insights of academic content so that you can learn in a systematic and planned manner. We stand always by your side to facilitate in any way we can do so.

Happy Learning!

**Regards,**

**Renu Gurnani**  
**Principal**

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| ENGLISH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                  |
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| PT I<br>50 MARKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | HALF YEARLY EXAM<br>80 MARKS                                                                                                                                                                                                                                                                                                                                                                                                             | PT II<br>50 MARKS                                                                                                                                                                                                                                                                                                                                                                                                                                            | ANNUAL EXAM<br>80+20 MARKS                                                                                                                                                                                                                                                                                                                       |
| <p><b><u>Hornbill</u></b><br/>Ch– 1 : The Portrait of a Lady<br/>Ch – 2 : We're not Afraid to Die... if We Can All Be Together<br/>Ch– 3 : Discovering Tut: The Saga Continues</p> <p><b><u>Poem:</u></b><br/>P–1 : A Photograph<br/>P –2 : The Laburnum top<br/>P –3 : The Voice of the Rain</p> <p><b><u>Snapshots</u></b><br/>Ch - 1: The summer of the Beautiful White Horse</p> <p><b><u>Writing Skills</u></b></p> <ul style="list-style-type: none"> <li>• Notice</li> <li>• Article writing</li> <li>• Speech</li> </ul> | <p><b><u>Hornbill</u></b><br/>Ch – 4 : Landscape of the soul<br/>Ch – 5 : The Ailing Planet: The Green Movement's Role</p> <p><b><u>Poem:</u></b><br/>P – 4 : Childhood</p> <p><b><u>Snapshots</u></b><br/>Ch – 2 The Address<br/>Ch – 3 Ranga's Marriage</p> <p><b><u>Writing Skills</u></b></p> <ul style="list-style-type: none"> <li>• Drafting Poster making</li> <li>• Business/formal letters + Entire Syllabus of PT1</li> </ul> | <p><b><u>Hornbill</u></b><br/>Ch – 6 : The Browning Version<br/>Ch–7: The Adventure<br/>Ch–8: Silk Road</p> <p><b><u>Poem:</u></b><br/>P – 5 : Father to son</p> <p><b><u>Snapshots</u></b><br/>Ch– 4 Albert Einstein at School<br/>Ch – 5 Mother's Day<br/>Ch – 8 : The Tale of Melon city</p> <p><b><u>Writing Skills</u></b></p> <ul style="list-style-type: none"> <li>• Reports / Narratives</li> <li>• Advertisement</li> <li>• Note making</li> </ul> | <p><b><u>Hornbill</u></b><br/>Entire Syllabus</p> <p><b><u>Poem:</u></b><br/>Entire Syllabus</p> <p><b><u>Snapshots</u></b><br/>Ch – 6 : The Ghat of the only world<br/>Ch – 7 : Birth + Entire Syllabus</p> <p><b><u>Writing Skills</u></b></p> <ul style="list-style-type: none"> <li>• Letter of Job application + Entire Syllabus</li> </ul> |

| <b>BIOLOGY</b>                                                                                           |                                                                                                                                                                                                                                                 |                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PT I<br/>50 MARKS</b>                                                                                 | <b>HALF YEARLY EXAM<br/>70 MARKS</b>                                                                                                                                                                                                            | <b>PT II<br/>50 MARKS</b>                                                                                                                                                                  | <b>ANNUAL EXAM<br/>70 + 30 MARKS</b>                                                                                                                                                                                                                                             |
| Ch-1: The living World<br>Ch-2: Biological Classification<br>Ch-3: Plant Kingdom<br>Ch-4: Animal Kingdom | Ch-5: Morphology of Flowering Plants<br>Ch-6: Anatomy of Flowering Plants<br>Ch-7: Structural Organizations in Animals<br>Ch-8: The Unit of Life<br>Ch-9 : Biomolecules<br>Ch-10 : Cell Cycle and Cell Division<br>+<br>Entire Syllabus of PT 1 | Ch-11: Transport in Plants<br>Ch-12: Mineral Nutrition<br>Ch-13: Photosynthesis<br>Ch-14: Respiration in Plants<br>Ch-15 : Plant Growth and Development<br>Ch-16: Digestion and Absorption | Ch-17: Breathing and Exchange of Gases<br>Ch-18: Body Fluid and Circulation<br>Ch 19: Excretory Products and Their Elimination<br>Ch 20: Locomotion and Movement<br>Ch-21: Neural Control and Co-ordination<br>Ch-22: Chemical Control and Co-ordination<br>+<br>Entire Syllabus |
| <b>PHYSICS</b>                                                                                           |                                                                                                                                                                                                                                                 |                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                  |
| <b>PT I<br/>50 MARKS</b>                                                                                 | <b>HALF YEARLY EXAM<br/>70 MARKS</b>                                                                                                                                                                                                            | <b>PT II<br/>50 MARKS</b>                                                                                                                                                                  | <b>ANNUAL EXAM<br/>70 MARKS</b>                                                                                                                                                                                                                                                  |
| Ch-1: Physical World and Measurement                                                                     | Ch-5: Laws of Motion<br>Ch-6: Work Energy and                                                                                                                                                                                                   | Ch-8 Gravitation<br>Ch-9 Mechanical Properties                                                                                                                                             | Ch-12 Thermodynamics<br>Ch-13 Kinetic Theory of Gases                                                                                                                                                                                                                            |

|                                                                                             |                                                                                         |                                                                                        |                                                           |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Ch-2: Units and Measurement<br>Ch-3: : Motion in a Straight Line<br>Ch-4: Motion in a Plane | Power<br>Ch-7: System of Particle and Rotational Motion<br>+<br>Entire Syllabus of PT 1 | of Solid<br>Ch-10 Mechanical Properties of Fluid<br>Ch-11 Thermal Properties of Matter | Ch-14 Oscillations<br>Ch-15 Waves<br>+<br>Entire Syllabus |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------|

### CHEMISTRY

| <b>PT I<br/>50 Marks</b>                                                                                                         | <b>Half Yearly Exam<br/>70 Marks</b>                                                                                                            | <b>PT II<br/>50 Marks</b>                                                                                          | <b>Annual Exam<br/>70 + 30 Marks</b>                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Ch-1 : Basic Concepts of Chemistry<br>Ch-2: Structure of atom<br>Ch-3: Classification of elements and Periodicity in properties. | Ch-4: Bonding and Molecular structure.<br>Ch-8: Redox reaction<br>Ch-9: Hydrogen<br>Ch-14:Environment Chemistry<br>+<br>Entire Syllabus of PT 1 | Ch-12: Organic chemistry – Some basic principles and techniques<br>Ch-13:Hydrocarbons<br>Ch-7:Chemical Equilibrium | Ch-5: States of Matter<br>Ch-6:Chemical thermodynamics<br>Ch-10: S block elements<br>Ch-11: P block elements<br>+<br>Entire Syllabus |

### BUSINESS STUDIES

| <b>PT I<br/>50 MARKS</b>                                        | <b>HALF YEARLY EXAM<br/>80 MARKS</b>                          | <b>PT II<br/>50 MARKS</b>                                                              | <b>ANNUAL EXAM<br/>90+ 10 MARKS</b>                                        |
|-----------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Ch-1 Nature and Purpose of Business<br>Ch-3 Private, Public and | Ch-2 Forms of Business Organisation<br>Ch-5 Emerging Modes of | Ch-6 Social Responsibility of Business and Business Ethics<br>Ch-7 Sources of Business | Ch-8 Small Business<br>Ch-9 Internal Trade<br>Ch-10 International Business |

|                                              |                                                 |         |                                      |
|----------------------------------------------|-------------------------------------------------|---------|--------------------------------------|
| Global Enterprises<br>Ch-4 Business Services | Business<br>+<br>Viva + Entire Syllabus of PT I | Finance | Project Work<br>+<br>Entire Syllabus |
|----------------------------------------------|-------------------------------------------------|---------|--------------------------------------|

**ACCOUNTANCY**

| <b>PT I<br/>50 MARKS</b>                                                                                                                                                                                                                                        | <b>HALF YEARLY EXAM<br/>80 MARKS</b>                                                                                                                                                                                        | <b>PT II<br/>50 MARKS</b>                                                                                                                                 | <b>ANNUAL EXAM<br/>90+ 10 MARKS</b>                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ch-1 Introduction of Accounting<br>Ch-2 Basic Accounting Terms<br>Ch-3 Theory Base of Accounting<br>Ch- 4 Bases of Accounting<br>Ch-6 Accounting Procedures – Rules of Debit and Credit<br>Ch-7 Origin of Transaction & Preparation of Vouchers<br>Ch-8 Journal | Ch-5 Accounting Equation<br>Ch-10 Special purpose book I – Cash book<br>Ch-11 Special purpose book – Other books<br>Ch-9 Ledger<br>Ch-13 Trial Balance<br>Ch-16 Bills of Exchange<br>+ Viva<br>+<br>Entire Syllabus of PT I | Ch-12 Bank Reconciliation Statement<br>Ch-18 & 19 financial Statements of sole Proprietorship with and without adjustment<br>Ch-15 Provision and Reserves | Ch-14 Depreciation<br>Ch- 20 Accounting for Incomplete records<br>Ch-17 Rectification of Errors<br>Ch-21 & 22 Computers in Accounting + Accounting Software<br>Project work<br>+<br>Entire Syllabus |

**ECONOMICS**

| <b>PT I<br/>50 MARKS</b>                                | <b>HALF YEARLY EXAM<br/>80 MARKS</b>                   | <b>PT II<br/>50 MARKS</b>                                    | <b>ANNUAL EXAM<br/>80 + 20 MARKS</b>                      |
|---------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------|
| <u>Micro Economics</u><br><b>Unit-1</b> Introduction of | <u>Micro Economics</u><br><b>Unit-4</b> Form of Market | <u>Micro Economics</u><br><b>Unit-2</b> Consumer Equilibrium | <u>Micro Economics</u><br><b>Unit-3</b> Producer Behavior |

| Microeconomics<br><b>Unit-2</b> Consumer Equilibrium & Demand<br><u><b>Statistics</b></u><br><b>Unit-1</b> Introduction of statistics in economics | <u><b>Statistics</b></u><br><b>Unit-2</b> Collection, Organization and Presentation of data<br><b>Unit-3</b> Statistical Tools<br>+<br>Entire Syllabus of PT 1 | <u><b>Statistics</b></u><br><b>Unit- 4</b> Price determination | Project work<br>+<br>Entire Syllabus             |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------|
| <b>ENTREPRENEURSHIP</b>                                                                                                                            |                                                                                                                                                                |                                                                |                                                  |
| <b>PT I<br/>50 MARKS</b>                                                                                                                           | <b>HALF YEARLY EXAM<br/>70 MARKS</b>                                                                                                                           | <b>PT II<br/>50 MARKS</b>                                      | <b>ANNUAL EXAM<br/>70 + 30 MARKS</b>             |
| Unit-1 Entrepreneurship - What, Why and How                                                                                                        | Unit-2 An Entrepreneur<br>Unit-3 Entrepreneurial Journey<br>Unit-4 Entrepreneurship as Innovation and Problem Solving<br>+<br>Entire Syllabus of PT I          | Unit-5 Understanding the Market<br>Unit-6 Business Arithmetic  | Unit-7 Resource Mobilization<br>+Entire Syllabus |
| <b>PHYSICAL EDUCATION</b>                                                                                                                          |                                                                                                                                                                |                                                                |                                                  |
| <b>PT – I</b>                                                                                                                                      | <b>HALF YEARLY</b>                                                                                                                                             | <b>PT - II</b>                                                 | <b>FINAL</b>                                     |
| <b>Unit 1</b><br>Changing trends & career in                                                                                                       | <b>Unit 4</b><br>Physical education & sports                                                                                                                   | <b>Unit 8</b><br>Fundamentals of Anatomy,                      | <b>Entire syllabus</b>                           |

|                                                         |                                                                                   |                                                 |  |
|---------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------|--|
| Physical education                                      | for CWSN<br>(Children With Special Needs–Divyang)                                 | Physiology & Kinesiology in sports              |  |
| <b>Unit 2</b><br>Olympic value education                | <b>Unit 5</b><br>Yoga                                                             | <b>Unit 9</b><br>Psychology & Sports            |  |
| <b>Unit 3</b><br>Physical fitness, wellness & lifestyle | <b>Unit 6</b><br>Physical activity & leadership training                          | <b>Unit 10</b><br>Training and Doping in Sports |  |
|                                                         | <b>Unit 7</b><br>Test, Measurement & Evaluation<br><b>Entire syllabus of PT I</b> |                                                 |  |

**MATHS**

| <b>PT I</b><br><b>50 MARKS</b>                                                     | <b>HALF YEARLY</b><br><b>100 MARKS</b>                                                                                                                                          | <b>PT II</b><br><b>50 MARKS</b>                                                                                        | <b>ANNUAL EXAM</b><br><b>100 MARKS</b>                                                                                     |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Ch- 1 : Sets<br>Ch-2 : Relations and Functions<br>Ch-3 : Trigonometry<br>Functions | Ch-4 : Principle of Mathematical Induction<br>Ch-5 : Complex number and quadratic equations<br>Ch-6 : Linear Inequalities<br>Ch-9 : Sequence and series<br>Ch-14 : Mathematical | Ch-7 : Permutation and combination<br>Ch-8 : Binomial Theorem<br>Ch-10 : Straight lines<br>Ch-12 : Introduction to 3-D | Ch-11 : Conic sections<br>Ch-13 : Limits and derivatives<br>Ch-15 : Statistics<br>Ch-16 : Probability<br>+ Entire Syllabus |

|                                                                                                                                                                                                                      | Reasoning                                                                                                                                                                             |                                                                                                                                                                                      |                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| INFORMATICS PRACTICES                                                                                                                                                                                                |                                                                                                                                                                                       |                                                                                                                                                                                      |                                                                                                                    |
| PT I                                                                                                                                                                                                                 | HALF YEARLY EXAM                                                                                                                                                                      | PT II                                                                                                                                                                                | ANNUAL EXAM                                                                                                        |
| <b>Ch – 1.</b> Basic Computer Organization<br><b>Ch – 2.</b> Data Representation - Basic Concept<br><b>Ch – 3.</b> Getting Started With Python<br><b>Ch – 4.</b> Python Fundamentals<br><b>Ch – 5.</b> Data Handling | <b>Ch – 6.</b> Conditional and Iterative Statements<br><b>Ch – 7.</b> Text Handling<br><b>Ch – 8.</b> List Manipulation<br><b>Ch – 9.</b> Dictionaries<br>+<br><b>Syllabus of PT1</b> | <b>Ch – 10.</b> Working With NumPy<br><b>Ch – 11.</b> Relational Databases<br><b>Ch – 12.</b> Simple Queries in SQL<br><b>Ch – 13.</b> Table Creation and Data Manipulation commands | <b>Ch – 14.</b> Cyber Safety<br><b>Ch – 15.</b> Online Access and Computer Security<br>+<br><b>Entire Syllabus</b> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                           | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Hornbill</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>Ch. 1 : THE PORTRAIT OF A LADY:</b><br/> <b>To make the students</b></p> <ul style="list-style-type: none"> <li>• identify the genre to which the story belongs.</li> <li>• understand the techniques used by the author.</li> <li>• enhance vocabulary.</li> <li>• strengthen family bonds.</li> <li>• comprehend the cultural background of the story.</li> <li>• facilitate making connections between similar situations in different storylines/life experiences .</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• develop their optimistic attitude towards life amidst many struggles.</li> <li>• develop an attitude to become more independent in thought and action, responsible and cooperative, understanding and tolerant.</li> <li>• understand the feelings of parents and grandparents.</li> </ul> | <ul style="list-style-type: none"> <li>• The Portrait of A Lady is a reminder about a growing distance between the young and the older generation. <b>A debate will be conducted on the topic “Living with grandparents is a boon to every individual”.</b></li> <li>• Divide class in half, assign each half of the class a position on a topic or issue. Give students approximately 15 minutes to prepare an argument for their position. After 15 minutes, have each side share their position.</li> <li>• After each side provides their “Opening Argument,” each side must then prepare to respond to the opposition’s argument (give students approximately 10 minutes). This part requires members of the groups to carefully listen to and reconstruct the opposition’s argument.</li> <li>• After each side provides their criticisms of the opposition’s position, each group then has the</li> </ul> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                      | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                        | opportunity to respond to the criticisms (give students approximately 10 minutes to prepare their responses to this as well).                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Poem 1 : A PHOTOGRAPH</b><br/> <b>To make the students</b></p> <ul style="list-style-type: none"> <li>• appreciate poetry and read aloud with proper intonation.</li> <li>• understand poetic forms and adept them with the figures of speech, rhyme and rhythm, build up didactics, empathy and sympathy with the loss of the speaker.</li> <li>• understand the mother daughter relationship which is intense.</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• grasp the theme and meaning of the poem.</li> <li>• read the poem with proper tone and rhyme and develop an interest in poetry.</li> <li>• strengthen their vocabulary.</li> <li>• draw a comparative study between human life and nature.</li> </ul> | <p><b><u>POST IT PARADE</u></b></p> <ul style="list-style-type: none"> <li>• Students are provided with a question: (“<b>How do you react to photographs taken when you were very young?</b>”) for which they need to generate ideas.</li> <li>• Give each student a few post-its, and have them write out 1 idea per post-it.</li> <li>• Students then post the post-its on the chalk-board or wall. Depending on the question or prompt, it may be useful to have them place the post-its in areas to group them by topic, question, chronologically, etc.</li> </ul> |
| <p><b>Ch. 2 : WE’RE NOT AFRAID TO DIE IF WE CAN ALL BE TOGETHER :</b><br/> <b>To make the students:</b></p> <ul style="list-style-type: none"> <li>• identify the problem; consider the options; weigh the pros and</li> </ul>                                                                                                                                                                                                    | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• enhance their problem solving skills.</li> <li>• imbibe the values of determination and will power.</li> </ul>                                                                                                                                        | <p><b><u>PRO-CON GRID</u></b></p> <ul style="list-style-type: none"> <li>• Pick a topic (“<b>TAKE RISKS IN LIFE,IF YOU WIN YOU CAN LEAD,IF YOU LOSE YOU AN GUIDE</b>”)that lends itself to the idea of making lists of pros and cons/advantages and</li> </ul>                                                                                                                                                                                                                                                                                                          |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                            | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                  | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p>cons of each option; reach a decision.</p> <ul style="list-style-type: none"> <li>• make connections between similar situations in different storylines/life experiences.</li> <li>• distinguish different perspective; analyzing them; drawing conclusion/s.</li> </ul>                                                                                                          | <ul style="list-style-type: none"> <li>• develop their reading skills.</li> </ul>                                                                                                                                                                                                                                                                                  | <p>disadvantages of taking risks in life.</p> <ul style="list-style-type: none"> <li>• break students up into small groups. Have the groups come up with at least three points for each side. Additionally, let students know whether they should be putting their lists together in point form or full sentences.</li> <li>• once students have had time to complete the activity, bring the class back together to share and discuss points on each side.</li> </ul> |
| <p><b>Ch. 3 : DISCOVERING TUT: THE SAGA CONTINUES :</b></p> <p><b>To make students:</b></p> <ul style="list-style-type: none"> <li>• familiarize with specific background information of author/book excerpt/ history of Tutankhamun.</li> <li>• relate the characteristics of literature to larger cultural and human values.</li> <li>• identify the techniques used by</li> </ul> | <p><b>The students will be able to :</b></p> <ul style="list-style-type: none"> <li>• grasp the theme and meaning of the prose.</li> <li>• enhance their critical and creative thinking skills.</li> <li>• derive the moral values.</li> <li>• accept the reality of life.</li> <li>• enrich their vocabulary.</li> <li>• enhance their writing skills.</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Activity:</b> Research (with pictures) about the history of Tutankhamun and present it in the form of an <b>article</b>.</li> <li>• <b>PPT</b> providing the synopsis.</li> </ul>                                                                                                                                                                                                                                          |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | LEARNING OUTCOMES                                                                                                                                                                                                                | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| the writer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>Poem 2 : THE LABURNUM TOP :</b><br/> <b>Enable students to:</b></p> <ul style="list-style-type: none"> <li>• understand the critical appreciation of the poem based on rhyme, content and theme.</li> <li>• Identify the figures of speech used in the poem and appreciate aesthetic writing.</li> <li>• understand the cyclic movement of rain.</li> <li>• understand the hyperbole used in a beautiful way in comparing the sudden eruption of chitterings in the tree to that of an engine starting up.</li> </ul> | <p><b>The students will be able to :</b></p> <ul style="list-style-type: none"> <li>• grasp the theme and meaning of the poem.</li> <li>• read the poem with proper tone and rhyme and develop an interest in poetry.</li> </ul> | <p><b>See Think Wonder</b><br/> <b>A routine for exploring works of art and other interesting things</b></p> <ul style="list-style-type: none"> <li>• What do you <b>see</b>?</li> <li>• What do you <b>think</b> about that?</li> <li>• What makes you <b>wonder</b>?</li> </ul>  <p>Ask students to make an observation about the picture and follow up with what they think might be going on or what they think this observation might be. Encourage students to back up their interpretation with reasons. Ask students to think</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                | LEARNING OUTCOMES                                                                                                                                                                                                                                                                 | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                   | about what makes them wonder about the picture.                                                                                                                                                                                                                                           |
| <b>Poem 3 : THE VOICE OF THE RAIN :</b><br><b>Enable students to:</b> <ul style="list-style-type: none"> <li>recognize the purpose of economy of words and the nuances of the lines that highlight the cyclic nature of rain and appreciate the diligence and divine quality of the speaker</li> </ul>   | <b>Students will be able to:</b> <ul style="list-style-type: none"> <li>grasp the theme and meaning of the poem.</li> <li>read the poem with proper tone and rhyme and develop an interest in poetry.</li> <li>draw a comparative study between human life and nature.</li> </ul> | <b><u>VENN DIAGRAM</u></b><br>Students will use venn diagram to group and separate concepts / ideas related to human life and nature and to get a sense of the things that you could write about.<br>Write few paragraphs about qualities that are common and then switch to differences. |
| <b>Snapshots</b>                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                           |
| <b>Ch. 1 : THE SUMMER OF THE BEAUTIFUL WHITE HORSE</b><br><b>To make students:</b> <ul style="list-style-type: none"> <li>get familiarize with specific background information of author / book excerpt.</li> <li>develop an attitude to become honest and trustworthy in thought and action.</li> </ul> | <b>The learners will be able to:</b> <ul style="list-style-type: none"> <li>apply the literal, interpretative and critical level in analyzing a short story.</li> <li>determine the tone of a short story.</li> <li>comprehend the irony hidden in the story.</li> </ul>          | <b><u>MIND MAP</u></b><br>Students will create mind maps to organize their ideas/views related to the two main characters <b>(Aram and Mourad)</b> of the lesson.                                                                                                                         |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                   | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                  |
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| <ul style="list-style-type: none"> <li>Recognize the technique of repetition as an element of style.</li> </ul>                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Grammar</b>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><b>NOTICE WRITING</b><br/> <b>Enable the students to:</b></p> <ul style="list-style-type: none"> <li>apply the correct format while writing a notice.</li> <li>comprehend why a notice is written and the style and procedure.</li> <li>understand the effective means of disseminating information related to different issues or occasions.</li> </ul> | <p><b>Students will be able to :</b></p> <ul style="list-style-type: none"> <li>analyse any NOTICE shown to them on the basis of the knowledge imparted.</li> <li>frame notice about any event.</li> <li>Identify important information in any given notice.</li> <li>use appropriate style and format to write a NOTICE effectively.</li> </ul> | <p>groups would be formed according to the range of Learners and the role of <b>5 Ws</b> would be distributed to frame a notice on the subject given.</p>  <p><b><u>PPT</u></b><br/>         (format and the objectives of notice, different types and different fields will be explained through Visual Representation)</p> |
| <p><b>ARTICLE WRITING :</b><br/> <b>Enable the students to:</b></p> <ul style="list-style-type: none"> <li>to enhance familiarizing</li> </ul>                                                                                                                                                                                                              | <p><b>Students will be able to :</b></p> <ul style="list-style-type: none"> <li>develop an interest towards writing.</li> </ul>                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>article writing on facts (Based on research)</li> <li>article writing-deriving ideas from interviews.</li> <li>newspaper articles.</li> </ul>                                                                                                                                                                                                                            |

