




# SHAMBHU DAYAL GLOBAL SCHOOL

## HOLIDAY HOMEWORK (2025-26)

### CLASS – XI

HISTORY	LEGAL STUDIES	CHEMISTRY	PSYCHOLOGY
<p><b>Project Title:</b>  <b>"Mesopotamia Reimagined: Life, Literacy, and Legacy" Objective:</b>            To explore the emergence of cities and writing in Mesopotamia and understand how urbanization shaped human civilization, using <b>innovative formats and interdisciplinary approaches.</b>  <b>Step-by-Step Research Project Plan:</b>  <b>Step 1: Create Your Ancient Identity (Week 1)</b>            Ask each student to create a fictional persona living in Mesopotamia (around 3000 BCE). They must include:</p> <ul style="list-style-type: none"> <li>Name, social class, profession (e.g., scribe, farmer, merchant, priest, woman artisan)</li> <li>Daily routine and surroundings</li> <li>Language spoken (mention cuneiform)</li> </ul>	<p><b>Project Title:</b>  <b>"Governments Across the Globe: A Comparative Constitutional Study"</b>  <b>Objective:</b>            To research, compare, and evaluate different forms of government (Parliamentary, Presidential, and Hybrid), their organs, and understand how the separation of powers works in practice.  <b>Step-by-Step Plan:</b>  <b>Step 1: Choose Three Countries (Week 1)</b>            Each student selects:</p> <ol style="list-style-type: none"> <li><b>One with a Parliamentary system</b> (e.g., India, UK)</li> <li><b>One with a Presidential system</b> (e.g., USA, Brazil)</li> <li><b>One with a Hybrid system</b> (e.g., France, Russia)</li> </ol> <p><i>Tip: Allow flexibility to include smaller or lesser-known democracies for diversity.</i></p>	<p><b>Prepare an Investigatory project on the following given topics-</b></p> <ul style="list-style-type: none"> <li>Checking the bacterial contamination in drinking water by testing sulphide ion.</li> </ul> <p>Study of the methods of purification of water</p> <ul style="list-style-type: none"> <li>Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).</li> <li>Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it.</li> <li>Study the acidity of different samples of tea leaves.</li> <li>Study of acidity of fruit and vegetable juices</li> </ul>	<ol style="list-style-type: none"> <li>What surprised you most about psychology? Write 5 Points in an A4 Sheet.</li> <li>How do you see psychology helping people? Make a poster on A3 sheet using content, pictures, cutouts, images and drawings.</li> <li>Project file work: Students are required to undertake one research study which would involve use of different methods of enquiry like observation, survey, interview, questionnaire, self-report related to the topic, i.e.               <ul style="list-style-type: none"> <li>Effect of different types of music on mood of adolescents</li> <li>Effect of having breakfast on performance of adolescents</li> <li>Effect of group conformity on adolescents' behaviour</li> <li>Disturbed life-style can be cause of stress</li> </ul> </li> </ol>
<p><i>Out-of-the-box tip:</i> Students can write a diary entry from this character's POV.  <b>Step 2: Research and Reconstruct (Week 2)</b>            Students research and write on:</p>	<p><b>Step 2: Deep-Dive into Their Government Structure (Week 2)</b>            Students create a comparison chart including:</p>	<p>Note- You will use a paper tucking file in which pages can be assorted. Use One side line-coloured pages the colour should be bright so that</p>	