| OBJECTIVE                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <p>with specific background information of author/ book excerpt / history.</p> <ul style="list-style-type: none"> <li>to express ideas fluently and spontaneously without difficulty in expressions, grammar usage, format usage, relevant vocabulary.</li> </ul> | <ul style="list-style-type: none"> <li>enhance their planning and organizing techniques.</li> <li>research on any subject and derive information from facts and present it in the form of a written piece.. strengthen their interpreting and evaluative skills.</li> </ul>                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Magazine articles.</li> <li>Written pieces on various subjects</li> <li>Displaying blogs of various writers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>SPEECH WRITING :</b><br/><b>Enable the students to:</b></p> <ul style="list-style-type: none"> <li>identify and define the important components of speech delivery and put these components into practice.</li> </ul>                                       | <p><b>Students will be able to :</b></p> <ul style="list-style-type: none"> <li>initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</li> <li>present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization,</li> </ul> | <ol style="list-style-type: none"> <li>Show students 3 video clips (only the selected parts):               <ol style="list-style-type: none"> <li><b>Emma Watson's speech</b></li> <li><b>TED Talk by Adora Svitak</b></li> <li><b>'I have a dream' by Martin Luther King Jr.</b></li> </ol> </li> <li>discuss each speech to talk about the audience and setting, and how these factors influence the speakers' style and tone.</li> <li>discuss each speech and pick out the persuasive devices used.</li> <li>distribute the transcript of Martin's speech and get students to work in groups to identify the different persuasive devices in the speech.</li> </ol> |

| OBJECTIVE                                                                                                                                                                                                            | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                     | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                |
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|                                                                                                                                                                                                                      | <p>development, substance, and style appropriate to purpose, audience and task.</p> <ul style="list-style-type: none"> <li>• adapt speech to a variety of contexts and tasks, demonstrating command of formal english when indicated or appropriate.</li> <li>• evaluate a speaker's point of view, reasoning, use of evidence and identify any fallacious reasoning or exaggerated or distorted evidence.</li> </ul> |                                                                                                                                                                                                                               |
| <b>HALF YEARLY EXAM</b>                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               |
| <b>Hornbill</b>                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               |
| <p><b>Ch.4- LANDSCAPE OF THE SOUL</b><br/> <b>To make the students :</b></p> <ul style="list-style-type: none"> <li>• identify the genre to which the story belongs.</li> <li>• understand the techniques</li> </ul> | <p><b>Students will be able to :</b></p> <ul style="list-style-type: none"> <li>• grasp the theme and meaning of the text.</li> <li>• draw a comparative study between European art and</li> </ul>                                                                                                                                                                                                                    | <p><b><u>RAFT</u></b></p> <p>It includes writing from different viewpoints. It helps students learn important writing skills such as audience, main idea, and organization. It teaches students to think creatively about</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                       | LEARNING OUTCOMES                                                                                                                                                                                                                         | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <p>used by the author.</p> <ul style="list-style-type: none"> <li>enhance their vocabulary.</li> <li>comprehend the concept of <i>shanshui</i> and the daoist view of the universe.</li> <li>compare between European art and Chinese art.</li> </ul>                                                                                           | <p>Chinese art.</p>                                                                                                                                                                                                                       | <p>writing by responding to the following prompts:<br/>                     role of the writer: who or what are you as the writer? (an european painter or a chinese painter?)<br/> <b>Audience:</b> to whom are you writing? a friend? your teacher? readers of a newspaper?<br/> <b>Format:</b> in what format are you writing? a letter? a poem? a speech?an article?<br/> <b>Topic and strong verb:</b> what are you writing about? Why? What's the subject or the point?</p>                         |
| <p><b>Ch.5: THE AILING PLANET-THE GREEN MOVEMENT’S ROLE</b><br/> <b>To make the students :</b></p> <ul style="list-style-type: none"> <li>aware about the imminent issues of declining health of planet earth.</li> <li>make connections between similar situations in different storylines/life experiences initiate the role of an</li> </ul> | <p><b>The learners will be able to:</b></p> <ul style="list-style-type: none"> <li>sensitize themselves towards the earth and environment.</li> <li>inculcate the values of leadership and contribute to make our earth green.</li> </ul> | <p><b>HEADLINES – A VISIBLE THINKING ROUTINE FOR CAPTURING ESSENCE</b><br/>                     This routine draws on the idea of newspaper-type headlines as a vehicle for summing up and capturing the essence of an event, idea, concept, topic, etc. The routine asks one core question:<br/>                     1. If you were to write a headline for this topic or issue(<b>The Ailing Planet-The Green Movement’s Role</b> )right now that captured the most important aspect that should be</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                     | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                               | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p>ambassador in the education of students and make them stewards of the Earth</p>                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                 | <p>remembered, what would that headline be?<br/>A second question involves probing how students' ideas of what is most important and central to the topic being explored have changed over time:</p> <p>2. How has your headline changed based on today's discussion? How does it differ from what you would have said yesterday?</p> <p><b>Slogan Writing on Go Green</b><br/>Newspaper search on various articles on environment</p> |
| <p><b>Peom: 4: CHILDHOOD</b><br/><b>To enable the students to:</b></p> <ul style="list-style-type: none"> <li>• understand, enjoy and appreciate different genre of English writing.</li> <li>• enhance vocabulary.</li> <li>• have better understanding of rhyme scheme and other poetic devices.</li> </ul> | <p><b>The students will be able :</b></p> <ul style="list-style-type: none"> <li>• think, analyse and observe</li> <li>• know how to identify rhyme scheme.</li> <li>• gain individuality.</li> <li>• differentiate between innocence and maturity.</li> <li>• respect different people.</li> <li>• appreciate poem.</li> </ul> | <p><b><u>1-Minute Paper/Reflections</u></b><br/>Provide students with one topic (<b>'Childhood is an essential state in the process of growing up, but it can't go on forever.'</b>) for brief reflection. Emphasize that responses should be concise. Each student then records and submits their answers. As needed, follow up on comments. Be sure to summarize and respond to any important</p>                                    |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                     | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                  | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <ul style="list-style-type: none"> <li>• know about the poet.</li> <li>• realize that childhood is a bliss.</li> <li>• think when and where has the childhood gone.</li> <li>• understand how childhood is innocent while maturity leads to individuality, rationalism and gaining understanding of hypocrisy to think rational.</li> </ul>                                   | <ul style="list-style-type: none"> <li>• learn where and when has his childhood gone</li> </ul>                                                                                                                                                                                                                                                                    | <p>questions or issues that arise in the students' responses the following class. (e.g. concepts that did not seem clear to students).</p>                                                                                                                                                                                                                                                                                                                                                  |
| <b>Snapshots</b>                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Ch.2 : THE ADDRESS</b><br/> <b>To enable the students :</b></p> <ul style="list-style-type: none"> <li>• to inculcate values like courage, empathy, sensitivity, critical thinking and maintaining relations.</li> <li>• to learn from past experiences.</li> <li>• to understand to forget the past and move ahead in life.</li> <li>• to appreciate family</li> </ul> | <p><b>The students would be able to :</b></p> <ul style="list-style-type: none"> <li>• enhance their vocabulary</li> <li>• analyse the situations and characters.</li> <li>• Express themselves effectively in the written form.</li> <li>• Communicate their ideas with a lot of conviction.</li> <li>• appreciate the theme and the message conveyed.</li> </ul> | <p><b><u>What Makes You Say That(A visible thinking routine)</u></b><br/> <b><u>Interpretation with Justification Routine</u></b><br/>         This routine helps students describe what they know about the main characters of the story and asks them to build explanations. It promotes evidential reasoning (evidence-based reasoning) and because it invites students to share their interpretations, it encourages students to understand alternatives and multiple perspectives.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                               | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                          | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                        |
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| <p>members and family bonding</p> <ul style="list-style-type: none"> <li>develop the comprehension skill, analytical skill, language skill and thinking skill.</li> </ul>                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>develop their skills.</li> <li>analyze the situations and characters of the chapter.</li> <li>use appropriate vocabulary and expressions. understand that the story underlines the human dilemma that follows war and death of a loved one.</li> </ul>              |                                                                                                                       |
| <p><b>Ch: 3: RANGA’S MARRIAGE</b><br/> <b>To guide the students to:</b></p> <ul style="list-style-type: none"> <li>relate the characteristics of literature to larger cultural and human values.</li> <li>make connections between similar situations in different storylines/life experiences.</li> <li>appreciate the timeless significance of the issue of marriage institution, role of English and gender stereotyping.</li> </ul> | <p><b>The students will be able :</b></p> <ul style="list-style-type: none"> <li>effectively provide a synopsis of the story.</li> <li>analyze the values and thought process of the story.</li> <li>appreciate the language, content and style of the prose.</li> <li>enrich their vocabulary.</li> </ul> | <p>Activity: Listen to an Article about the issue of marriage and gender stereotyping and complete the worksheet.</p> |

| OBJECTIVE                                                                                                                                                                                                                                             | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                               |                  |      |                    |         |
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| Grammar                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                              |                  |      |                    |         |
| <b>DRAFTING POSTERS</b><br><b>To enable the students to:</b> <ul style="list-style-type: none"><li>to express ideas aesthetically and relevantly with definition in purpose, expressions, grammar usage, format usage, relevant vocabulary.</li></ul> | <b>The students will be able :</b> <ul style="list-style-type: none"><li>comprehend an effective poster making as a tool of visual communication.</li><li>focus on the message to be delivered.</li><li>keep the sequence well ordered.</li><li>use graphs and images effectively.</li><li>plan and organize a poster presentation.</li><li>use spacing, margins, colours, and layout to maximize effectiveness and list information about their invention.</li></ul> | <b><u>Visual presentation</u></b><br>NAME OF ISSUING AUTHORITY<br><u>TAGLINE TITLE/NAME OF THE EVENT</u> (exhibition, workshop, etc.)<br>SPECIAL ATTRACTIONS<br>ILLUSTRATION (WITH A CAPTION)<br><br><u>WHEN</u> (date and time) <u>AND WHERE</u><br><u>ENTRY FEES</u> (if any) <u>AND OTHER RELEVANT INFORMATION</u><br>CONTACT INFORMATION |                  |      |                    |         |
| <b>LETTER TO THE EDITOR</b><br><b>To enable the students to:</b> <ul style="list-style-type: none"><li>to express ideas harmoniously and chronologically without difficulty in expressions,</li></ul>                                                 | <b>The students will be able :</b> <ul style="list-style-type: none"><li>organise their thoughts and express freely.</li><li>develop an interest towards writing thus enhancing their</li></ul>                                                                                                                                                                                                                                                                       | <b><u>PPT to understand the format</u></b> <table><tr><td>Sender’s address</td></tr><tr><td>Date</td></tr><tr><td>Receiver’s Address</td></tr><tr><td>Subject</td></tr></table>                                                                                                                                                              | Sender’s address | Date | Receiver’s Address | Subject |
| Sender’s address                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                              |                  |      |                    |         |
| Date                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                              |                  |      |                    |         |
| Receiver’s Address                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                              |                  |      |                    |         |
| Subject                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                              |                  |      |                    |         |

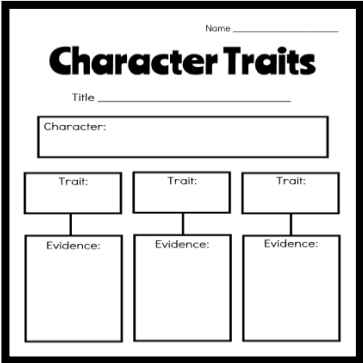
| OBJECTIVE                                                                                                                                                                                                                                                                          | LEARNING OUTCOMES                                                                                                                                                                                                                                                    | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                          |            |                    |  |                       |                                          |
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| grammar usage, format usage, relevant vocabulary. <ul style="list-style-type: none"><li>to express ideas fluently and relevantly without difficulty in expressions and purpose, grammar usage, format usage, relevant vocabulary.</li></ul>                                        | writing skills. <ul style="list-style-type: none"><li>enhance their thinking skills</li></ul>                                                                                                                                                                        | <table><tr><td>Salutation</td></tr><tr><td>Body of the letter</td></tr><tr><td></td></tr><tr><td>Complimentary closing</td></tr><tr><td>Sender's Name, signature and designation</td></tr></table> <b>Selecting and discussing Newspaper reports editorial / Placing an order for a book/Letter of complaint to the Municipal corporation</b>                                                                           | Salutation | Body of the letter |  | Complimentary closing | Sender's Name, signature and designation |
| Salutation                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  |                       |                                          |
| Body of the letter                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  |                       |                                          |
|                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  |                       |                                          |
| Complimentary closing                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  |                       |                                          |
| Sender's Name, signature and designation                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  |                       |                                          |
| PT – II EXAM                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  |                       |                                          |
| Hornbill                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                    |  |                       |                                          |
| <b>Ch. 6 : THE BROWNING VERSION : To enable the students to</b> <ul style="list-style-type: none"><li>inculcate the values of respecting teachers, mankind, sense of duty, punctuality and appreciation.</li><li>acquire proper mannerism attitude towards teachers, not</li></ul> | <b>The students will be able to</b> <ul style="list-style-type: none"><li>enhance their vocabulary</li><li>know how to take role play</li><li>learn how to display mannerism and attitude towards others.</li><li>be punctual and develop a sense of duty.</li></ul> | <b><u>Think Pair Share</u></b><br><b><u>A routine for active reasoning and explanation</u></b><br><b><i>Think Pair Share</i></b> involves posing a question ( <b>"In what ways are the attitude of students towards their teachers changing?"</b> ) to students, asking them to take a few minutes of thinking time and then turning to a nearby student to share their thoughts. The Think Pair Share routine promotes |            |                    |  |                       |                                          |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                          | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| indulge in destructive criticism.                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                  | understanding through active reasoning and explanation. Because students are listening to and sharing ideas, Think Pair Share encourages students to understand multiple perspectives.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Ch. 7 : THE ADVENTURE :</b><br/> <b>To enable the students to understand:</b></p> <ul style="list-style-type: none"> <li>• theme based on the indian independence scenario.</li> <li>• the social realities of the colonial india the ‘catastrophic experience’ that the professor had situations and characters.</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• read effectively with proper voice modulation.</li> <li>• comprehend the chapter.</li> <li>• enhance their vocabulary.</li> <li>• analyse the situations and characters.</li> <li>• express themselves effectively in the written form.</li> <li>• communicate their ideas with a lot of conviction.</li> </ul> | <p><b><u>Reporter's Notebook</u></b><br/> <b><u>A routine for separating fact and feeling</u></b><br/> Identify a situation, a story or dilemma for discussion (what might have happened if the Marathas had not granted a concession to the East India Company to stay in Bombay and not sought their help in running their research wing of science and technology.)<br/> Ask students to identify the <i>Facts and Events</i> of the situation. As students name them, ask if these are clear facts, or if they need more information about them.<br/> Ask students to then name the <i>Thoughts &amp; Feelings</i> of the characters/participants involved in the story. As students name them, ask if these are clear facts, or if they need more information about</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                           | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                         | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>them.</p> <p>After a discussion, ask to make their best judgment of the situation, based on the information at hand.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p><b>Ch. 8 : SILKROAD :</b></p> <p><b>To enable the students to</b></p> <ul style="list-style-type: none"> <li>• recognize that we all do not share the same beliefs.</li> <li>• analyse graphic description of har and manasarovar.</li> <li>• understand the reality of the condition of Manasarovar.</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• select and extract relevant information, using reading skills of skimming and scanning.</li> <li>• understand the writer's attitude and bias, comprehend the difference between what is said and what is implied.</li> <li>• understand the language of propaganda and persuasion.</li> <li>• differentiate between claims and realities, facts and opinions.</li> </ul> | <p><b><u>DE BONO'S SIX THINKING HATS</u></b></p> <p>Each "Thinking Hat" is a different style of thinking.</p> <p>White Hat: with this thinking hat, you focus on the available data about Har and Mansarovar.</p> <p>Red Hat: "wearing" the Red Hat, you look at problems in Har and Mansarovar using your intuition, gut reaction, and emotion.</p> <p>Black Hat: helps to make your plans "tougher" and more resilient.</p> <p>Yellow Hat: this hat helps you to think positively about the topic.</p> <p>Green Hat: the Green Hat represents creativity. This is where you develop creative solutions to a problem.</p> <p>Blue Hat: this hat represents process control.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                      | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                             |
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| <p><b>POEM 5 : FATHER TO SON :</b><br/> <b>To enable the students to:</b></p> <ul style="list-style-type: none"> <li>• cultivate interest and appreciate poetry and develop the ability of reading with proper stress and intonation.</li> <li>• prepare for poetic. forms and adept them with the figures of speech, rhyme and rhythm.</li> <li>• develop the ability of appreciation of ideas.</li> <li>• develop thought, critical analysis on the basis of the text read.</li> <li>• express their views logically with clarity.</li> <li>• feel pain of chasm (gap) between generation (thinking)</li> <li>• understand the consequences of lack of communication and cold</li> </ul> | <p><b>The students will be able to :</b></p> <ul style="list-style-type: none"> <li>• comprehend and appreciate poetry.</li> <li>• learn new words.</li> <li>• enhance understanding of literary devices.</li> <li>• read with proper intonation and stress.</li> <li>• express effectively (both verbal and written form).</li> </ul> | <p>As a child, write an <b>APOLOGY LETTER</b> to your parents expressing your confession of being responsible of cold indifferences between you and your parents and finding solutions to the problem.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                             |
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| indifferences in a family, take steps for reconciliation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Snapshots</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Ch.4 : ALBERT EINSTEIN AT SCHOOL :</b></p> <p><b>To enable the students to:</b></p> <ul style="list-style-type: none"> <li>comprehend the text.</li> <li>learn/enrich vocabulary and its usage.</li> <li>hone speaking and writing skills.</li> <li>know Einstein's theory of education.</li> <li>understand the circumstances which lead to his expulsion from school.</li> <li>gain insight into the attitude of teachers towards Einstein.</li> <li>know about Einstein's nature based on his conversation with various teachers.</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>gain insight into the attitude of various teachers towards Einstein.</li> <li>know about Einstein's nature based on his conversation with various teachers.</li> <li>understand the difference between information gathering and insight formation</li> <li>understand the struggles and conflicts faced by Einstein.</li> <li>know Einstein's theory of education.</li> <li>know that ideas matter rather than the facts.</li> <li>have an honest approach</li> </ul> | <p><b><u>CHARACTER SKETCH</u></b></p> <p>A character sketch highlights several important characteristics or personality traits of a person -- a real person, a person in literature, or an imagined person. A good character sketch provides support detail for each identified trait.</p> <p>Students will write the character sketch of Albert Einstein using the graphic organiser.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                  | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                          |
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|                                                                                                                                                                                                                                                                                                                   | <p>towards solving the problem.</p> <ul style="list-style-type: none"> <li>know various incidents from the life of the scientist.</li> </ul>                                                                                                                                                       |                                                                                                                                                                                                                                                                                                      |
| <p><b>Ch. 5 : MOTHER'S DAY :</b><br/> <b>To enable the students to :</b></p> <ul style="list-style-type: none"> <li>imbibe values like care and concern, empathy, compassion, respect for elders, belongingness and tolerance.</li> <li>understand the struggles and sacrifices of parents and to draw</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>know that mothers have equal rights to enjoy their lives.</li> <li>strengthen the family bonding with sharing and solving problem.</li> <li>develop analytical skills, thinking skills, decision making,</li> </ul> | <p><b>Write a Script and present a Role Play on Mother's Day.</b><br/> <b>Step 1:</b> Identify the Situation<br/>         To start the process, gather people together, introduce the problem, and encourage an open discussion to uncover all of the relevant issues.<br/> <b>Step 2:</b> Add Details<br/>         Next, set up a scenario in enough detail for it to feel "real."</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                               | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <p>inspiration from them.</p> <ul style="list-style-type: none"> <li>strengthen the family bonding with sharing and solving problems.</li> <li>accept the members of the family without complaining.</li> <li>develop analytical skills, thinking skills, decision making, management skills, logical skills.</li> <li>realise the worth of sacrifice and struggles of parents for children.</li> </ul> | <p>management skills, logical skills.</p> <ul style="list-style-type: none"> <li>identify and understand the central/main point and supporting details along with the phrases used in the lesson.</li> <li>imbibe values like care and concern, empathy, compassion, respect for elders, belongingness and tolerance.</li> </ul> | <p><b>Step 3:</b> Assign Roles<br/>Once you've set the scene, identify the various characters involved in the scenario. Once you've identified these roles, allocate them to the people involved in your exercise</p> <p><b>Step 4:</b> Act Out the Scenario<br/>Each person can then assume their role, and act out the situation, trying different approaches where necessary.</p> <p><b>Step 5:</b> Discuss What You Have Learned<br/>When you finish the role-play, discuss what you've learned, so that you or the people involved can learn from the experience.</p> |
| <p><b>Ch. 8 : TALE OF MELON CITY</b><br/><b>Enable students to</b></p> <ul style="list-style-type: none"> <li>read and recognize the purpose of economy and the hidden satire, irony and pun in the nuances.</li> <li>build up didactics on the role of</li> </ul>                                                                                                                                      | <p><b>The students would be able to</b></p> <ul style="list-style-type: none"> <li>grasp the theme and meaning of the poem.</li> <li>read the poem with proper tone and rhyme and develop an interest in poetry.</li> <li>raise their concern and sensitize</li> </ul>                                                           | <p>Research on the literary laureate Vikram Seth and relate the poem to one of his other poems.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                          | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                       | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                     |
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| democracy in a state.                                                                                                                                                                                                                                                                                                                                                                                                                              | themselves for establishing inner as well as outer peace.                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                    |
| <b>Grammar</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                    |
| <b>REPORT WRITING :</b><br><b>To enable the students to :</b><br>express ideas harmoniously and chronologically without difficulty in expressions, grammar usage, format usage, relevant vocabulary.                                                                                                                                                                                                                                               | <b>The learners would be able to</b> <ul style="list-style-type: none"> <li>organize their thoughts and express freely.</li> <li>develop an interest towards writing thus enhancing their writing skills.</li> </ul>                                                                                                                                                                                    | Students will read the reports from the newspapers, blogs, websites and they'll learn to write one.<br><b>BLOGS WILL BE PREPARED AND PRESENTED</b> |
| <b>Advertisement</b><br><b>Guide and motivate students to</b> <ul style="list-style-type: none"> <li>express and write effectively.</li> <li>develop knowledge and purpose of writing advertisements.</li> <li>understand the form, content and process of writing.</li> <li>retain a data and information.</li> <li>organize ideas on a particular subject.</li> <li>practice to enhance the skills.</li> <li>create social awareness.</li> </ul> | <b>The students will learn to</b> <ul style="list-style-type: none"> <li>write effectively.</li> <li>Develop and strengthen business relations.</li> <li>write in formal tone, to be precise and to the point.</li> <li>Focus on the qualifications and experiences.</li> <li>Write with appropriate vocabulary and expressions.</li> <li>express their ideas by using short writing skills.</li> </ul> | <b>GOOGLE SLIDES WILL BE PREAPRED AND PRESENTED</b>                                                                                                |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                        | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                        |
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| <ul style="list-style-type: none"> <li>• understand and recollect the formats of advertisements.</li> <li>• express and write effectively.</li> <li>• write with appropriate expressions and vocabulary.</li> <li>• link ideas and expressions.</li> <li>• encourage the students to develop their reading habit (newspapers, articles, journals etc).</li> </ul> |                                                                                                                                                                                                                                                                                                          |                                                                       |
| <p><b>NOTE MAKING</b><br/> <b>To enable the students to :</b></p> <ul style="list-style-type: none"> <li>• summarize information from different written text, reconstructing arguments and accounts in a coherent presentation.</li> <li>• express spontaneously, concisely and precisely, differentiating finer shades of</li> </ul>                             | <p><b>The learners would be able to</b></p> <ul style="list-style-type: none"> <li>• differentiate between annotation, outline notes, column notes, mind maps and summary notes from a text.</li> <li>• use the note taking suggestions to develop good notes based on classroom discussions.</li> </ul> | <p><b>PPT demonstrating the technique and art of note making.</b></p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                  | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <p>significance even in the most complex situations.</p> <ul style="list-style-type: none"> <li>express ideas with extra information and complexity, fluently.</li> </ul>                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Snapshots</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p><b>Ch.6: THE CHAT OF THE ONLY WORLD</b></p> <p><b>To enable the students to-</b></p> <ul style="list-style-type: none"> <li>inculcate values like respect, being responsible, work for excellence, time management, commitment and determination, care and concern, humility, optimism, helping and tolerance.</li> <li>make use of practical knowledge.</li> <li>develop comprehension skill, analytical skill, sensitivity, awareness, presence of mind,</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>develop their optimistic attitude towards life amidst many struggles.</li> <li>enhance their problem solving skills.</li> <li>Inculcate the values of determination and will power.</li> <li>grasp meaning of the prose.</li> </ul> | <p><b><u>TONY RYAN’S THINKER’S KEYS</u></b></p> <p>Thinker’s Keys are a range of question starters developed by Tony Ryan. They are designed to engage and motivate students in divergent thinking activities and provide a framework for teachers when developing units of work. The following keys will be used in this chapter:</p> <p><b>The What If? :</b> For any topic or question, ask a What If? It can be silly or serious (What if Shahid had lost all hope after becoming a cancer patient?</p> <p><b>The Alphabet:</b> List words from A-Z related to the topic being discussed.</p> <p><b>The Disadvantages:</b> List the disadvantages of any topic or question, and discuss ways of improving</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                            | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                   | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| time management, language skills and thinking skill.                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                     | <p>them. What are the effects of political violence in Kashmir?</p> <p><b>Different Uses:</b> How many ways can information learnt about a topic be used? How can a secular outlook help a person?</p> <p><b>The Brainstorming:</b> Think of as many solutions to a problem as possible. How can one be cheerful while dealing with a dreadful disease?</p> <p><b>The Variation:</b> How many different ways can a problem be solved? (What are the different ways to deal with stress in life?)</p>                                                  |
| <p><b>Ch.7: BIRTH</b></p> <p><b>To enable the students to-</b></p> <ul style="list-style-type: none"> <li>• be cheerful, lively, witty and sociable.</li> <li>• never to lose hope.</li> <li>• understand the importance of practical experience in medical field.</li> <li>• develop comprehension skill, analytical skill, sensitivity,</li> </ul> | <p><b>The students will be able to-</b></p> <ul style="list-style-type: none"> <li>• understand the sense of duty.</li> <li>• appreciate and accept the selfless service to mankind.</li> <li>• realise and create a balance between the knowledge gained and practical approach.</li> <li>• interpret that the story hinges on the theme- never say die</li> </ul> | <p><b><u>Tug for Truth</u></b></p> <p><b><u>A routine for exploring tensions of truth</u></b></p> <p>It encourages students to reason carefully about the "pull" of various factors that are relevant to a question of truth. It also helps them appreciate the deeper complexity of matters of truth that can appear black and white on the surface.</p> <ol style="list-style-type: none"> <li>1. Identify a question of truth -- a controversial claim that something is true or false -- where you know there is some evidence on both</li> </ol> |

| OBJECTIVE                                                                         | LEARNING OUTCOMES                                                                                      | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| awareness, presence of mind, time management, language skills and thinking skill. | attitude and the precious gift of life which only God can grant and a doctor can retrieve and restore. | <p>sides that students can bring forward.(Are present day doctors compassionate and provide selfless service to mankind?)</p> <ol style="list-style-type: none"> <li>2. Ask students if they have an opinion about it</li> <li>3. Draw a tug of war diagram on the board (or tape a piece of rope on the wall and use post its to make it more dramatic). Explain that students can add two kinds of things. One is evidence -- tugs in the Yes, True direction or the No, False direction. The other thing to add is a question about the tug of war itself, a question that asks for more information or about "what if" we tried this or we tried that, what would the results be?</li> <li>4. Finish the lesson by asking students what new ideas they have about the question of truth. Can we decide now? Do some people lean one way and some the other? Is the best answer in a "gray area" -- most of the time true but not always, or half the time? How</li> </ol> |

| OBJECTIVE                                                                                                                     | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                           | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                                                                                                                               |                                                                                                                                                                                                                                                                                                             | could we settle it if we had to?                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Grammar</b>                                                                                                                |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>LETTER OF JOB APPLICATION</b><br><b>Enable students to</b><br>make use of appropriate formats, expressions and vocabulary. | <b>The students will be able to-</b> <ul style="list-style-type: none"> <li>• understand the nature and purpose of a letter of application.</li> <li>• examine a variety of letters to determine best layout, content and style.</li> <li>• develop and produce their own letter of application.</li> </ul> | Students will be divided into groups where some will act as interviewers and others as candidates. The group of interviewers will then be given some job applications written by the candidates and they'll be asking some questions to the candidates. Finally the best candidate with the best application will be shortlisted with the help of teacher. The teacher will then discuss the reasons behind the selection thus making students understand how to draft a job application. |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                   |
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| <p><b>Ch.1 : Sets</b><br/> <b>The students will study:</b></p> <ol style="list-style-type: none"> <li>1. Sets and their representations.</li> <li>2. Empty set. Finite and Infinite sets.</li> <li>3. Equal sets.</li> <li>4. Subsets.</li> <li>5. Subsets of a set of real numbers especially intervals (with notations).</li> <li>6. Power set.</li> <li>7. Universal set.</li> <li>8. Venn diagrams.</li> <li>9. Union and Intersection of sets.</li> <li>10. Difference of sets. Complement of a set. Properties of Complement</li> </ol> <p>Practical Problems based on sets.</p> | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>i. Define and represent a set in different forms.</li> <li>ii. Define the different types of sets and cite examples for the same.</li> <li>iii. Define and cite examples of universal set, complement of a set ,union and intersection of two sets and difference between the two sets</li> <li>iv. Represent union and intersection of two sets, universal sets, complement of a set and difference between two sets by venn diagrams.</li> <li>v. Solve real life problems using venn diagrams</li> </ol> | <p>Worksheets and MCQ s based on the topic.<br/>           Students will develop creative thinking and clear understanding</p> <p><b>Activity :</b><br/>           To verify the distributive law for three non-empty sets A,B and C that is-</p> $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$ |
| <p><b>Ch. 2.Relations and functions</b><br/> <b>Student will learn about:</b></p> <ol style="list-style-type: none"> <li>1. Ordered pairs, Cartesian product of sets.</li> <li>2. Number of elements in the Cartesian</li> </ol>                                                                                                                                                                                                                                                                                                                                                       | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>i. Find Cartesian product of two sets.</li> <li>ii. Define relation, functions and site examples thereof</li> <li>iii. Find domain and range of a function.</li> </ol>                                                                                                                                                                                                                                                                                                                                      | <p>Worksheets and MCQ s based on the topic<br/>           Students will develop critical thinking and analytical skills.</p>                                                                                                                                                                       |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                  |
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| <p>product of two finite sets. Cartesian product of the sets of real (up to <math>\mathbb{R} \times \mathbb{R}</math>).</p> <p>3. Definition of relation, pictorial diagrams, domain, co-domain and range of a relation.</p> <p>4. Function as a special kind of relation from one set to another. Pictorial representation of a function, domain, co-domain and range of a function.</p> <p>5. Real valued functions, domain and range of these functions: constant, identity, polynomial, rational, modulus, signum, greatest integer functions, with their graphs. Sum, difference, product and quotients of functions.</p> | <p>iv. Define and cite examples of different types of functions (one-one, one-many, onto, into and bijection).</p> <p>v. Determine whether a function is one -one, many-one, onto or into.</p> <p>vi. Draw the graph of functions.</p> <p>vii. Define and cite examples of odd and even functions.</p> <p>viii. Determine whether a given function is odd or even or neither.</p> <p>ix. Define and cite examples of functions like <math> x </math>, <math>[x]</math> the greatest integer function, polynomial functions, logarithmic and exponential functions.</p> <p>x. Determine product and quotient of functions.</p> | <p><b>Activity :</b></p> <p>To distinguish between a relation and a function.</p> |
| <p><b>Ch.3 : Trigonometric functions</b></p> <p><b>Students study about:</b></p> <p>1. Positive and negative angles.</p> <p>2. Measuring angles in radians and in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b>Students will be able to:</b></p> <p>i. Differentiate between degree measure and radian measure.</p> <p>ii. Find the values of trigonometric functions.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Worksheets and MCQ s based on the topic</p>                                    |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | LEARNING OUTCOMES                                                                                                                                           | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                                              |
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| <p>degrees and conversion of one into other.</p> <p>3. Definition of trigonometric functions with the help of unit circle.</p> <p>4. Signs of trigonometric functions.</p> <p>5. Domain and range of trigonometric functions and their graphs.</p> <p>6. Expressing <math>\sin(x \pm y)</math> and <math>\cos(x \pm y)</math> in terms of <math>\sin x</math>, <math>\sin y</math>, <math>\cos x</math> &amp; <math>\cos y</math> and their simple application.</p> <p>7. Deducing identities like the following: Identities related to <math>\sin 2x</math>, <math>\cos 2x</math>, <math>\tan 2x</math>, <math>\sin 3x</math>, <math>\cos 3x</math> and <math>\tan 3x</math>. General solution of trigonometric equations of the type <math>\sin y = \sin a</math>, <math>\cos y = \cos a</math> and <math>\tan y = \tan a</math>.</p> | <p>iii. Determine the sign of trigonometric functions in quadrants.</p> <p>iv. Compute the trigonometric functions of sum and difference of two angles.</p> | <p>They will also acquire analytical and problem solving skills.</p> <p><b>Activity :</b><br/>To find the values of sine and cosine functions in 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quadrant using the given values in the first quadrant.</p> |
| <b>HALF YEARLY EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                             |                                                                                                                                                                                                                                                               |
| <p><b>Ch.4: Principle of mathematical induction</b></p> <p><b>Students will study:</b></p> <p>1. Process of the proof by induction,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Students will be able to:</b></p> <p>i. Appraise the principle of mathematical induction.</p>                                                         | <p>Worksheets based on the topic.</p> <p>Presentation and reasoning</p>                                                                                                                                                                                       |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                               | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                  |
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| <p>motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers.</p> <p>2. The principle of mathematical induction and simple applications.</p>                                                                                                                                                                                                                                                                                       | <p>ii. Prove the given statement using mathematical induction.</p>                                                                                                                                                                                                                                                                                                                              | <p>skills, flexibility and adaptability.</p>                                                                                                                                                                                      |
| <p><b>Ch.5: Complex numbers and quadratic equations</b></p> <p><b>Students understand:</b></p> <p>1. Need for complex numbers, especially <math>\sqrt{-1}</math>, to be motivated by inability to solve some of the quadratic equations.</p> <p>2. Algebraic properties of complex numbers. Argand plane and polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system. Square root of a complex</p> | <p><b>Students will be able to:</b></p> <p>i. Define a complex number.</p> <p>ii. Find the sum, difference, product and quotient of two complex numbers.</p> <p>iii. Express the square roots of a negative real number as complex numbers.</p> <p>iv. Compute the modulus and conjugate of a complex number.</p> <p>v. Convert a complex number into polar form</p> <p>vi. Solve quadratic</p> | <p>Worksheets and MCQ s based on the topic.</p> <p>Students will develop problem solving skills.</p> <p><b>Activity :</b><br/>To interpret geometrically the meaning of <math>i=\sqrt{-1}</math><br/>And its integral powers.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                                                                     |
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| number.                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                      |
| <p><b>Ch.6: Linear inequalities</b><br/> <b>Students will learn:</b></p> <ol style="list-style-type: none"> <li>Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables.</li> <li>Graphical solution of system of linear inequalities in two variables.</li> </ol>                                                | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>Determine if a number is less than , less than or equal to ,greater than or greater than or equal to another number</li> <li>Represent solutions to inequalities on the number line.</li> <li>Simplify and solve linear inequalities by table, graph and /or formula</li> </ol>                                                                                                   | <p>Worksheets based on the topic</p> <p>Students will develop creative thinking and clear understanding</p>                                                                                                                                                                          |
| <p><b>Ch.9: Sequence and series</b><br/> <b>Students will study:</b></p> <ol style="list-style-type: none"> <li>Sequence and Series. Arithmetic Progression (A.P.).</li> <li>Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., Arithmetic and Geometric series infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M. sum to n terms of special series.</li> </ol> | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>Form a sequence.</li> <li>Obtain the series corresponding to a sequence.</li> <li>Find the sum of n terms of an arithmetic progression.</li> <li>Apply arithmetic mean in forming an arithmetic progression.</li> <li>Give a geometric progression.</li> <li>Calculate the general term of a geometric progression.</li> <li>Compute the sum to n terms of a geometric</li> </ol> | <p>Worksheets and MCQ s based on the topic.</p> <p>Students will appreciate patterns and develop problem solving skills.</p> <p><b>Activity :</b><br/>           To demonstrate the arithmetic mean of two different positive numbers is always greater than the geometric mean.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                       | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>progression.</p> <p>viii. Find geometric mean between two numbers.</p> <p>ix. Derive the relation between A.M. and G.M.</p> <p>x. Deduce the sum to n terms of some special</p>                                                                                                                      |                                                                                                    |
| <p><b>Ch.14: Mathematical Reasoning</b><br/> <b>Students will learn about:</b></p> <ol style="list-style-type: none"> <li>1. Mathematically acceptable statements.</li> <li>2. Connecting words/ phrases - consolidating the understanding of "if and only if (necessary and sufficient) condition", "implies", "and/or", "implied by", "and", "or", "there exists" and their use through variety of examples related to real life and Mathematics.</li> <li>3. Validating the statements involving the connecting words difference between contradiction, converse and contrapositive.</li> </ol> | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>i. Understand the language of mathematics.</li> <li>ii. Use the implications.</li> <li>iii. Write the proof by various methods.</li> <li>iv. Understand the quantifiers, injection, surjection and bijection.</li> </ol> | <p>Worksheets and MCQ s based on the topic</p> <p>Students will develop problem solving skills</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                   |
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| <p><b>Ch.7: Permutations and combinations</b><br/> <b>Students will learn:</b></p> <ol style="list-style-type: none"> <li>1. Fundamental principle of counting. Factorial n. (n!) Permutations and combinations, derivation of formulae and their connections, simple applications.</li> <li>2. Fundamental principle of counting. Factorial n. (n!) Permutations and combinations, derivation of formulae and their connections, simple applications.</li> </ol> | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>i. Explain the fundamental principal of counting.</li> <li>ii. Find the permutations when all the objects are distinct.</li> <li>iii. Derive the formula for <math>{}^n P_r</math>.</li> <li>iv. Find the permutations when all the objects are not distinct.</li> <li>v. Explain combinations.</li> <li>vi. Deduce the relation between <math>{}^n P_r</math> and <math>{}^n C_r</math>.</li> <li>vii. Find the combinations of the objects.</li> <li>viii. Students will be able to:</li> <li>ix. Explain the fundamental principal of counting.</li> <li>x. Find the permutations when all the objects are distinct.</li> <li>xi. Derive the formula for <math>{}^n P_r</math>.</li> <li>xii. Find the permutations when all the objects are not distinct.</li> <li>xiii. Explain combinations.</li> <li>xiv. Deduce the relation between <math>{}^n P_r</math> and <math>{}^n C_r</math>.</li> <li>xv. Find the combinations of the objects.</li> </ol> | <p>Worksheets and MCQ s based on the topic.</p> <p>Students will develop a skill of applying rules and laws.</p> <p>Students will develop observational skill.</p> <p>They will also appreciate the use of maths in real life.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                           | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                   |
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| <p><b>Ch.8: Binomial Theorem</b><br/> <b>Students will learn:</b></p> <ol style="list-style-type: none"> <li>History, statement and proof of the binomial theorem for positive integral indices.</li> <li>Pascal's triangle, General and middle term in binomial expansion, simple applications.</li> </ol>                                                                                                                                                         | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>State and prove the binomial theorem for positive integral values.</li> <li>Explain Pascal's triangle.</li> <li>Compute the value of the number/term using binomial theorem.</li> </ol>                                                                                                                                                                                                                                                                             | <p>Worksheets and MCQ s based on the topic.</p> <p>Students will appreciate the use of mathematics in daily life.</p> <p>Students will appreciate patterns and develop problem solving skills.</p> |
| <p><b>Ch.10: Straight lines</b><br/> <b>Students will learn:</b></p> <ol style="list-style-type: none"> <li>To do brief recall of two dimensional geometry from earlier classes. Shifting of origin.</li> <li>Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point-slope form, slope-intercept form, two-point form, intercept form and normal form.</li> <li>General equation of a line. Equation</li> </ol> | <p><b>Students will be able to:</b></p> <ol style="list-style-type: none"> <li>Derive equations of a line parallel to either of the coordinate axes.</li> <li>Derive equations in different forms (slope-intercept, point-slope, two point, intercept, parametric and perpendicular) of a line.</li> <li>Find the equations of the line in the above forms under given conditions.</li> <li>Express the general equation of a line into different forms.</li> <li>Derive the formula for the angle between two lines with given slopes.</li> </ol> | <p>Worksheets and MCQ s based on the topic.</p> <p>Students learn to be systematic in approach and appreciate various forms of mathematics. They develop problem solving skills.</p>               |