<ul style="list-style-type: none"> <li>• Urban planning in Mesopotamian cities (e.g., Ur, Uruk)</li> <li>• Importance of temples, palaces, and ziggurats</li> <li>• Invention of cuneiform and its uses</li> <li>• Role of scribes and merchants</li> <li>• Trade and economy in riverine cities</li> </ul> <p><i>Creative task:</i> Draw a map of a Mesopotamian city with key landmarks labeled.</p> <p><b>Step 3: Decode a Script (Week 3)</b></p> <ul style="list-style-type: none"> <li>• Provide a few actual cuneiform symbols or let students search.</li> <li>• Ask them to try writing their name or a short sentence in cuneiform (replication).</li> <li>• Write its meaning in English and explain how early writing evolved.</li> </ul> <p><i>Engagement tip:</i> Create a mini "Clay Tablet" replica using cardboard or clay at home.</p> <p><b>Step 4: Link the Past to the Present (Week 4)</b></p> <p>Ask students to analyze:</p> <ul style="list-style-type: none"> <li>• How Mesopotamian urban and writing systems impacted modern cities and writing.</li> <li>• Compare Mesopotamian cities with modern cities (waste management, planning, education).</li> <li>• How early scripts evolved into today's writing systems.</li> </ul> <p><i>Out-of-the-box activity:</i> Conduct a comparison chart or mini-podcast script imagining an interview between a Mesopotamian scribe and a modern journalist.</p> <p><b>Step 5: Reflect and Conclude</b></p> <p>Students write a short reflection:</p> <ul style="list-style-type: none"> <li>• What fascinated me most about Mesopotamian life?</li> <li>• Why do you think writing changed the course of human history?</li> </ul>	<ul style="list-style-type: none"> <li>• Form of government</li> <li>• Type of legislature (unicameral/bicameral)</li> <li>• Role of the Head of State and Head of Government</li> <li>• Election and tenure process</li> <li>• Separation of powers (Executive, Legislature, Judiciary)</li> <li>• Key features of their Constitutions</li> </ul> <p><i>Creative Twist:</i> Ask them to present this as an infographic or comic strip titled "When Presidents, PMs and Parliaments Collide!"</p> <p><b>Step 3: Case Analysis – Government in Action (Week 3)</b></p> <p>Each student selects one major legal or constitutional crisis or turning point (e.g., impeachment, emergency, conflict between branches) from any of the chosen countries and explains:</p> <ul style="list-style-type: none"> <li>• What happened?</li> <li>• Which organs of government were involved?</li> <li>• How did the system of checks and balances work?</li> <li>• What was the outcome?</li> </ul> <p><i>Out-of-the-box idea:</i> Ask them to write a news article or make a video report simulating coverage of the incident.</p> <p><b>Step 4: India in Focus</b></p> <p>Now students reflect on the Indian Parliamentary system:</p> <ul style="list-style-type: none"> <li>• Strengths and limitations</li> </ul>	<p>the written content can be viewed easily.</p> <p>Paste the necessary photographs of the related investigation on the blank side of page.</p> <p>Follow the given sequence-</p> <ul style="list-style-type: none"> <li>• Topic</li> <li>• Certificate</li> <li>• Declaration</li> <li>• Acknowledgement</li> <li>• Aim of the Project</li> <li>• Objective of the Project</li> <li>• Introduction</li> <li>• Apparatus required</li> <li>• Procedure</li> <li>• Observation</li> <li>• Conclusion</li> <li>• Precautions</li> <li>• Bibliography.</li> </ul>	
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<ul style="list-style-type: none"> <li>• Would you have liked to live in that era? Why or why not?</li> </ul> <p>Final Submission Format:</p> <ul style="list-style-type: none"> <li>• Title Page</li> <li>• Index</li> <li>• Introduction: Mesopotamia – The Cradle of Civilization</li> <li>• Character Diary Entry</li> <li>• Research and Reconstructed City Map</li> <li>• Cuneiform Decoding Activity</li> <li>• Past-to-Present Comparison</li> <li>• Reflection</li> <li>• Bibliography</li> </ul>	<ul style="list-style-type: none"> <li>• Role of the President, Prime Minister, and Judiciary</li> <li>• How it compares with the other two systems</li> </ul> <p>□ <i>Optional Add-On:</i> Students can draft a mock constitutional amendment to improve balance of powers in India.</p> <p>Step 5: Personal Reflection (Week 4)</p> <ul style="list-style-type: none"> <li>• Which system do you find most effective and why?</li> <li>• If you had to design a new country's government, what would you include or exclude?</li> </ul> <p> <i>Engagement tip:</i> Students can present this as a mini speech titled "If I Were a Constitution-Maker".</p> <p>Final Submission Format:</p> <ul style="list-style-type: none"> <li>• Title Page</li> <li>• Index</li> <li>• Introduction: Forms of Government</li> <li>• Country Comparison Chart/Infographic</li> <li>• Case Study Report</li> <li>• Indian System Reflection</li> <li>• Personal Reflection</li> <li>• Bibliography</li> </ul>		
ACCOUNTANCY	BUSINESS ADMINISTRATION	BUSINESS STUDIES	ECONOMICS
<p><b>Prepare PPT is on any two topics from the following topics (at least 6 PPT on each topic)</b></p> <p>*Basic accounting terms</p> <p>*Accounting process</p> <p>*Accounting principles and concepts</p> <p>*Double entry system and its governing rules</p> <p>*Concept and uses of accounting for a business</p> <p>And imagine any business unit, choose its name, prepare to sample vouchers, debit note, credit</p>	<p><b>SWOT Analysis:</b> Conduct a SWOT analysis (strength, weaknesses, opportunities and threats) for a specific business or industry. You can choose any one of the followings:</p> <p>HDFC BANK</p> <p>ICICI BANK</p> <p>VI TELECOM CO.</p>	<p>Prepare PPT with the help of AI tools.</p> <p>Title: <i>"Voices from the Ground"</i></p> <p><i>Instructions:</i></p> <ul style="list-style-type: none"> <li>• Interview a local sole proprietor (e.g., shopkeeper, tailor) and a Joint Hindu Family Business</li> </ul>	<p><b>1. Project Report:</b> "Economics in Daily Life"</p> <p>Choose any 5 basic economic terms (like scarcity, choice, opportunity cost, utility, marginal utility).</p>