| OBJECTIVE                                                                                                                                                                                                                 | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                         | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                                                                               |
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| of family of lines passing through the point of intersection of two lines.<br>4. Distance of a point from a line.                                                                                                         | vi. Derive the conditions for parallelism and                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                |
| <b>Ch.12: Introduction to 3-D geometry</b><br><b>Students will learn:</b><br>1. Coordinate axes and coordinate planes in three dimensions.<br>2. Coordinates of a point. Distance between two points and section formula. | <b>Students will be able to:</b><br>i. Explain coordinate axes and coordinate plane in three dimensional space.<br>ii. Find the coordinates of a point in space.<br>iii. Compute the distance between two points.<br>iv. Apply the section formula in solving the problem.<br>v. Apply section formula to find the coordinates of the points dividing the given line in particular ratio. | Worksheets and MCQ s based on the topic.<br>Students will appreciate the patterns in mathematics<br>They develop calculation skills while using various results in solving problems.<br><b>Activity :</b><br>To explain the concept of octant by three mutually perpendicular planes in space. |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                |
| <b>Ch.11:Conic section</b><br><b>Students will study:</b><br>1. Sections of a cone: circles, ellipse, parabola, hyperbola; a point, a                                                                                     | <b>Students will be able to:</b><br>i. Explain how circle, ellipse, parabola and hyperbola form the sections of a cone.<br>ii. Give conditions for the formation of                                                                                                                                                                                                                       | Worksheets and MCQ s based on the topic.                                                                                                                                                                                                                                                       |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                  | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                             | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                               |
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| <p>straight line and a pair of intersecting lines as a degenerated case of a conic section.</p> <p>2. Standard equations and simple properties of parabola, ellipse and hyperbola.</p> <p>3. Standard equation of a circle.</p>                                                                                                                                            | <p>degenerated conic sections.</p> <p>iii. Find the equation of the circle.</p> <p>iv. Derive the standard equations of parabolas, ellipses and hyperbolas.</p> <p>v. Find the length of the latus rectum of a parabola, ellipse and hyperbola.</p> <p>vi. Find the eccentricity of ellipse and a hyperbola.</p> <p>vii. Solve the practical problems on parabola, ellipse and hyperbola.</p> | <p>Analytical and logical problem solving.</p> <p><b>Activity:</b> To construct an ellipse when two fixed points are given.</p>                                                                                                |
| <p><b>Ch.13: Limits and derivatives</b><br/><b>Students will study:</b></p> <p>1. Derivative introduced as rate of change both as that of distance function and geometrically.</p> <p>2. Intuitive idea of limit. Limits of polynomials and rational functions, trigonometric, exponential and logarithmic functions.</p> <p>3. Definition of derivative, relate it to</p> | <p><b>Students will be able to:</b></p> <p>i. Understand and to accept intuitive concept of limit.</p> <p>ii. Evaluate limits of simple functions.</p> <p>iii. Understand the idea of derivative.</p> <p>iv. Find the derivatives of simple functions from first principles.</p>                                                                                                              | <p>Worksheets and MCQ s based on the topic.</p> <p>They will also acquire analytical and problem solving skill.</p> <p><b>Activity :</b> To find analytically <math>\lim_{x \rightarrow c} \frac{x^2 - c^2}{x - c}</math>.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                             | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                             |
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| slope of tangent of a curve,<br>derivative of sum, difference,<br>product and quotient of functions.<br>The derivative of polynomial and<br>trigonometric functions.                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                              |
| <b>Ch.15: Statistics</b><br><b>Students will learn:</b> <ol style="list-style-type: none"> <li>Measures of dispersion;</li> <li>Range, mean deviation, variance and standard deviation of ungrouped / grouped data.</li> <li>Analysis of frequency distributions with equal means but different variances.</li> </ol> | <b>Students will be able to understand :</b> <ol style="list-style-type: none"> <li>The dispersion of the raw data through Range.</li> <li>Students will comprehend that there are also other types of measures of dispersion.</li> <li>Students will understand the formulae of mean deviation and standard deviation.</li> <li>They will start calculating mean deviation and standard deviation.</li> <li>They apply the above concepts in comparing the variability of 2 series.</li> </ol> | Worksheets and MCQ s based on the topic.<br><br>They will also acquire analytical and problem solving skill. |
| <b>Ch.16: Probability</b><br><b>Students will learn:</b> <ol style="list-style-type: none"> <li>Random experiments; outcomes, sample spaces (set representation).</li> </ol>                                                                                                                                          | <b>Students will be able to understand :</b> <ol style="list-style-type: none"> <li>The outcomes of the random experiment.</li> <li>They will relate the set of all possible outcomes to a set 'S' the sample space.</li> </ol>                                                                                                                                                                                                                                                                 | Worksheets and MCQ s based on the topic.<br>They will also acquire analytical and problem solving skill.     |