note, cash-memo, invoice and paste in your note register, Take help of the textbook for the format.	DABUR INDIA LTD. BATA INDIA ITC LTD. APPOLO TYRES TATA MOTORS	owner (e.g., traditional jeweler) any one <ul style="list-style-type: none"> <li>• Prepare a report with: <ul style="list-style-type: none"> <li>○ Business name &amp; nature</li> <li>○ Challenges faced</li> <li>○ Decision-making process</li> <li>○ Future plans</li> </ul> </li> <li>• Include photos (with permission), or draw scenes from their workplace.</li> </ul>	Explain each with real-life examples from your home, school, or market.  Include relevant illustrations or pictures for better presentation.  <b>2. Case Study:</b> Scarcity and Choice Write a short case study (300–400 words) describing a situation where you or your family had to make a choice due to limited resources (money, time, etc.). Identify: The scarce resource The alternatives available The opportunity cost
<b>DTI</b>	<b>ENTREPRENEURSIP</b>	<b>COMMERCIAL ART</b>	<b>ARTIFICIAL INTELLIGENCE</b>
<b>PDF:-</b> <a href="https://www.cbseacademic.nic.in/web_material/Manuals/DT_Curriculum11.pdf">https://www.cbseacademic.nic.in/web_material/Manuals/DT_Curriculum11.pdf</a>  Design Project 1: Communication Design Collaborative Project  DO TASK 4.0, 4.1, 4.2  MAKE FILE AND PPT	Be the Entrepreneur" Video/Vlog  Title: <i>"If I were the next big entrepreneur..."</i> Instructions: <ul style="list-style-type: none"> <li>• Record a 2–3 minute video (or write a script) pretending to be an entrepreneur.</li> <li>• Speak about: <ul style="list-style-type: none"> <li>○ Your imaginary business idea</li> <li>○ Why you started it</li> <li>○ Obstacles and how you solved them</li> <li>○ Vision and mission</li> <li>○ How you show entrepreneurial qualities (creativity, risk-taking, etc.)</li> </ul> </li> </ul>	Contents of the Portfolio File:  1. Cover Page Design Create a colorful and neat cover using elements of art (line, shape, color, space, texture). Write the title in decorative lettering.  2. Poster Design (Social Message) Topic Suggestions Say No to Plastic Keep Your City Clean Anti-Drug Warre Include: Bold heading Catchy slogan Attractive visuals Simple colour scheme	Q1.Objective: Understand and apply techniques to detect, handle, and manage missing data using the Pandas library in Python. Instructions: 1. Use the provided dataset (or generate your own if none is provided). 2. Complete all the tasks below. 3. Submit your .py file or Jupyter Notebook with your code and outputs. Dataset Sample (Create a CSV or use inline code): import pandas as pd import numpy as np # Creating a sample DataFrame



Bonus: Present it like a Shark Tank pitch!