| OBJECTIVE                                                                                                                                                                                                                                                                                              | LEARNING OUTCOMES                                                                                                                                                                                                                              | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                         |
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| <p>2. Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events,</p> <p>3. Axiomatic (set theoretic) probability, connections with the theories of earlier classes.</p> <p>4. Probability of an event, probability of 'not', 'and' and 'or' events.</p> | <p>iii. They are able to relate event E of S as the subset of S</p> <p>iv. They understand the measure of uncertainty through <math>P(E)</math>.</p> <p>v. They will apply the concept of <math>P(E)</math> in many day to day situations.</p> | <p><b>Activity :</b></p> <ul style="list-style-type: none"> <li>• To write a sample space when a die is rolled.</li> <li>• To find number of ways in which three cards can be selected from given five cards.</li> </ul> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                              | LEARNING OUTCOMES                                                                                                                        | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                                                                                                                                                                         |
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| <b>Ch. 1 : Physical World :</b><br>Students will learn about<br>i. Physics-scope & excitement; nature of physical laws; Physics, technology and society.                                                                                                                                                                                                                                               | Students would be able to understand the concept of the physical world and measurements in everyday life.                                | Students will get aware with Physics as a major subject.                                                                                                                                                                                                                     |
| <b>Ch. 2 : Units and Measurements :</b><br>Students will learn about<br>i. Need for measurement; Units of measurement; System of Units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures.<br>ii. Dimensions of physical quantities, dimensional analysis and its applications. | They would learn about significant figures, dimensions and their uses.                                                                   | Use of screw gauge, Vernier calipers and Spherometers. Concept about zero error, least count and significant figures will be based on this. To make a paper scale of given least count. To plot a graph of a given set of data, with proper choice of scales and error bars. |
| <b>Ch. 3 : Motion in a Straight Line :</b><br>Students will learn about<br>i. Frame of reference, Motion in a straight line: Position-time graph, speed and velocity<br>ii. Elementary concepts of differentiation and integration for                                                                                                                                                                 | Skills would be developed in investigating the process of using the equations to determine unknown information about an object's motion. | Use of differentiation and integration in deriving equations of motion.                                                                                                                                                                                                      |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LEARNING OUTCOMES                                                                                                                                               | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION   |
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| describing motion, uniform and non-uniform motion, average speed and instantaneous velocity, uniformly accelerated motion, velocity-time and position time graphs.<br>iii. Relations for uniformly accelerated motion (graphical treatment)                                                                                                                                                                                                                                                                                          | They would learn about various graphs and their uses.                                                                                                           |                                                        |
| <b>Ch. 4 : Motion in a Plane :</b><br>Students will learn about<br>i. 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. Motion in a plane, cases of uniform velocity and uniform acceleration-projectile motion, uniform circular motion. | Concept would be developed regarding scalars and vectors, their uses in physics and real life. Use of projectile motion and circular motion would be developed. | Students will get the idea of scalars and vectors.     |
| <b>HALF YEARLY EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                 |                                                        |
| <b>Ch. 5 : Laws of Motion :</b><br>Students will learn about<br>i. Intuitive concept of force, inertia, Newton's first law of                                                                                                                                                                                                                                                                                                                                                                                                        | Concept of Newton's laws would be developed. They would learn about applications of Newton's                                                                    | Verification of parallelogram law of vectors addition. |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                       | LEARNING OUTCOMES                                                                                          | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                                                                                                                                                                   |
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| <p>motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion.</p> <p>ii. Law of conservation of linear momentum and its applications.</p> <p>iii. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction and lubrication</p> <p>iv. Dynamics of uniform circular motion: Centripetal force, examples of circular motion.</p>                         | <p>laws.</p>                                                                                               | <p>To measure the force of limiting friction for rolling of roller on a horizontal plane.</p>                                                                                                                                                                          |
| <p><b>Ch. 6 : Work, Energy and Power :</b><br/>Students will learn about</p> <p>i. Work done by a constant and a variable force; kinetic energy, work-energy theorem, power.</p> <p>ii. Notion of potential energy, potential energy of a spring, conservative forces, conservation of mechanical energy; non-conservative forces; motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.</p> | <p>Determining the properties of an object by using laws of motion. They would Learn about collisions.</p> | <p>To study the conservation of energy of a ball rolling down on an inclined plane. To find the force constant of helical spring by plotting a graph between load and extension. 'g' by simple pendulum using the plot between L and T and L and <math>T^2</math>.</p> |
| <p><b>Syllabus of PT1 +</b><br/><b>Ch. 7 : System of Particles and Rotational Motion :</b></p>                                                                                                                                                                                                                                                                                                                                  | <p>They would understand about rotational motion, Comparison</p>                                           | <p>To determine mass of a given body using a metre scale by</p>                                                                                                                                                                                                        |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | LEARNING OUTCOMES                                                                                                                    | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION           |
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| <p>Students will learn about</p> <ol style="list-style-type: none"> <li>Centre of mass of a two-particle system, momentum conservation and centre of mass motion.</li> <li>Centre of mass of a rigid body; centre of mass of a uniform rod.</li> <li>Moment of force, torque, angular momentum, law of conservation of angular momentum and its applications.</li> <li>Equilibrium of rigid bodies, rigid body rotation and equations of rotational motions, comparison of linear and rotational motion.</li> <li>Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects. Statement of parallel and perpendicular axes theorem and their applications.</li> </ol> | <p>between linear motion and rotational motion.</p> <p>They would learn the use of moment of inertia theorems in practical life.</p> | <p>principle of moments.</p>                                   |
| <b>PT – II EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                      |                                                                |
| <p><b>Ch. 8 : Gravitation :</b></p> <p>Students will learn about</p> <ol style="list-style-type: none"> <li>Kepler's Laws of planetary motion, universal law of gravitation.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>They will learn about gravity and gravitational force.</p>                                                                        | <p>Students will be aware about space research programmes.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | LEARNING OUTCOMES                                                                                                                          | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                          |
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| ii. Acceleration due to gravity and its variation with altitude and depth.<br>iii. Gravitational potential energy and gravitational potential, escape velocity, orbital velocity of a satellite, Geo-stationary satellite.                                                                                                                                                                                                                                                                                                      |                                                                                                                                            |                                                                                                                               |
| <b>Ch. 9 : Mechanical Properties of Solids :</b><br>Students will learn about<br>i. Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear-modulus of rigidity, Poisson's ratio, elastic energy.                                                                                                                                                                                                                                                                                      | They would learn about the use of steel in civil structures.                                                                               | To determine young's modulus of elasticity of the material of a given wire.                                                   |
| <b>Ch. 10 : Mechanical Properties of Fluids :</b><br>Students will learn about<br>i. Pressure due to a fluid column; Pascal's law and its applications, effect of gravity on fluid pressure.<br>ii. Viscosity, Stokes law, terminal velocity, streamline, and turbulent flow, critical velocity, Bernoulli's theorem and its applications.<br>iii. Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise. | They would learn about pressure, density and very important about Bernoulli's theorem. Many of the now a day's concepts are based on this. | To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body. |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | LEARNING OUTCOMES                                                                                                                                | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                         |
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| <p><b>Ch. 11 : Thermal Properties of Matter :</b><br/>Students will learn about</p> <ul style="list-style-type: none"> <li>i. Heat , temperature, thermal expansion, thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity, <math>C_p</math>, <math>C_v</math>-calorimetry; change of state – latent heat capacity.</li> <li>ii. Heat transfer- conduction, convection and radiation, thermal conductivity, qualitative ideas of blackbody radiation, Wein's displacement Law, Stefan's law, Green house effect.</li> </ul> | <p>They would learn about concepts of heat and temperature.<br/>Transfer of heat is one of the important concepts that they will understand.</p> | <p>To study the relationship between the temperature of a hot body and time by plotting a cooling curve.</p> |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                  |                                                                                                              |
| <p><b>Ch. 12 : Thermodynamics :</b><br/>Students will learn about</p> <ul style="list-style-type: none"> <li>i. Thermal equilibrium and definition of temperature (Zeroth law of thermodynamics), heat, work and internal energy. First law of thermodynamics, isothermal &amp; adiabatic processes.</li> <li>ii. Second law of thermodynamics: reversible and irreversible processes, heat engine and refrigerator</li> </ul>                                                                                                                                             | <p>Here they will understand the working of an automobile engine.</p>                                                                            | <p>Students will study about a mechanical engine.</p>                                                        |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | LEARNING OUTCOMES                                                                                                                                           | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                    |
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| <p><b>Ch. 13 : Kinetic Theory of Gases :</b><br/>Students will learn about</p> <ol style="list-style-type: none"> <li>Equation of state of perfect gas, work done in compressing a gas.</li> <li>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 and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.</li> </ol>                            | <p>They will learn about motion of molecules in an atom.<br/>They will learn about kinetic theory of gases.</p>                                             | <p>Students will study about behaviour of gases, specific heat capacities of gases.</p> |
| <p><b>Ch. 14 : Oscillations :</b><br/>Students will learn about</p> <ol style="list-style-type: none"> <li>Periodic motion-time period, frequency, displacement as a function of time, periodic functions.</li> <li>Simple Harmonic Motion 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.</li> <li>Free, forced and damped oscillations, resonance.</li> </ol> | <p>They would understand language of science and communicate ideas and views on physics related issues in particular context of simple harmonic motion.</p> | <p>Students will learn about oscillations of pendulum &amp; spring.</p>                 |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                        | LEARNING OUTCOMES                                                 | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                                                                                                                                  |
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| <p><b>Ch. 15 : Waves + Annual full syllabus :</b><br/>Students will learn about</p> <p>i. Wave motion: Transverse and longitudinal waves, speed of wave motion, 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 and Doppler effect.</p> | <p>They would learn about waves, 'beats and Doppler's effect.</p> | <p>To study the relation between the length of a given wire and tension for constant frequency using sonometer.</p> <p>To study the relation between frequency and length of a given wire under constant tension using sonometer.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                               | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                        |
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| <p><b>CH. 1 : Some basic concepts of Chemistry :</b><br/> <b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Appreciate the contribution of India in the development of chemistry, understand the role of chemistry in different spheres of life.</li> <li>2. Explain the characteristics of three states of matter.</li> <li>3. Classify different substances into elements, compounds and mixtures.</li> <li>4. Use scientific notations and determine significant figures.</li> <li>5. Differentiate between precision and accuracy.</li> <li>6. Define SI base units and convert physical quantities from one system of units to another.</li> <li>7. Explain various laws of chemical combination.</li> <li>8. Appreciate significance of atomic mass, average atomic mass, molecular mass and formula mass.</li> <li>9. Describe the terms – mole and molar mass.</li> <li>10. Calculate the mass per cent of different elements constituting a compound.</li> <li>11. Determine empirical formula and molecular formula for a compound from the given experimental data; and</li> </ol> | <p>Students would understand</p> <ol style="list-style-type: none"> <li>1. Nature of matter</li> <li>2. Mass &amp; Weight</li> <li>3. Density ,temperature</li> <li>4. Significant figures</li> <li>5. Law of chemical combinations</li> <li>6. Daltons atomic theory</li> <li>7. Empirical, molecular formula, Molarity, molality and mole fraction</li> </ol> | <p>Lab activity<br/>           Preparation of different molar Solutions</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                      | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                      |
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| 12. Perform the stoichiometric calculations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                        |                                                                                           |
| <b>Ch. 2 : Structure of atom :</b><br><b>Students will be able to</b> <ol style="list-style-type: none"> <li>1. Understand Bohr atomic models.</li> <li>2. Understand the important features of the quantum mechanical model of atom.</li> <li>3. Understand nature of electromagnetic radiation and Planck's quantum theory.</li> <li>4. Explain the photoelectric effect and describe features of atomic spectra.</li> <li>5. State the de Broglie relation and Heisenberg uncertainty principle.</li> <li>6. Define an atomic orbital in terms of quantum numbers.</li> <li>7. State aufbau principle, Pauli exclusion principle and Hund's rule of maximum multiplicity.</li> <li>8. Write the electronic configurations of atoms.</li> </ol> | <b>Students would understand:</b> <ol style="list-style-type: none"> <li>1. Electromagnetic radiation &amp; Planck's Quantum theory</li> <li>2. Photoelectric effect</li> <li>3. de Broglie relation and Heisenberg principle</li> <li>4. Quantum numbers</li> <li>5. Aufbau rule, Pauli exclusion principle &amp; electronic configuration</li> </ol> | The process<br>Of using the equations to determine unknown Information about an electron. |
| <b>Ch. 3 : Classification of elements and periodicity in properties :</b><br><b>Students will be able to</b> <ol style="list-style-type: none"> <li>1. Understand the Periodic Law.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Students would understand:</b> <ol style="list-style-type: none"> <li>1. Periodic law.</li> <li>2. Periodic trends in physical</li> </ol>                                                                                                                                                                                                           | To identify position (block, period and group) of given element in periodic table.        |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | LEARNING OUTCOMES                                                                                                                                                                                                                                                | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                   |
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| <ol style="list-style-type: none"> <li>Understand the significance of atomic number and electronic configuration as the basis for periodic classification.</li> <li>Name the elements with <math>Z &gt; 100</math> according to IUPAC nomenclature.</li> <li>Classify elements into s, p, d, f blocks and learn their main characteristics.</li> <li>Recognise the periodic trends in physical and chemical properties of elements.</li> <li>Compare the reactivity of elements and correlate it with their occurrence in nature.</li> <li>Explain the relationship between ionization enthalpy and metallic character.</li> <li>Use scientific vocabulary appropriately to communicate ideas related to certain important properties of atoms .e.g., atomic / ionic radii, ionization enthalpy, electron gain enthalpy, electro negativity, valence of elements.</li> </ol> | <ol style="list-style-type: none"> <li>and chemical Properties.</li> <li>Classification of elements</li> <li>Classification in s, p, d &amp; f block.</li> <li>Compare the reactivity of elements</li> <li>Ionisation enthalpy and metallic character</li> </ol> |                                                                        |
| <b>HALF YEARLY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                  |                                                                        |
| <b>Ch. 4 : Bonding and molecular structure :</b><br><b>Students will be able to</b> <ol style="list-style-type: none"> <li>Understand KÖssel-Lewis approach to chemical bonding.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Students would understand:</b> <ol style="list-style-type: none"> <li>Lewis approach to chemical bonding</li> </ol>                                                                                                                                           | Explanation of structures of different molecules through VSEPR theory. |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LEARNING OUTCOMES                                                                                                                                                                                                                 | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION |
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| <ol style="list-style-type: none"> <li>2. Explain the octet rule and its limitations, draw Lewis structures of simple molecules.</li> <li>3. Explain the formation of different types of bonds.</li> <li>4. Describe the VSEPR theory and predict the geometry of simple molecules.</li> <li>5. Explain the valence bond approach for the formation of covalent bonds.</li> <li>6. Predict the directional properties of covalent bonds.</li> <li>7. Explain the different types of hybridization involving s, p and d orbital's and draw shapes of simple covalent molecules.</li> <li>8. Describe the molecular orbital theory of homonuclear diatomic molecules.</li> <li>9. Explain the concept of hydrogen bond.</li> </ol> | <ol style="list-style-type: none"> <li>2. Ionic bond</li> <li>3. Bond parameters</li> <li>4. VSEPR Theory</li> <li>5. VBT</li> <li>6. Hybridisation</li> <li>7. MOT</li> <li>8. Hydrogen bonding.</li> </ol>                      |                                                |
| <p><b>Ch. 8 : Redox reactions :</b><br/> <b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Identify redox reactions as a class of reactions in which oxidation and reduction reactions occur simultaneously.</li> <li>2. Define the terms oxidation, reduction, oxidant (oxidizing agent) and reductant (reducing agent).</li> </ol>                                                                                                                                                                                                                                                                                                                                                                 | <p><b>Students would understand:</b></p> <ol style="list-style-type: none"> <li>1. Concept of oxidation and reduction</li> <li>2. Redox reactions in terms of electron Transfer reactions</li> <li>3. Oxidation number</li> </ol> | <p>To study Electrochemical series.</p>        |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | LEARNING OUTCOMES                                                                                                                                                                                                  | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION           |
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| <ol style="list-style-type: none"> <li>3. Explain mechanism of redox reactions by electron transfer process.</li> <li>4. Use the concept of oxidation number to identify oxidant and reductant in a reaction.</li> <li>5. Classify redox reaction into combination (synthesis), decomposition, displacement and disproportionation reactions.</li> <li>6. Suggest a comparative order among various reductants and oxidants.</li> <li>7. Balance chemical equations using (i) oxidation number (ii) half reaction method.</li> <li>8. Learn the concept of redox reactions in terms of electrode processes.</li> </ol> | <ol style="list-style-type: none"> <li>4. Electrode processes</li> </ol>                                                                                                                                           |                                                                |
| <p><b>Ch. 9 : Hydrogen :</b><br/><b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Present informed opinions on the position of hydrogen in the periodic table.</li> <li>2. Identify the modes of occurrence and preparation of dihydrogen on a small and commercial scale; describe</li> </ol>                                                                                                                                                                                                                                                                                            | <p><b>Students would understand:</b></p> <ol style="list-style-type: none"> <li>1. The structure of water and how environmental water quality of water depends on variety of substance dissolves in it.</li> </ol> | <p>Lab activity<br/>To remove temporary hardness of water.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | LEARNING OUTCOMES                                                         | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION |
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| isotopes of hydrogen.<br>3. Explain how different elements combine with hydrogen to form ionic, molecular and nonstoichiometric compounds.<br>4. Describe how an understanding of its properties can lead to the production of useful substances, and new technologies.<br>5. Understand the structure of water and use the knowledge for explaining physical and chemical properties.<br>6. Explain how environmental water quality depends on a variety of dissolved substances; difference between 'hard' and 'soft' water and learn about water softening.<br>7. Acquire the knowledge about heavy water and its importance.<br>8. Understand the structure of hydrogen peroxide, learn its preparatory methods and properties leading to the manufacture of useful chemicals and cleaning of environment.<br>9. Understand and use certain terms e.g., electron-deficient, electron precise, electron-rich, hydrogen economy, hydrogenation etc. | 2. Purification techniques for water.<br>3. Removal of hardness of water. |                                                      |
| <b>Ch. 14 : Environment chemistry</b><br><b>Students will be able to</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Students would understand:</b><br>1. Environmental pollution           | Group project on Waste management and climate        |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | LEARNING OUTCOMES                                                                                                                                                                                                                       | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                               |
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| <ol style="list-style-type: none"> <li>1. Understand the meaning of environmental chemistry.</li> <li>2. Define atmospheric pollution, list reasons for global warming, green house effect and acid rain.</li> <li>3. Identify causes for ozone layer depletion and its effects.</li> <li>4. Give reasons for water pollution and know about international standards for drinking water.</li> <li>5. Describe causes of soil pollution.</li> <li>6. Suggest and adopt strategies for control of environmental pollution.</li> <li>7. Appreciate the importance of green chemistry in day to day life + <b>Syllabus of PT I</b></li> </ol> | <ol style="list-style-type: none"> <li>(air, water and soil pollution)</li> <li>2. Industrial waste</li> <li>3. Green chemistry</li> <li>4. Strategies to control environmental pollution</li> </ol>                                    | temp. Control                                                                                                      |
| <b>PT – II EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                         |                                                                                                                    |
| <b>Ch. 12 : General principles of organic chemistry :</b><br><b>Students will be able to</b> <ol style="list-style-type: none"> <li>1. Understand reasons for tetra valence of carbon and shapes of organic molecules.</li> <li>2. Write structures of organic molecules in various ways.</li> <li>3. Classify the organic compounds.</li> <li>4. Name the compounds according to IUPAC system of</li> </ol>                                                                                                                                                                                                                              | <b>Students would understand:</b> <ol style="list-style-type: none"> <li>1. Tetravalency of Carbon</li> <li>2. Structural representation of organic compound</li> <li>3. Classification and Nomenclature of organic compound</li> </ol> | Practicals to perform the purification techniques.<br>Lab activity<br>To identify element in given organic sample. |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LEARNING OUTCOMES                                                                                                                                                                                           | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                                                                      |
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| <p>nomenclature and also derive their structures from the given names.</p> <ol style="list-style-type: none"> <li>Understand the concept of organic reaction mechanism.</li> <li>Explain the influence of electronic displacements on structure and reactivity of organic compounds.</li> <li>Recognise the types of organic reactions.</li> <li>Learn the techniques of purification of organic compounds.</li> <li>Write the chemical reactions involved in the qualitative analysis of organic compounds.</li> <li>Understand the principles involved in quantitative analysis of organic compounds.</li> </ol> | <ol style="list-style-type: none"> <li>Isomerism</li> <li>Concept of reaction mechanism</li> <li>Methods of purification of organic compounds</li> <li>Qualitative &amp; Quantitative analysis</li> </ol>   |                                                                                                                                                                           |
| <p><b>Ch. 13 : Hydrocarbons :</b><br/><b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>Name hydrocarbons according to IUPAC system of nomenclature.</li> <li>Recognise and write structures of isomers of alkanes, alkenes, alkynes and aromatic hydrocarbons.</li> <li>Learn about various methods of preparation of hydrocarbons.</li> <li>Distinguish between alkanes, alkenes, alkynes and aromatic</li> </ol>                                                                                                                                                                       | <p><b>Students would understand:</b></p> <ol style="list-style-type: none"> <li>classification of hydrocarbons</li> <li>alkanes</li> <li>alkenes</li> <li>alkynes</li> <li>aromatic hydrocarbons</li> </ol> | <p>Lab activity</p> <ol style="list-style-type: none"> <li>To test saturated and unsaturated compounds.</li> <li>To identify aromatic and aliphatic compounds.</li> </ol> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | LEARNING OUTCOMES                                                                                                                                                  | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                            |
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| <p>hydrocarbons on the basis of physical and chemical properties.</p> <ol style="list-style-type: none"> <li>5. Draw and differentiate between various conformations of ethane.</li> <li>6. Appreciate the role of hydrocarbons as sources of energy and for other industrial applications.</li> <li>7. Predict the formation of the addition products of unsymmetrical alkenes and alkynes on the basis of electronic mechanism.</li> <li>8. Comprehend the structure of benzene, explain aromaticity and understand mechanism of electrophilic substitution reactions of benzene.</li> <li>9. Predict the directive influence of substituent's in monosubstituted benzene ring.</li> <li>10. Learn about carcinogenicity and toxicity.</li> </ol> |                                                                                                                                                                    |                                                                                                                 |
| <p><b>Ch. 7 : Chemical equilibrium :</b><br/> <b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Identify dynamic nature of equilibrium involved in physical and chemical processes.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b>Students would understand:</b></p> <ol style="list-style-type: none"> <li>1. Concept of dynamic equilibrium</li> <li>2. Arrhenius concept of acid</li> </ol> | <p>Lab activity<br/>                     To show dynamic equilibrium by using Ferric chloride and Pot. thio</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                                                                                                                                         | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION |
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| <ol style="list-style-type: none"> <li>2. State the law of equilibrium.</li> <li>3. Explain characteristics of equilibrium involved in physical and chemical processes.</li> <li>4. Write expressions for equilibrium constants.</li> <li>5. Establish a relationship between <math>K_p</math> and <math>K_c</math>.</li> <li>6. Explain various factors that affect the equilibrium state of a reaction.</li> <li>7. Classify substances as acids or bases according to Arrhenius, Bronsted-Lowry and Lewis concepts.</li> <li>8. Classify acids and bases as weak or strong in terms of their ionization constants.</li> <li>9. Explain the dependence of degree of ionization on concentration of the electrolyte and that of the common ion.</li> <li>10. Describe pH scale for representing hydrogen ion concentration.</li> <li>11. Explain ionization of water and its dual role as acid and base.</li> <li>12. Describe ionic product (<math>K_w</math>) and <math>pK_w</math> for water.</li> <li>13. Appreciate use of buffer solutions.</li> <li>14. Calculate solubility product constant.</li> </ol> | <ol style="list-style-type: none"> <li>and base</li> <li>3. Bronsted –Lowry concept</li> <li>4. Lewis concept</li> <li>5. Electrolyte</li> <li>6. Equilibrium constant</li> <li>7. Ionisation of water</li> <li>8. pH, common ion effect &amp; Buffer solution</li> </ol> | cyanate solution.                                    |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                 | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                     |
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| <p><b>Ch. 5 : States of matter :</b><br/><b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Explain the existence of different states of matter in terms of balance between intermolecular forces and thermal energy of particles.</li> <li>2. Explain the laws governing behaviour of ideal gases.</li> <li>3. Apply gas laws in various real life situations.</li> <li>4. Explain the behaviour of real gases.</li> <li>5. Describe the conditions required for liquifaction of gases.</li> <li>6. Realise that there is continuity in gaseous and liquid state.</li> <li>7. Differentiate between gaseous state and vapours.</li> <li>8. Explain properties of liquids in terms of intermolecular attractions.</li> </ol> | <p><b>Students would understand:</b></p> <ol style="list-style-type: none"> <li>1. Intermolecular forces VS thermal reactions</li> <li>2. The gas law and Ideal gas equation</li> <li>3. Kinetic molecular theory</li> <li>4. Properties of liquid</li> <li>5. Kinetic molecular theory</li> <li>6. Deviation from ideal gas behavior</li> <li>7. Liquid state</li> <li>8. Solid state</li> </ol> | <p>To Explain liquifaction of gas through graph.</p>                     |
| <p><b>Ch. 6 : Chemical thermodynamics :</b><br/><b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Explain the terms : system and surroundings.</li> <li>2. Discriminate between close, open and isolated systems.</li> <li>3. Explain internal energy, work and heat.</li> <li>4. State first law of thermodynamics and express it mathematically.</li> </ol>                                                                                                                                                                                                                                                                                                                                                               | <p><b>Students would understand:</b></p> <ol style="list-style-type: none"> <li>1. Thermodynamic state and state functions</li> <li>2. Measurement of <math>\Delta U</math> &amp; <math>\Delta H</math></li> <li>3. Enthalpies for different types of reactions.</li> <li>4. Spontaneity.</li> </ol>                                                                                              | <p>Lab activity<br/>To measure enthalpy change by using calorimeter.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | LEARNING OUTCOMES                                                                                                                | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION             |
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| <ol style="list-style-type: none"> <li>5. Calculate energy changes as work and heat contributions in chemical systems.</li> <li>6. Explain state functions: U, H.</li> <li>7. Correlate <math>\Delta U</math> and <math>\Delta H</math>.</li> <li>8. Measure experimentally <math>\Delta U</math> and <math>\Delta H</math>.</li> <li>9. Define standard states for <math>\Delta H</math>.</li> <li>10. Calculate enthalpy changes for various types of reactions.</li> <li>11. State and apply Hess's law of constant heat summation;</li> <li>12. Differentiate between extensive and intensive properties.</li> <li>13. Define spontaneous and no spontaneous processes;</li> <li>14. Explain entropy as a thermodynamic state function and apply it for spontaneity.</li> <li>15. Explain Gibbs energy change (<math>\Delta G</math>).</li> <li>16. Establish relationship between <math>\Delta G</math> and spontaneity, <math>\Delta G</math> and equilibrium constant.</li> </ol> | <ol style="list-style-type: none"> <li>5. Gibbs energy change and equilibrium</li> </ol>                                         |                                                                  |
| <p><b>Ch. 10 : S block elements :</b><br/> <b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Describe the general characteristics of the alkali metals and their compounds.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ol style="list-style-type: none"> <li>1. Alkali metals and its compounds</li> <li>2. Anomalous properties of lithium</li> </ol> | <p>Comparison of alkali and alkaline metals in tabular form.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LEARNING OUTCOMES                                                                                                                                                                              | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION        |
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| <ol style="list-style-type: none"> <li>Explain the general characteristics of the alkaline earth metals and their compounds.</li> <li>Describe the manufacture, properties and uses of industrially important sodium and calcium compounds including Portland cement.</li> <li>Appreciate the biological significance of sodium, potassium, magnesium and calcium.</li> </ol>                                                                                                                                                                                                                                                      | <ol style="list-style-type: none"> <li>Important compounds of sodium</li> <li>Alkaline earth metals and its properties</li> </ol>                                                              |                                                             |
| <p><b>Ch. 11 : P block elements :</b><br/> <b>Students will be able to</b></p> <ol style="list-style-type: none"> <li>Appreciate the general trends in the chemistry of p-block elements.</li> <li>Describe the trends in physical and chemical properties of group 13 and 14 elements.</li> <li>Explain anomalous behaviour of boron and carbon;</li> <li>Describe allotropic forms of carbon.</li> <li>Know the chemistry of some important compounds of boron, carbon and silicon.</li> <li>List the important uses of group 13 and 14 elements and their compounds. <b>+Syllabus of PT I, Half yearly and PT II</b></li> </ol> | <ol style="list-style-type: none"> <li>Boron family and anomalous properties of boron and its compounds</li> <li>Carbon family and anomalous properties of carbon and its compounds</li> </ol> | <p>Diagrammatic explanation of banana bond in diborane.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                               | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                                  | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                                                                    |
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| <p><b>Ch. 1 : The Living World</b><br/> <b>Students will be able learn about:</b></p> <ul style="list-style-type: none"> <li>• What is living world and Biodiversity?</li> <li>• Need for classification.</li> <li>• Concepts of species and taxonomical hierarchy.</li> <li>• Binomial nomenclature.</li> <li>• Tools of study of taxonomy.</li> </ul> | <p><b>Students will be able to understand:</b></p> <ul style="list-style-type: none"> <li>• The need and criteria for classification of organisms</li> <li>• They know the concepts of hierarchy.</li> </ul>                                                                                                                      | <ul style="list-style-type: none"> <li>• Study parts of a compound microscope</li> <li>• Study of the specimens / slides /models and identification with reasons- Bacteria, Oscillatoria, Spirogyra, Rhizopus, Mushroom, Yeast, Liverwort, Moss, fern, Pine.</li> </ul>                                                                                                             |
| <p><b>Ch. 2 : BIOLOGICAL CLASSIFICATION :</b><br/> <b>Students will study:</b></p> <ul style="list-style-type: none"> <li>• Five Kingdom classification</li> <li>• Salient features and classification of Monera, Protista and Fungi into major groups</li> <li>• Lichens, Viruses and Viroids</li> </ul>                                               | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• Study the significance of binomial nomenclature.</li> <li>• Importance of five kingdom classification.</li> <li>• Classify the major biological groups.</li> <li>• Know the levels of classification and five kingdom classification.</li> </ul> | <ul style="list-style-type: none"> <li>• Monocotyledonous plant, one dicotyledonous plant and one lichen. (Morphological Study)</li> <li>• Study of virtual specimen / slides / models and identification with reasons / amoeba, hydra, liver fluke, ascaris, leech, earthworm, pron, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.</li> </ul> |
| <p><b>Ch. 3 : PLANT KINGDOM :</b><br/> <b>Students will learn about:</b></p>                                                                                                                                                                                                                                                                            | <p><b>Students will be able to describe:</b></p> <ul style="list-style-type: none"> <li>• The basis of classification that has</li> </ul>                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Study of tissues and diversity in shapes and sizes of plant and</li> </ul>                                                                                                                                                                                                                                                                 |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                          | LEARNING OUTCOME                                                                                                                                                                                                                                                                      | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                    |
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| <ul style="list-style-type: none"> <li>• Classification of plants into major groups</li> <li>• Distinguishing features of Algae, Bryophyta, Pteridophyta,</li> <li>• Gymnosperms and Angiosperms</li> <li>• Classification up to class, characteristic features.</li> </ul>                                                                                                                                        | <p>been followed to categorise of plant kingdom into</p> <ul style="list-style-type: none"> <li>• thallophyta, bryophyte</li> <li>• pteridophyta,</li> <li>• gymnosperms and angiosperms</li> </ul>                                                                                   | <p>animals cells (palisade cells, guard cells, parenchyma, collenchymas, sclerenchyma, xylem, phloem, squamous, epithelium, muscle fibres and mammalian blood smear) through temporary / permanent slides.</p>                                                                                                      |
| <p><b>Ch. 4 : ANIMAL KINGDOM</b><br/> <b>Students will understand</b></p> <ul style="list-style-type: none"> <li>• Classification of animals (Non-chordates upto phylum and chordates upto class level)</li> </ul>                                                                                                                                                                                                 | <p><b>Students will be able to-</b></p> <ul style="list-style-type: none"> <li>• Classify chordates of animal kingdom up to phylum (chordates upto class level).</li> </ul>                                                                                                           |                                                                                                                                                                                                                                                                                                                     |
| <b>HALF YEARLY</b>                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                     |
| <p><b>Ch. 5 : MORPHOLOGY OF FLOWERING PLANTS :</b><br/> <b>Students will study:</b></p> <ul style="list-style-type: none"> <li>• Morphology and modification of tissues</li> <li>• Study and understand the various parts of the plant like the root, stem, leaf, flower, fruit and seed.</li> <li>• Describe the typical flowering plant.</li> <li>• Study some important families of flowering plant.</li> </ul> | <p><b>Students will be able to describe:</b></p> <ul style="list-style-type: none"> <li>• the various parts of the plant like the root, stem, leaf, flower, fruit and seed</li> <li>• The typical flowering plant.</li> <li>• Some important families of flowering plants.</li> </ul> | <ul style="list-style-type: none"> <li>• Study and description of three locally available common flowering plants, one of each of the families Solanaceae, Fabaceae and Liliaceae including dissection and display of floral whorls anther and ovary to show the number of chambers. Types of roots stem</li> </ul> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                                                   | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                                                                                                                                                                                                               |
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| <p><b>Ch. 6 : ANATOMY OF FLOWERING PLANTS</b><br/> <b>Students will study:</b></p> <ul style="list-style-type: none"> <li>• Anatomy and functions of different parts of flowering plants</li> <li>• Differentiate the various plant tissues</li> <li>• Understand the anatomy of monocotyledonous and dicotyledonous plants</li> <li>• Study the secondary growth of a plant.</li> </ul> | <p><b>Students will be able to-</b></p> <ul style="list-style-type: none"> <li>• Differentiate the various plant tissues</li> <li>• Preparation and study of T.S of dicot and monocot roots and stems</li> <li>• Understand the anatomy of monocotyledonous and dicotyledonous plants</li> <li>• Study the secondary growth of a plant.</li> </ul> | <p>and leaf.</p> <ul style="list-style-type: none"> <li>• Preparation and study of T.S of dicot and monocot roots and stems</li> <li>• Study of different modifications in roots stems and leaves. Study of different types of inflorescence.</li> <li>• Study of distribution of stomata in the upper and lower surface of leaves.</li> </ul> |
| <p><b>Ch. 7 : STRUCTURAL ORGANISATION IN ANIMALS :</b><br/> <b>Students will learn about:</b></p> <ul style="list-style-type: none"> <li>• Understand the location and function of various animal tissues</li> <li>• Study the morphology of earthworm, cockroach and frogs</li> </ul>                                                                                                   | <p><b>Students will be able to-</b></p> <ul style="list-style-type: none"> <li>• Understand the location and function of various animal tissues</li> <li>• Study the morphology of earthworm, cockroach and frogs</li> </ul>                                                                                                                       | <ul style="list-style-type: none"> <li>• Comparative study of the rates of transpiration in the upper and lower epidermis.</li> <li>• Study of imbibitions in seeds / raisins.</li> </ul>                                                                                                                                                      |

| OBJECTIVE                                                                                                                                                                                                                                                                                       | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                    | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                              |
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| <b>Ch. 8 : CELL-THE UNIT OF LIFE :</b><br><b>Students will study:</b> <ul style="list-style-type: none"> <li>• Cell theory.</li> <li>• Structure of prokaryotic and eukaryotic cells.</li> <li>• Plant and animal cell.</li> <li>• Various cell organelles and structures in detail.</li> </ul> | <b>Students will be able to-</b> <ul style="list-style-type: none"> <li>• Study the cell structure.</li> <li>• Differentiate between the prokaryotic and eukaryotic cell/ Plant cell and animal cell.</li> <li>• Study the structure and functions of cell organelles.</li> </ul>                                   | <ul style="list-style-type: none"> <li>• Study of osmosis by potato osmometer.</li> <li>• Study of plasmolysis in epidermal peels.</li> </ul> |
| <b>Ch. 9 : BIOMOLECULES :</b><br><b>Students will learn about:</b> <ul style="list-style-type: none"> <li>• Chemical constituents of living cells: bio molecules.</li> <li>• Structure and function of various bio molecules</li> </ul>                                                         | <b>Students will be able to describe:</b> <ul style="list-style-type: none"> <li>• Importance of the various chemical constituents of living cells: Bio molecules.</li> <li>• Study the structure and function of proteins, carbohydrates, lipids, nucleic acids, enzymes, types, properties and enzyme.</li> </ul> | <p>-----</p>                                                                                                                                  |
| <b>Ch. 10 : CELL CYCLE AND CELL DIVISION :</b><br><b>Students will study:</b> <ul style="list-style-type: none"> <li>• Cell cycle</li> <li>• Mitosis</li> <li>• Meiosis</li> </ul>                                                                                                              | <b>Students will be able to-</b> <ul style="list-style-type: none"> <li>• Understand cell division: Cell cycle, mitosis, meiosis and their significance.</li> </ul>                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Study of mitosis in roots, stems and leaves.</li> </ul>                                              |

| OBJECTIVE                                                                                                                                                                                                                                                                                               | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                                                                                              | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                               |
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| <b>Ch. 11 : TRANSPORT IN PLANTS :</b><br><b>Students will learn about:</b> <ul style="list-style-type: none"> <li>• Movement of water, gases and nutrients</li> <li>• Transport in plants</li> <li>• Uptake and translocation of mineral nutrients</li> </ul>                                           | <b>Students will be able to-</b> <ul style="list-style-type: none"> <li>• Study the various means of transport in plants</li> <li>• Significance of transpiration</li> <li>• Study and explain the role of phloem in translocation of food.</li> </ul>                                                                                                                                        |                                                                                                                |
| <b>Ch. 12 :</b><br><b>MINERAL NUTRITION :</b><br><b>Students will study:</b> <ul style="list-style-type: none"> <li>• Macro and micro nutrients</li> <li>• Deficiency symptoms and mineral toxicity</li> <li>• Hydroponics</li> <li>• Nitrogen cycle</li> <li>• Biological nitrogen fixation</li> </ul> | <b>Students will be able to-</b> <ul style="list-style-type: none"> <li>• Differentiate between macro and micronutrients and their role</li> <li>• To study the deficiency symptoms; mineral toxicity.</li> <li>• Explain the elementary idea of hydroponics as a method to study mineral nutrition</li> <li>• Study nitrogen metabolism, nitrogen cycle, biological nitrogen fix.</li> </ul> | <p>-----</p>                                                                                                   |
| <b>Ch. 13 : PHOTOSYNTHESIS IN HIGHER PLANTS :</b><br><b>Students will study:</b> <ul style="list-style-type: none"> <li>• Photosynthesis and its site.</li> <li>• Photochemical and biosynthetic phases.</li> </ul>                                                                                     | <ul style="list-style-type: none"> <li>• Understand the process of photosynthesis and photochemical and biosynthetic phases.</li> <li>• Differentiate the cyclic and non</li> </ul>                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Separation of plant pigments through paper chromatography.</li> </ul> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                 | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                                          | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                     |
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| <ul style="list-style-type: none"> <li>• Cyclic and non cyclic photophosphorylation Photorespiration.</li> <li>• C3 and C4 pathways.</li> <li>• Factors affecting photosynthesis.</li> </ul>                                                                                                                                                                              | <p>cyclic photophosphorylation</p> <p>Importance of photorespiration/C3 and C4 pathways.</p>                                                                                                                                                                                                                                              |                                                                                                                                      |
| <p><b>Ch. 14 : RESPIRATION IN PLANTS :</b></p> <p><b>Students will learn about:</b></p> <ul style="list-style-type: none"> <li>• Seed germination and phases of plant growth</li> <li>• Differentiation/ Dedifferentiation/ Redifferentiation.</li> </ul>                                                                                                                 | <p><b>Students will be able to-</b></p> <ul style="list-style-type: none"> <li>• Understand the factors affecting photosynthesis.</li> <li>• Study Respiration: Exchange of gases and cellular respiration-glycolysis.</li> <li>• Understand the TCA cycle and ETC.</li> <li>• Significance of the energy relations in plants.</li> </ul> | <ul style="list-style-type: none"> <li>• Study the rate of respiration in flower buds/leaf tissues and germinating seeds.</li> </ul> |
| <p><b>Ch. 15 : PLANT –GROWTH AND DEVELOPMENT</b></p> <p><b>Students will :</b></p> <ul style="list-style-type: none"> <li>• Study the process of seed germination and the phases of plant growth.</li> <li>• Differentiate between Differentiation /Dedifferentiation/Redifferentiation.</li> <li>• Sequence the developmental process and the role of growth.</li> </ul> | <p><b>Students will be able to describe:</b></p> <ul style="list-style-type: none"> <li>• The process of seed germination and the phases of plant growth.</li> <li>• Differentiate between. Differentio/Dedifferention/Rediffere ntiation.</li> <li>• Sequence the developmental process and the role of growth.</li> </ul>               |                                                                                                                                      |

| OBJECTIVE                                                                                                                                                                                                                                                       | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | EXPERIENTIAL LEARNING /<br>INTEGRATED ART EDUCATION |
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| <b>Ch. 16 : DIGESTION AND ABSORPTION :</b><br><b>Students will study:</b> <ul style="list-style-type: none"> <li>• Digestion process.</li> <li>• Calorific values of nutrients.</li> <li>• Egestion.</li> <li>• Nutritional and digestive disorders.</li> </ul> | <b>Students will be able to-</b> <ul style="list-style-type: none"> <li>• Study Alimentary canal and digestive glands.</li> <li>• Role of digestive enzymes and gastrointestinal hormones.</li> <li>• Understand Peristalsis, digestion, absorption and assimilation of proteins, carbohydrates and fats.</li> <li>• Significance calorific values of proteins, carbohydrates and fats.</li> <li>• Study egestion; nutritional and digestive disorders - PEM, indigestion, constipation, vomiting, jaundice, diarrhoea.</li> </ul> | <p>-----</p>                                        |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                     |
| <b>Ch. 17 : BREATHING AND EXCHANGE OF GASES:</b><br><b>Students will learn about:</b> <ul style="list-style-type: none"> <li>• Respiratory organs.</li> <li>• Mechanism of breathing.</li> <li>• Exchange of gases.</li> </ul>                                  | <b>Students will be able to describe:</b> <ul style="list-style-type: none"> <li>• The respiratory system in humans</li> <li>• Mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and</li> </ul>                                                                                                                                                                                                                                                                                          |                                                     |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                           | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                                                            | EXPERIENTIAL LEARNING /<br>INTEGRATED ART EDUCATION |
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| <ul style="list-style-type: none"> <li>• Transport of gases.</li> <li>• Regulation of respiration.</li> <li>• Disorders of respiratory system.</li> </ul>                                                                                                                                                                           | regulation of respiration, respiratory volume.<br><br><ul style="list-style-type: none"> <li>• Study disorders related to respiration - asthma, emphysema, occupational respiratory disorders.</li> </ul>                                                                                                                                                   |                                                     |
| <b>Ch. 18 : Body Fluids And Circulation :</b><br><b>Students will learn about:</b> <ul style="list-style-type: none"> <li>• Blood, lymph, tissue, fluid.</li> <li>• Circulatory pathway.</li> <li>• Double circulation.</li> <li>• Regulation of cardiac activity.</li> <li>• disorder of circulatory system.</li> </ul>            | <b>Students will be able to describe:</b> <ul style="list-style-type: none"> <li>• Plasma composition, Blood corpuscles, Blood group, RH-factor, Blood clotting, Human circulatory system, Cardiac cycle, ECG.</li> <li>• Regulation of cardiac activities, disorder.</li> </ul>                                                                            | -----                                               |
| <b>Ch. 19 : EXCRETORY PRODUCTS AND THEIR ELIMINATION :</b><br><b>Students will understand:</b> <ul style="list-style-type: none"> <li>• Human excretory system.</li> <li>• Urine formation.</li> <li>• Function of tubules.</li> <li>• Mechanism of concentration of filtrate.</li> <li>• Regulation of kidney function.</li> </ul> | <b>Students will be able to describe:</b> <ul style="list-style-type: none"> <li>• Modes of excretion - ammonotelism, ureotelism, uricotelism.</li> <li>• Study human excretory system - structure and function.</li> <li>• Mechanism of urine formation.</li> <li>• Study osmo regulation, regulation of kidney function - renin - angiotensin,</li> </ul> |                                                     |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | LEARNING OUTCOME                                                                                                                                                                                                                               | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                                                                                                         |
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| <ul style="list-style-type: none"> <li>• Micturition.</li> <li>• Role of other organ in excretion.</li> <li>• Disorder of the excretory system.</li> </ul>                                                                                                                                                                                                                                                                                                                                                            | atrial natriuretic factor, ADH and diabetes insipidus.<br>Role of other organs in excretion. <ul style="list-style-type: none"> <li>• Disorders - uraemia, renal failure, renal calculi, nephritis; dialysis and artificial kidney.</li> </ul> |                                                                                                                                                          |
| <b>Ch. 20 : LOCOMOTION AND MOVEMENT :</b><br><b>Students will understand:</b> <ul style="list-style-type: none"> <li>• Types of movement muscles.</li> <li>• Mechanism of muscle contraction.</li> <li>• Structure of contractile protein.</li> <li>• Skeletal system.</li> <li>• Vertebral column structure and function.</li> <li>• Pectoral and pelvic girdle structure and function.</li> <li>• Joints their types structure and position in body</li> <li>• Disorders of muscular and skeletal system</li> </ul> | <b>Students will be able to describe:</b> <ul style="list-style-type: none"> <li>• Types of movements.</li> <li>• Skeletal system and its functions.</li> <li>• Disorders of muscular and skeletal system.</li> </ul>                          | <ul style="list-style-type: none"> <li>• Study of human skeleton and different types of joints with the help of virtual images / models only.</li> </ul> |
| <b>Ch. 21 : NEURAL CONTROL AND COORDINATION:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Students will be able to describe:</b> <ul style="list-style-type: none"> <li>• Structure of Neuron and nerves</li> </ul>                                                                                                                   |                                                                                                                                                          |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                  | LEARNING OUTCOME                                                                                                                                                                                                                                                                                                                                                                                                                                                   | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION |
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| <p><b>Students will learn about:</b></p> <ul style="list-style-type: none"> <li>• Neural system.</li> <li>• Human neural system.</li> <li>• Neurone as a structural and functional unit of neural system.</li> <li>• Central nervous system.</li> <li>• Reflex action and reflex arc.</li> <li>• Sensory reception and processing.</li> </ul>                                                                                              | <ul style="list-style-type: none"> <li>• Significance of Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system.</li> <li>• Explain the generation and conduction of nerve impulse.</li> <li>• Importance of reflex action; sensory perception; sense organs; elementary structure and functions of eye and ear.</li> </ul>                                                                                      |                                                  |
| <p><b>Ch. 22 : Chemical Co-Ordination And Regulation :</b></p> <p><b>Students will study:</b></p> <ul style="list-style-type: none"> <li>• Endocrine gland and hormones.</li> <li>• Human endocrine system.</li> <li>• Hormones of heart kidney and gastrointestinal tract.</li> <li>• Mechanism of hormone action.</li> <li>• Protein and steroid hormone its diagrammatic representation and the mechanism of hormone action.</li> </ul> | <p><b>Students will be able to describe:</b></p> <ul style="list-style-type: none"> <li>• The pituitary as a master gland.</li> <li>• Thyroid gland and secretion of thyroxin, its role.</li> <li>• Adrenal gland and role of adrenaline, pancreas, Ovary, Testes.</li> <li>• Mechanism of hormone action.</li> <li>• Glands structure function and position in human body. I.e. hypothalamus, the pituitary, thyroid gland, parathyroid gland, thymus,</li> </ul> |                                                  |

| OBJECTIVE | LEARNING OUTCOME                                                                                                                                            | EXPERIENTIAL LEARNING /<br>INTEGRATED ART EDUCATION |
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|           | <p>adrenal gland, pancreas, testes, ovaries.</p> <ul style="list-style-type: none"><li>• hormones of the heart kidney and gastrointestinal tract.</li></ul> |                                                     |

| OBJECTIVE                                                                                                                                                                                                                                                                                    | LEARNING OUTCOMES                                                                                                                                                                                      | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                             |
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| <b>(MICROECONOMICS) Unit 1 : Concept of Economic:</b><br>To make students understand the meaning of economics, why the introduction of term economics introduced, central problems of economics, concepts of PPF and opportunity cost                                                        | Students understand the term scarcity of resources and optimum utilization for balancing the mechanism of economics                                                                                    | Demonstrate the PPF model with the combination of two goods                                       |
| <b>(MICROECONOMICS) Unit 2 : PART 1: Consumer Equilibrium of Demand : (Demand, Elasticity of Demand)</b><br>To make students understand the concept of demand, how demand affect by different factors, movement and shift of demand curve and Measuring elasticity of demand                 | Students understand how demand created, demand calculation from direction to quantitative analysis from elasticity of demand. They also able to know the functioning of Law of Demand and demand curve | List of Industries given to students to choose any 3 and analysis the demand created by consumers |
| <b>(STATISTICS) Unit 1 : Significance of Statistics in Economics :</b><br>To make students understand the requirements of economics in the field of Statistics by narrating the definition given by different economist also expected to understand the behaviour of various economics data. | Students the meaning of economic activity and non economic activity.                                                                                                                                   | Observe your surrounding and list down the activity of Economic and Non economics by              |
| <b>HALF YEARLY EXAM</b>                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                        |                                                                                                   |
| <b>Entire Syllabus of PT I +</b>                                                                                                                                                                                                                                                             | Students will able to understand primary                                                                                                                                                               | List of topic will be provided                                                                    |

| OBJECTIVE                                                                                                                                                                                                                                                    | LEARNING OUTCOMES                                                                                                                                                          | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                                                       |
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| <b>(STATISTICS) Unit 2 : Collection, Organization and Presentation of data :</b><br>To make students understand sense of statistics, in which the steps of plural sense and singular sense data is collected, organised, presented, analysed and interpreted | and secondary data, sampling, frequency distribution and presentation on the basis of diagrammatic form.                                                                   | to students for choosing one topic from which and design Questionnaire                                                      |
| <b>(STATISTICS) Unit 3 : PART 1</b><br><b>Measure of central tendency :</b> To make students understand the first tool of statistical i.e. Mean, Median and mode. Measure of Central Tendency with step wise method of calculation                           | Students will able to understand why we use central tendency as a tool of statistical, where mean, median and mode implies average, mid value and highest value of series. | Analysis the mean, median and mode by providing the different cases                                                         |
| <b>(MICROECONOMICS) Unit 4 : Form of Market :</b> To make students understand the meaning of market, forms of market, how these market differentiate from each other.                                                                                        | Students will able to understand the features of market how these market forms and distinguished from one another.                                                         | List down the examples of each market also justify the those example with its features and shift in demand and supply curve |
| <b>PT – II EXAM</b>                                                                                                                                                                                                                                          |                                                                                                                                                                            |                                                                                                                             |
| <b>(STATISTICS) Unit 3 : PART 2</b><br><ul style="list-style-type: none"> <li>• <b>Measure of Dispersion</b></li> </ul>                                                                                                                                      | Students will able to understand how the statistical tool interpretation different                                                                                         | Analysis the measure of dispersion, correlation                                                                             |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                             | LEARNING OUTCOMES                                                                                                                                                                                                             | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                                                       |
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| <ul style="list-style-type: none"> <li>• <b>Correlation</b></li> <li>• <b>Index Number</b></li> <li>• To make students understand</li> <li>• Measure of Dispersion: The meaning of dispersion where it divides the relatives and absolute dispersion of data</li> <li>• Correlation: Meaning, properties, scatter diagram and measure of correlation</li> <li>• Index Number: Meaning and types of Index Number also usage of Index Number</li> </ul> | meaning as a result like measure of dispersion, correlation and Index number.                                                                                                                                                 | analysis and index number by providing the different cases                                                                  |
| <b>(MICROECONOMICS) Unit 4 : Forms of Market and Price Determination :</b><br>To make students understand the meaning of price determination in market, how these market determine the price and differentiate from each other.                                                                                                                                                                                                                       | Students will able to understand the of price determination in market how these market forms and distinguished from one another, determination of market equilibrium and effect of shift in demand and supply curve of market | List down the examples of each market also justify the those example with its features and shift in demand and supply curve |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                               |                                                                                                                             |
| <b>Entire Syllabus And (MICROECONOMICS) Unit 2 : PART 2</b>                                                                                                                                                                                                                                                                                                                                                                                           | Students will able to understand the behaviour of consumer and satisfaction                                                                                                                                                   | Case Study on Law of diminishing marginal utility                                                                           |

| OBJECTIVE                                                                                                                                                                                                                  | LEARNING OUTCOMES                                                                                                                                        | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                                       |
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| <b>Consumer Equilibrium :</b><br>To make students understand the meaning of consumer's equilibrium, concept of utility, Law of diminishing marginal utility, indifference curve and consumer's budget                      | level to acquired to reached at optimum level. From indifference curve preference of the consumer measured.                                              | and indifference curve                                                                                      |
| <b>(MICROECONOMICS) Unit 3 : Producer Behaviour and Supply :</b><br>To make the student understand the function of production and return of factor. Concept of cost and revenue which help in equate the economy function. | Students will able to understand the relation between cost and revenue. How the producer understands the long run and short run of producer equilibrium. | Taking a example on short run and long run of production function. Evaluating cost and revenue of producer. |
| <b>Project Work</b>                                                                                                                                                                                                        |                                                                                                                                                          |                                                                                                             |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                       | LEARNING OUTCOMES                                                                                                                                                                                                  | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                                         |
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| <p><b>Ch. 1 : Nature and Purpose of business :</b><br/>To be able to Know the History of Commerce in India, Understand the concept of business with special reference to economic and non-economic activities.<br/>Types of business and their characteristics, features, concept of employment, profession and business, types of Industry and trade and causes of risk and types of risk.</p> | <p>Students understand different concept of economic activities and able to differentiate between business, profession and employment. Students are also able to recognize the types of risk and their causes.</p> | <p>Critical analysis of different kind of business in the market.</p>                                                                        |
| <p><b>Ch. 3 : Private, Public and Global Enterprises :</b><br/>To be able to develop an understanding of public sector and private sector, identify the features and limitation of different sectors and develop an understanding about global enterprises, joint venture and Public private partnership concept.</p>                                                                           | <p>Students understand about the public and private sectors. Students are little bit confused about private sector and private companies but later on the confusion is cleared.</p>                                | <p>Preparing list about the types of business we have in our surroundings and categorised them in private, public or global enterprises.</p> |
| <p><b>Ch. 4 : Business services :</b> To be able to understand the meaning and types of Business services, types of banking services, different types of bank accounts, Insurance and their</p>                                                                                                                                                                                                 | <p>Students understand different services available in the market. And their principle to be followed.</p>                                                                                                         | <p>Analysis of different services and makes a list of different services available in the society.</p>                                       |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                 | LEARNING OUTCOMES                                                                                                                                                             | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                |
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| types, principle of insurance, utility of telecom services etc.                                                                                                                                                                                                                                                                           |                                                                                                                                                                               |                                                                                                                     |
| <b>HALF YEARLY</b>                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                               |                                                                                                                     |
| <b>Syllabus of PT-I and Chapter 2</b>                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |                                                                                                                     |
| <b>Ch. 2 : Forms of Business organisation :</b> To be able to understand the different forms of Business; Sole proprietor, Partnership, HUF, Cooperative society & Joint stock company. And also be aware of the procedure to form such kind of business and what are the key points should be considered while choosing an organisation. | Students are aware of the different kinds of business opportunities in a private sector they had and what are the legal requirement they need to fulfill to start a business. | Critical analysis of the market and make list of different kind of business running recently in their surroundings. |
| <b>Ch. 5 : Emerging Modes of Business :</b> To be able to understand about the meaning of E-business, its scope, limitation, importance etc. and also the difference between traditional business and e-business.                                                                                                                         | Students are well versed with the e-business scope in recent days and their scope and requirement for starting a e-business.                                                  | Analysis about the different type of business running now days.                                                     |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                    | LEARNING OUTCOMES                                                                                                                         | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION                                                                                                                 |
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| <b>Ch. 6 : Social Responsibilities of Business and Business Ethics :</b><br>Through this chapter students will be able to understand about the responsibility a business had towards the different groups of the society. And also know the ethics a business should follow in the regular practices.                        | Students are aware of the responsibilities and ethics a business should follow in their life span to survive in the market.               | Make list of the responsibility a business should follow apart from the text book content and also make a list of recently business and their practices towards CSR. |
| <b>Ch. 7 : Sources of Business Finance :</b> Through this chapter students will be able to understand the different sources of funds available in the market to form a business. Benefits, Limitation of business finance, Owner's fund, borrowed fund, ADR, GDR, IDR, Distinction between owner fund and borrowed fund etc. | Students are aware of the different kinds of funds available in the market and how a company can use these finances for their betterment. | Critical analysis of funds and make list which one is more beneficial for the company's success.                                                                     |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                                                                                                                           |                                                                                                                                           |                                                                                                                                                                      |
| <b>Entire course up-to PT-II And</b>                                                                                                                                                                                                                                                                                         |                                                                                                                                           |                                                                                                                                                                      |
| <b>Ch. 8 : Small Business and Enterprises :</b><br>Through this chapter students will be able to understand about the concept of entrepren-                                                                                                                                                                                  | Students are able to understand the scope of small business and their role in our country. And various schemes of government for their    | Critical analysis of various schemes of government and their benefit for small                                                                                       |

| OBJECTIVE                                                                                                                                                                                                                                        | LEARNING OUTCOMES                                                                                     | EXPERIENTIAL<br>LEARNING/INTEGRATED<br>ART EDUCATION |
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| ownership development, Intellectual property right, meaning of small business and their role in India and the government policies for them.                                                                                                      | upliftment.                                                                                           | business                                             |
| <b>Ch. 9 : Internal Trade :</b> Through this chapter students will be understand about the meaning and type of internal trade, types of retail, Departmental stores, GST etc.                                                                    | Students are aware of the Internal trade and their different types and GST application.               |                                                      |
| <b>Ch. 10: International Trade:</b> Through this chapter students will be able to know about the meaning of International trade, Meaning & procedure of Export and import. Needs of documents for export and import and WTO meaning & objectives | Students are well-versed with the external trade and the documents required for the export and import |                                                      |

| OBJECTIVE                                                                                                                                                                                                           | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                     | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION |
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| <b>Unit 1: Entrepreneurship- What, Why and How</b><br>To make the students understand the meaning of entrepreneurship, why entrepreneurship for you, pros and cons of entrepreneurship, Process of entrepreneurship | After going through this unit, the student/ learner would be able to: Understand the concept of Entrepreneurship Assess how entrepreneurship can help shape one's career Explain the functions of an Entrepreneur Appreciate the need for Entrepreneurship in our economy State the myths, advantages and disadvantages of Entrepreneurship                                                           | To identify the list of entrepreneur in India    |
| <b>HALF YEARLY EXAM + ENTIRE SYLLABUS OF PT - I</b>                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                       |                                                  |
| <b>Unit 2 : An Entrepreneur</b><br>To make the students understand types of entrepreneurs, competencies and characteristics, values, attitudes and motivation, Intrapreneur                                         | After going through this unit, the student/ learner would be able to: Understand the motivations to become an entrepreneur. Differentiate between Entrepreneur and an employee. Differentiate between various types of entrepreneurs. Explain the competencies of an Entrepreneur. Assess their own entrepreneurial qualities and competencies. Appreciate the importance of Ethical Entrepreneurship | Make a List of Scams and fraud in India          |
| <b>Unit 3 : Entrepreneurial Journey</b><br>To make students understand the                                                                                                                                          | After going through this unit, the student/ learner would be able to: Identify different and your own                                                                                                                                                                                                                                                                                                 | Draft Business plan                              |

| OBJECTIVE                                                                                                                                                                                                      | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                  | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION   |
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| self assessment of qualities, skills, resources and dreams, business ideas and opportunities, business plan preparation                                                                                        | personality type to become an entrepreneur<br>Understand the meaning and triggers of idea generation Differentiate between business idea and business opportunity Understand factors involved in opportunity assessment Explain the concept of types of feasibility study Understand and apply the concept of Business Plan Explain how to execute a business plan |                                                    |
| <b>Unit 4 : Entrepreneurship as Innovation and problem solving</b><br>To make students understand the problem solving innovations and entrepreneurial ventures, social entrepreneurial, types of business risk | After going through this unit, the student/ learner would be able to: Understand the role of entrepreneurs as problem solvers Appreciate the role of global and India innovations in entrepreneurial ventures Understand the role and importance of technology and digitization for new businesses                                                                 | List the social entrepreneur                       |
| <b>PT – II EXAM</b>                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                    |                                                    |
| <b>Unit 5 : Understanding the market</b><br>To make students understand market and type, market research, marketing mix                                                                                        | After going through this unit, the student/ learner would be able to: Define market & its types Understand the concept of Market Research Learn how to conduct market research Understand the                                                                                                                                                                      | Identify the market mix according to marketing mix |

| OBJECTIVE                                                                                                                                                                | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EXPERIENTIAL LEARNING / INTEGRATED ART EDUCATION                  |
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|                                                                                                                                                                          | meaning and define stakeholders and customers for a business Apply the process of Market Research Understand the difference between market sensing and market testing Learn how to conduct a market test for a business idea                                                                                                                                                                                                                                                                    |                                                                   |
| <b>Unit 6 : Business Arithmetic</b><br>To make students understand unit of sale, unit of cost and unit of price, income statement, cash flow statement, break even point | After going through this unit, the student/ learner would be able to: Understand the meaning and concept of the term Cash Inflow and Cash Out flow Explain the terms- Unit Cost, Unit of Sale, Unit Prices. Calculate Per Unit Cost of a single product or service product Understand the concept of COST and its components - Start-up and operational Costs Understand the importance and preparation of Income Statement Prepare a Cash Flow Projection Give the meaning of Break-even Point | Draft the cash flow statement according to students business plan |
| <b>ANNUAL EXAM + ENTIRE SYLLABUS</b>                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                   |
| <b>Unit 7 : Resource Mobilization</b><br>To make students understand types of resources, selection and utilization                                                       | After going through this unit, the student/ learner would be able to: Give the meaning of Resource Mobilization Identify the different types of                                                                                                                                                                                                                                                                                                                                                 | Draft the cash flow statement according to students business plan |

| <b>OBJECTIVE</b>                        | <b>LEARNING OUTCOMES</b>                                                                                                                                                                                                                                                       | <b>EXPERIENTIAL LEARNING /<br/>INTEGRATED ART EDUCATION</b> |
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| of human resources, financial resources | resources tools – Physical, Human, Entrepreneurial, Financial, Material, Intangible Give the meaning of Business Finance and methods to secure it Explain the difference, advantages and disadvantages of Debt and Equity Estimate the financial requirements of an enterprise |                                                             |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | LEARNING OUTCOMES                                                                                                   | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                           |
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| <p><b>Ch. 1 : Introduction to Accounting :</b><br/> <b>After going through this Unit, the students will be able to:</b></p> <ul style="list-style-type: none"> <li>Describe the meaning, significance, objectives, advantages and limitations of accounting in the modern economic environment with varied types of business and non-business economic entities. Identify / recognize the individual(s) and entities that use accounting information for serving their needs of decision making.</li> </ul> | <p>Students understand about the accounting and its advantages, needs, importance and limitations of accounting</p> | <p>Students will understand the basic of accounting and to whom it is important.</p>            |
| <p><b>Ch. 2 : Basic Accounting terms</b></p> <ul style="list-style-type: none"> <li>Explain the various terms used in accounting and differentiate between different related terms like current and non-current, capital and revenue.</li> <li>Give examples of terms like business transaction, liabilities, assets, expenditure and purchases.</li> <li>Explain that sales/purchases include both cash and credit sales/purchases relating to the accounting year.</li> </ul>                             | <p>Students will understand about the basic terminologies which have been used in accounting process.</p>           | <p>Students understand the various different terminologies and their meaning in accounting.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                            | LEARNING OUTCOMES                                                                                               | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                                                                                                                   |
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| <b>Ch. 3 : Theory Base of Accounting</b> <ul style="list-style-type: none"> <li>• State the meaning of fundamental accounting assumptions and their relevance in accounting.</li> <li>• Describe the meaning of accounting assumptions and the situation in which an assumption is applied during the accounting process.</li> </ul> | Students understand about the basic assumptions, concepts and conventions, Accounting standards, GAAP & IND-AS  | Students understand the various concepts and their application in accounting process.                                                                                                   |
| <b>Ch. 4 : Bases of Accounting</b> : State the types of Basis of accounting : Cash Basis and Accrual Basis                                                                                                                                                                                                                           | Students understand about the different types of bases of accounting and the difference between these two bases | Students understand the basic difference between these two bases and be able to understand what kind of business needs for their accounting procedure from the two bases of accounting. |
| <b>Ch. 7 : Origin of Transactions:</b> State the types of vouchers and documents which are necessary to prepare accounting records                                                                                                                                                                                                   | Students understand about the need of accounting vouchers                                                       | Students will understand the necessity of voucher in the context of accounting and their uses.                                                                                          |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                        | LEARNING OUTCOMES                                                                                                                                                      | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                                                                    |
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| <b>Ch. 6 &amp; 8 : Accounting Procedure – Rules of Debit and Credit and Journal:</b> <ul style="list-style-type: none"> <li>• Meaning of Journal, its format and how a journal entry will be passed and GST application in journal entries.</li> <li>• Simple and compound entry</li> <li>• Discount (Trade and Cash)</li> <li>• Opening and Closing journal entries.</li> </ul> | Students learn to pass journal entries i.e. Simple and compound entries with GST                                                                                       | Students will understand the practical approach of passing journal entries and their uses.                                               |
| <b>HALF YEARLY EXAM</b>                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                        |                                                                                                                                          |
| <b>Entire syllabus of PT-I</b>                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                        |                                                                                                                                          |
| <b>Ch. 5 : Accounting Equation :</b><br>Enable students to understand the dual effect of each transaction in the books of accounts.<br>To understand about the final impact of every transaction on the Asset and Liabilities side.                                                                                                                                              | Students understand about the dual aspect concept and their applicability.                                                                                             | Students will able to relate every transaction from their origin to the final destination i.e. Balance sheet                             |
| <b>Ch. 10 : Special Purpose Book I - Cash Book:</b> <ul style="list-style-type: none"> <li>• Explain the purpose of maintaining a Cash Book and develop the skill of preparing the format of different types of cash books and the method of recording cash transactions in Cash book.</li> </ul>                                                                                | Students understand the utility of Cash book and how a cash book is prepared. Student will also be able to understand the different types of cash book and their uses. | Students will learn uses of different kind of cash book and skills to maintain those books and also understand which level of management |

| OBJECTIVE                                                                                                                                                                                                                                                                                           | LEARNING OUTCOMES                                                                                                        | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                                                                               |
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|                                                                                                                                                                                                                                                                                                     |                                                                                                                          | prepares different cash book.                                                                                                                       |
| <b>Ch. 11 : Special Purpose Book II - Other Subsidiary Books:</b> <ul style="list-style-type: none"> <li>Describe the method of recording transactions other than cash transactions as per their nature in different subsidiary books</li> </ul>                                                    | Students understand the different types of subsidiary books apart from the cash book and their necessity in accountancy. | Students will learn the skill of analyzing and differentiating various transactions according to their nature.                                      |
| <b>Ch. 9 : Ledger :</b> <ul style="list-style-type: none"> <li>Appreciate that for ascertaining the position of individual accounts, transactions are posted from subsidiary books and journal proper into the concerned accounts in the ledger and develop the skill of ledger posting.</li> </ul> | Students understand the need of Ledger preparation and their uses.                                                       | Students will learn the bifurcation of transaction of the basis of their individual account and analyzing the various nature of different accounts. |
| <b>Ch. 13 : Trial Balance :</b> <ul style="list-style-type: none"> <li>State the need and objectives of preparing trial balance and develop the skill of preparing trial balance.</li> <li>State the various methods for preparing the trial balance.</li> </ul>                                    | Students understand the various method through which trial balance is prepared.                                          | Students will learn that trial balance checks only arithmetical accuracy of the transactions recorded.                                              |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | LEARNING OUTCOMES                                                                                                                                                                       | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION        |
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| <b>Ch. 16 : Bills of Exchange</b> <ul style="list-style-type: none"> <li>Acquire the knowledge of using bills of exchange and promissory notes for financing business transactions; Understand the meaning and distinctive features of these instruments and develop the skills of their preparation.</li> <li>State the meaning of different terms used in bills of exchange and their implication in accounting.</li> <li>Explain the method of recording of bill transactions.</li> </ul> | Students understand about the bills of exchange and its need and how financial statements has been made according to the standards and their uses for Internal and as well as external. | Students will learn Values: Transparency, Trust and honesty. |
| <b>PT – II EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                         |                                                              |
| <b>Ch. 12 : Bank Reconciliation Statement :</b> <ul style="list-style-type: none"> <li>Appreciate that at times bank balance as indicated by cash book is different from the bank balance as shown by the pass book / bank statement and to reconcile both the balances, bank reconciliation statement is prepared.</li> <li>Develop understanding of preparing bank reconciliation statement.</li> </ul>                                                                                    | Students understand about how bank reconciliation statement has been prepared                                                                                                           | Student will learn the values of Transparency and honesty.   |

| <b>OBJECTIVE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>LEARNING OUTCOMES</b>                                                                                        | <b>EXPERIENTIAL LEARNING<br/>/INTEGRATED ART<br/>EDUCATION</b>                                        |
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| <p><b>Ch. 18 &amp; 19 : Financial Statements (with and without adjustments)</b></p> <ul style="list-style-type: none"><li>• State the meaning of financial statements.</li><li>• Purpose of preparing financial statements.</li><li>• State the meaning of gross profit, operating profit and net profit and develop the skill of preparing trading and profit and loss account.</li><li>• Explain the need for preparing balance sheet.</li><li>• Understand the technique of grouping and marshalling of assets and liabilities.</li><li>• Appreciate that there may be certain items other than those shown in trial balance which may need adjustments while preparing financial statements.</li><li>• Develop the understanding and skill to do adjustments for items and their presentation in financial statements like depreciation, closing stock, provisions, abnormal loss etc.</li><li>• Develop the skill of preparation of trading and profit and loss account and balance sheet</li></ul> | <p>Students understand how to prepare final accounts (Trading, Profit &amp; loss account and Balance sheet)</p> | <p>Student will learn values of Full Disclosure, Transparency and Ethical behavior of a business.</p> |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                                                                                              | LEARNING OUTCOMES                                                                                                         | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                    |
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| <b>Ch. 15 : Provisions and Reserves :</b> <ul style="list-style-type: none"> <li>State the Provision and reserve and the basic difference in them.</li> <li>Types of provisions and reserves.</li> </ul>                                                                                                                                                                                                                               | Students understand the various types of provisions and reserves and their need in the business                           | Student will learn values of conservatism, strength and future expectancy.               |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                           |                                                                                          |
| <b>Entire syllabus + Ch:14</b>                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                           |                                                                                          |
| <b>Ch. 14 : Depreciation :</b> <ul style="list-style-type: none"> <li>Depreciation: Concept, Features, Causes, factors</li> <li>Other similar terms: Depletion and Amortisation</li> <li>Methods of Depreciation:</li> <li>Straight Line Method (SLM) Written Down Value Method (WDV)</li> <li>Explain the necessity of providing depreciation and develop the skill of using different methods for computing depreciation.</li> </ul> | Students understand about the method of depreciation and need of depreciation charged.                                    | Student will learn practical applicability of matching concept.                          |
| <b>Ch. 20 : Accounting for Incomplete Records :</b> <ul style="list-style-type: none"> <li>State the meaning of incomplete records.</li> <li>Explain the single entry system</li> <li>How can we ascertain profit form incomplete</li> </ul>                                                                                                                                                                                           | Students will be able to prepare statement of affairs and find out the actual profit on the basis of single entry system. | Student will learn the value of scientific approach of recording i.e. dual entry system. |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                   | EXPERIENTIAL LEARNING<br>/INTEGRATED ART<br>EDUCATION                                                   |
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| records<br>• Preparation of opening and closing statement of affairs.                                                                                                                                                                                                                                                                             |                                                                                                                                                     |                                                                                                         |
| <b>Ch. 17 : Rectification of Errors :</b><br>• Appreciate that errors may be committed during the process of accounting.<br>• Understand the meaning of different types of errors and their effect on trial balance.<br>• Develop the skill of identification and location of errors and their rectification and preparation of suspense account. | Student understand about the types of errors a human can made while recording posting the transactions & the process through they can rectify them. | Students will learn<br>Values: Responsibility,<br>Trust, honesty and sincerity.                         |
| <b>Ch. 21 &amp; 22 : Computer in Accounting + Accounting Software:</b><br>• Develop the knowledge of accounting through computer software Tally etc                                                                                                                                                                                               | Students understand the need of accounting software and how to use them                                                                             | Student will learn the use of accounting software and able to enter transaction directly into computer. |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                                    | LEARNING OUTCOMES                                                                                                                                                   | EXPERIENTIAL LEARNING/<br>INTEGRATED ART EDUCATION                     |
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| <b>Chapter-1 : Basics Computer Organization</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• Basic computer Organization.</li> <li>• Types of Software</li> <li>• Transition from Calculator to Computer and Smart Devices</li> <li>• Evolution of Computer</li> <li>• Trouble Shooting Computer Operation</li> </ul> | <b>Students will be able to :</b><br>Understand the Basic computer Organization and ability to identify the functionality of various components of Computer System. | Discussion on transition from Calculator to Computer and Smart Devices |
| <b>Chapter-2 : Data Representation - Basic Concept</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• Digital Number Systems</li> <li>• Number Conversions</li> <li>• Representing characters in Memory</li> <li>• ISCII</li> <li>• Unicode</li> </ul>                                                                  | <b>Students will be able to :</b><br>understand the Basic concept of Data representation: Binary, ASCII, Unicode                                                    | Practical and Practice of various Number System Conversions            |
| <b>Chapter-3 : Getting Started with Python</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• Python - Pluses</li> <li>• Python - Some Minuses</li> <li>• Working in Python</li> </ul>                                                                                                                                  | <b>Students will be able to :</b><br>understand the Basic concept of Python Programming                                                                             | Programming Practical in Labs and Worksheets                           |

| OBJECTIVE                                                                                                                                                                                                                                                                             | LEARNING OUTCOMES                                                                          | EXPERIENTIAL LEARNING/<br>INTEGRATED ART EDUCATION |
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| <ul style="list-style-type: none"> <li>Understanding First Program/Script</li> </ul>                                                                                                                                                                                                  |                                                                                            |                                                    |
| <b>Chapter- 4 : (Python Fundamentals)</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>Python Character Set</li> <li>Tokens</li> <li>Barebones of a Python Program</li> <li>Variable and Assignments</li> <li>Simple Input and Output</li> </ul> | <b>Students will be able to :</b><br>understand the Barebones of a Python Program          | Programming Practical in Labs and Worksheets       |
| <b>Chapter -5 : Data Handling</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>DataTypes</li> <li>Mutable and Immutables Types</li> <li>Operators</li> <li>Expressions</li> <li>Working with Some Standard Library Modules</li> </ul>            | <b>Students will be able to :</b><br>understand DataTypes , Mutable and Immutables Types   | Programming Practical in Labs and Worksheets       |
| <b>HALF YEARLY EXAM</b>                                                                                                                                                                                                                                                               |                                                                                            |                                                    |
| <b>Chapter - 6 : Conditional and Iterative Statements</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>Types of Statement in Python</li> </ul>                                                                                                   | <b>Students will be able to :</b><br>Understand various types of statements, Program Logic | Programming Practical in Labs and Worksheets       |

| OBJECTIVE                                                                                                                                                                                                                                                                        | LEARNING OUTCOMES                                                                                   | EXPERIENTIAL LEARNING/<br>INTEGRATED ART EDUCATION |
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| <ul style="list-style-type: none"> <li>• Statement Flow Control</li> <li>• Program Logic Development Tools</li> <li>• The if Statement of Python</li> <li>• Repetition of Tasks - A Necessity</li> <li>• The range() Function</li> <li>• Iteration/Looping Statements</li> </ul> | Development Tools                                                                                   |                                                    |
| <b>Chapter – 7 : Text Handling</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• Traversing a String</li> <li>• String Operators</li> <li>• String Slices(Substring)</li> </ul>                                                            | <b>Students will be able to :</b><br>understand the use of String and its applications              | Programming Practical in Labs and Worksheets       |
| <b>Chapter – 8 : List Manipulation</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• Creating and Accessing Lists</li> <li>• List Operations</li> <li>• Working with Lists</li> <li>• List Functions and Methods</li> </ul>                | <b>Students will be able to :</b><br>understand List, List Function and Methods                     | Programming Practical in Labs and Worksheets       |
| <b>Chapter – 9 : Dictionaries</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• Dictionary - Key: Value Pairs</li> </ul>                                                                                                                   | <b>Students will be able to :</b><br>understand Dictionary - Key: Value Pairs and its Functions and | Programming Practical in Labs and Worksheets       |

| OBJECTIVE                                                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                     | EXPERIENTIAL LEARNING/<br>INTEGRATED ART EDUCATION |
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| <ul style="list-style-type: none"> <li>Working With Dictionaries</li> <li>Dictionary Functions and Methods</li> </ul>                                                                                                                                                                                                                             | Methods                                                                                                               |                                                    |
| <b>PT – II EXAM</b>                                                                                                                                                                                                                                                                                                                               |                                                                                                                       |                                                    |
| <b>Chapter -10 : Working With NumPy</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>What are NumPy Arrays?</li> <li>Numpy Data Types</li> <li>Creating Numpy Arrays</li> <li>Working With Numpy Arrays</li> </ul>                                                                                           | <b>Students will be able to :</b><br>understand NumPy Arrays ,aggregation operations and Applications of Numpy Arrays | Programming Practical in Labs and Worksheets       |
| <b>Chapter -11 : Relational Databases</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>Purpose of DBMS</li> <li>Relational Database Model</li> <li>The Relational Model Terminology</li> <li>Brief History of MySQL</li> <li>MySQL Database System</li> <li>Starting MySQL</li> <li>MySQL and SQL</li> </ul> | <b>Students will be able to :</b><br>understand Relational Database Model and started with SQL .                      | Programming Practical in Labs and Worksheets       |
| <b>Chapter-12 : Simple Queries in SQL</b><br><b>To make the students understand:</b>                                                                                                                                                                                                                                                              | <b>Students will be able to :</b><br>write queries on their own                                                       | Programming Practical in Labs and Worksheets       |

| OBJECTIVE                                                                                                                                                                                                                                                                              | LEARNING OUTCOMES                                                                                                                                                                     | EXPERIENTIAL LEARNING/<br>INTEGRATED ART EDUCATION                                                              |
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| <ul style="list-style-type: none"> <li>• Some MySQL SQL Elements</li> <li>• SQL Command Syntax</li> <li>• Sample Database</li> <li>• Making Simple Queries</li> <li>• MySQL Functions</li> <li>• Aggregate Functions</li> </ul>                                                        |                                                                                                                                                                                       |                                                                                                                 |
| <b>Chapter-13 : Table Creation and Data Manipulation Commands</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• Database in MySQL</li> <li>• Creating Tables</li> <li>• Changing Data with DML Commands</li> <li>• More DDL Command</li> </ul>   | <b>Students will be able to :</b><br>understand the use of UPDATE, DELETE , ALTER TABLE and DROP TABLE Commands in SQL                                                                | Programming Practical in Labs and Worksheets                                                                    |
| <b>ANNUAL EXAM</b>                                                                                                                                                                                                                                                                     |                                                                                                                                                                                       |                                                                                                                 |
| <b>Chapter-14 : Cyber Safety</b><br><b>To make the students understand:</b> <ul style="list-style-type: none"> <li>• What is Cyber Safety?</li> <li>• Safely Browsing the Web</li> <li>• Identity Protection While Using Internet</li> <li>• Confidentiality of Information</li> </ul> | <b>Students will be able to :</b><br>Have a clear understanding of cyber ethics and cybercrime. Plus some Common Social Networking Sites and the appropriate usage of Social Networks | Discussing and finding solution for Confidentiality of Information and Identity Protection While Using Internet |

| OBJECTIVE                                                                                                                                                                                                                                                                                                         | LEARNING OUTCOMES                                                                                                                                             | EXPERIENTIAL LEARNING/<br>INTEGRATED ART EDUCATION                          |
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| <ul style="list-style-type: none"> <li>• Cybercrime</li> <li>• Common Social Networking Sites</li> <li>• Appropriate Usage of Social Networks</li> </ul>                                                                                                                                                          |                                                                                                                                                               |                                                                             |
| <p><b>Chapter – 15 : Online Access and Computer Security</b><br/> <b>To make the students understand:</b></p> <ul style="list-style-type: none"> <li>• Threats to Computer Security</li> <li>• Solutions to Computer Security Threats</li> <li>• Firewall- An Important Solution for Computer Security</li> </ul> | <p><b>Students will be able to :</b><br/>           Have a clear understanding of threats to Computer Security and Solutions to Computer Security Threats</p> | <p>Discussion on Firewall- An Important Solution for Computer Security.</p> |

| TOPIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | OBJECTIVE                                                                                          | LEARNING OUTCOMES                                                                                                                                                                                 | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION |
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| <b>UNIT -1 : Changing trends and career in physical education</b><br>1. Meaning and Definition of Physical Education<br>2. Aims and objectives of physical education<br>3. Career option in physical education<br>4. Competitions in various sports at national and international level<br>5. Khelo-India Program<br><br>1. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>2. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>3. PRACTICAL<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT. | To make children understand the importance and value of physical education and Khelo India Program | Children will come to know the importance, career options and famous institutes of physical education. They will also understand Khelo India program and various tournaments at different levels. | Flow chart, physical fitness test.             |
| <b>UNIT-2 : Olympic Value Education</b><br>1. Olympics, Paralympics and Special Olympics<br>2. Olympic Symbols, Ideals, Objectives & Values of Olympic<br>3. International Olympic Committee<br>4. Indian Olympic Association                                                                                                                                                                                                                                              | To make the students aware of history of Olympics, various committees and associations             | In this unit children will understand Olympic movement and development of various games and sports at various                                                                                     |                                                |

| TOPIC                                                                                                                                                                                                                                                                                                                                                                                                                                                       | OBJECTIVE                                                                               | LEARNING OUTCOMES                                                                                                                                                                              | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION |
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| 1. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>2. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>3. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>4. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT                                                                                                                                                                                                                                    |                                                                                         | levels. They will understand Paralympics, special Olympic, IOC and IOA .                                                                                                                       |                                                |
| <b>UNIT-3 : Physical Fitness, Wellness and Lifestyle</b><br>1. Meaning & Importance of Physical Fitness, Wellness & Lifestyle<br>2. Components of physical fitness and Wellness<br>3. Components of Health related fitness<br><br>1. PRACTICAL[ONE GAME OF STUDENT *CHOICE]<br>2. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>3. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>4. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT | To make the students understand the need of physical fitness and wellness in their life | Through this unit children will understand how to lead a happy and healthy life and will also come to know the components of physical fitness through which they can enhance their performance | Physical fitness test.                         |
| <b>HALF YEARLY EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                         |                                                                                                                                                                                                |                                                |
| <b>UNIT - 4 : Physical Education and Sports for CWSN</b><br>1. Physical Education & Sports for CWSN (Children                                                                                                                                                                                                                                                                                                                                               | The objective of this unit is to make the                                               | In this unit children will understand the                                                                                                                                                      | Modified activities for specially abled child. |

| TOPIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | OBJECTIVE                                                          | LEARNING OUTCOMES                                                                                                                                                                                                                                                                                   | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION |
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| <p>With Special Needs- Divyang</p> <ol style="list-style-type: none"> <li>2. Aims &amp; objectives of Adaptive Physical Education</li> <li>3. Organization promoting Adaptive Sports (Special Olympics Bharat; Paralympics; Deaflympics)</li> <li>4. Concept of Inclusion, its need and Implementation</li> <li>5. Role of various professionals for children with special needs (Counsellor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist &amp; special Educator)</li> <li>1. PRACTICAL[ONE GAME OF STUDENT CHOICE]</li> <li>2. PRACTICAL[ONE GAME OF STUDENT CHOICE]</li> <li>3. PRACTICAL[ONE GAME OF STUDENT CHOICE]</li> <li>4. PRACTICAL[ONE GAME OF STUDENT CHOICE]</li> </ol> | <p>students aware of adopted physical education</p>                | <p>services of physical education provided to the people with unique needs. They will understand that CWSM are a part of main stream society. They will understand various competitions organized for differently abled people and role of various educators and therapist in the field of APE.</p> |                                                |
| <p><b>UNIT-5 : Yoga</b></p> <ol style="list-style-type: none"> <li>1. Meaning &amp; Importance of Yoga</li> <li>2. Elements of Yoga</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>To make children aware of importance of yoga, its benefits,</p> | <p>Children will understand the Indian heritage ' yoga given</p>                                                                                                                                                                                                                                    | <p>Yoga week.</p>                              |

| TOPIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | OBJECTIVE                                                                             | LEARNING OUTCOMES                                                                                                          | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION |
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| 3. Introduction - Asanas, Pranayam, Meditation & Yogic Kriyas<br>4. Yoga for concentration & related Asanas (Sukhasana; Tadasana; Padmasana & Shashankasana, Naukasana, Vrikshasana (Tree pose), Garudasana (Eagle pose)<br>5. Relaxation Techniques for improving concentration – Yog-nidra<br><br>1. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>2. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>3. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT | etc                                                                                   | as a gift to the world. They will understand various asana, kriyas, elements and pranayama etc. along with their benefits. |                                                |
| <b>UNIT-6 : Physical Activity and Leadership Training</b><br>1. Leadership Qualities & Role of a Leader<br>2. Creating leaders through Physical Education<br>3. Meaning, objectives & types of Adventure Sports (Rock Climbing, Tracking, River Rafting, Mountaineering, Surfing and Para Gliding)                                                                                                                                                                               | To make children understand “Adventure Sports”, Leadership and injuries during sports | Children will understand the process of inculcating leadership. They will also understand the benefits and                 | School council elections.                      |

| TOPIC                                                                                                                                                                                                                                                                                                                                                                                                                                                  | OBJECTIVE                                                                                                       | LEARNING OUTCOMES                                                                                                                                                                                                                              | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION |
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| <p>4. Safety measures to prevent sports injuries</p> <p>1. PRACTICAL[ONE GAME OF STUDENT CHOICE]</p> <p>2. WARMING-UP GENERAL AND SPECIFIC AND PHYSIOLOGICAL BASIS.</p> <p>3. PRACTICAL[ONE GAME OF STUDENT CHOICE]</p> <p>4. PRACTICAL</p>                                                                                                                                                                                                            |                                                                                                                 | <p>objectives of adventure sports along with various adventures activities. They will also understand the causes of sports injuries and there preventions.</p>                                                                                 |                                                |
| <p><b>UNIT-7 : Test, Measurement and Evaluation</b></p> <p>1. Define Test, Measurement &amp; Evaluation</p> <p>2. Importance of Test, Measurement &amp; Evaluation In Sports</p> <p>3. Calculation of BMI &amp; Waist - Hip Ratio</p> <p>4. Somato Types (Endomorphy, Mesomorphy &amp; Ectomorphy)</p> <p>5. Measurement of health related fitness</p> <p>1. PRACTICAL[ONE GAME OF STUDENT CHOICE]</p> <p>2. PRACTICAL[ONE GAME OF STUDENT CHOICE]</p> | <p>This unit is delivered to students so that they can understand various tests to check individual ability</p> | <p>This chapter will help the students to notice and compare fitness abilities with others. Conducting these tests children will gain greater understanding as to how their body works and their particular strength and weakness in terms</p> | <p>Data collection and comparative charts.</p> |

| TOPIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | OBJECTIVE                                                                                 | LEARNING OUTCOMES                                                                                                                                                                                                                                                    | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION |
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| 3. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>4. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                           | of weakness                                                                                                                                                                                                                                                          |                                                |
| <b>PT – II – EXAM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                           |                                                                                                                                                                                                                                                                      |                                                |
| <b>UNIT -8 : Fundamentals of Anatomy and Physiology and Kinesiology in Sports</b><br>1. Definition and Importance of Anatomy, Physiology & Kinesiology<br>2. Function of Skeleton System, Classification of Bones & Types of Joints<br>3. Properties and Functions of Muscles<br>4. Function & Structure of Respiratory System and Circulatory System<br>5. Equilibrium – Dynamic & Static And Centre of Gravity and its application in sports<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT<br>1. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>2. PRACTICAL[ONE GAME OF STUDENT CHOICE]<br>3. PRACTICAL[ONE GAME OF STUDENT CHOICE] | To make children aware of the importance of Anatomy, Physiology and Kinesiology in sports | Children will learn the various working of various systems. They will learn the structure and functioning of body and its relationship with other systems. They will also understand the movements of human beings or movements perform by various parts of the body | Lecture through audio visual aids.             |

| TOPIC                                                                                                                                                                                                                                                                                                                             | OBJECTIVE                                                                                              | LEARNING OUTCOMES                                                                                                                                                                                                                                             | EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION         |
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| <b>UNIT-9 : Psychology and Sports</b><br>1. Definition & Importance of Psychology in Phy. Edu. & Sports<br>2. Define & Differentiate Between Growth & Development<br>3. Developmental Characteristics At Different Stages of Development<br>4. Adolescent Problems & Their Management<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT | To make children understand the role of psychology in enhancing the performance of an athlete          | This unit guides children regarding sports ethics and sportsman ship to develop sports attitude. This unit helps children to control their anxiety and stress level, and they will learn how psychology plays an important role in enhancing the performance. | Audio visual aids                                      |
| <b>UNIT-10 : Training and Doping in Sports</b><br>1. Training and Doping in Sports<br>2. Meaning & Concept of Sports Training<br>3. Principles of Sports Training<br>4. Warming up & limbering down<br>5. Skill, Technique & Style                                                                                                | To guide students the correct method to perform physical activity and effects of Drugs on performance. | This chapter guides the students about the correct methodology of performing physical activity and what is the best training                                                                                                                                  | Children participated in Micro mesio and micro cycles. |

| <b>TOPIC</b>                                                                                                                                                                      | <b>OBJECTIVE</b> | <b>LEARNING OUTCOMES</b>                           | <b>EXPERIENTIAL LEARNING/INTEGRATED ART EDUCATION</b> |
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| 6. Concept & classification of doping<br>7. Prohibited Substances & their side effects<br>8. Dealing with alcohol and substance abuse<br>NOTE: ONE A.V CLASS RELATED TO THIS UNIT |                  | method for developing and improving the excellence |                                                       |
| <b>ANNUAL EXAM ENTIRE SYLLABUS</b>                                                                                                                                                |                  |                                                    |                                                       |