3. Product Advertisement Layout  
Choose a product (like a shampoo, juice, shoes, or a mobile phone).

Include:

Brand Name

Tagline

Attractive visuals

Price and offer

Logo

4. Calligraphy / Decorative Lettering

Write a motivational quote or your name in decorative lettering styles.

Example:

“Art is not what you see, but what you make others see.” – Edgar Dega

#### 1. Logo Design

Design a logo for:

A company (e.g., tech, food, fashion)

A school club

A YouTube channel

Presentation Tips:

Use A2 size drawing sheets.

Use markers, coloured pencils, sketch pens, or paints.

Add borders and titles.

Neatness and creativity are key.  
commercial Art

```
data = {
    'Name': ['Alice', 'Bob',
            'Charlie', 'David', np.nan],
    'Age': [25, np.nan, 30, 22, 29],
    'Gender': ['F', 'M', np.nan, 'M',
              'F'],
    'Salary': [50000, 60000,
              np.nan, 52000, 58000]
}
df = pd.DataFrame(data)
df.to_csv("employees.csv",
index=False)
```

Tasks:

Task 1: Load the Data

- Load the employees.csv dataset into a Pandas DataFrame.

Task 2: Identify Missing Values

- Print the number of missing values in each column.
- Use isnull(), sum(), and info().

Task 3: Handle Missing Values (Different Methods)


1. Drop rows with any missing values and show the new DataFrame.
2. Fill missing values:
  - a. Fill Age with the mean age.
  - b. Fill Salary with the median salary.
  - c. Fill Gender with the mode.
  - d. Fill Name with 'Unknown'.

Task 4: Advanced Imputation



<p>Task: Include early life, major works, themes, and lasting impact.</p> <p><b>2. Literature vs. Film (Roll no-9 to 16)</b> Topic: Compare a book and its movie adaptation (e.g., The Jungle Book, Life of Pi). Task: Write a report on differences in plot, characters, and tone.</p> <p><b>3. Evolution of English Language (Roll no 17 to 24)</b> Topic: Trace the development of English from Old English to Modern English. Task: Create a timeline and include examples from each era.</p> <p><b>4. Cultural Reflections in Literature (Roll no 25 to 32)</b> Topic: Choose a novel, poem, or short story and explore how it reflects the culture or society of its time. Task: Present findings in a mini-report or PPT.</p> <p><b>5. Language in Advertising (Roll no 33 to 40)</b> Topic: Analyze how language is used in advertisements to persuade. Task: Collect 5 examples and explain techniques used (slogans, repetition, emotive language).</p> <p><b>6. Folktales from Around the World (Roll no 41 to 48)</b> Topic: Research a folktale from another culture and write a comparative analysis with an Indian folktale. Task: Highlight values, characters, and narrative style.</p> <p><b>7. Grammar in Real Life (Roll No- 49 to 56)</b> Topic: Create a grammar scrapbook with real-life examples of different parts of speech from newspapers, ads, and books.</p> <p><b>8. Poet of the Month (Roll no 57 to 65)</b> Topic: Choose a poet and write about their style, themes, and two of their poems with your interpretation.</p>	<ol style="list-style-type: none"> <li>Length of the string</li> <li>Mass of the bob</li> <li>Amplitude of swing</li> </ol> <p><b>Materials Required:</b> Thread, metal bob, stopwatch, meter scale, stand</p> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>Fix a string of known length and suspend the bob.</li> <li>Displace bob slightly and release.</li> <li>Measure time for 20 oscillations and find time period.</li> <li>Repeat for different lengths, masses, and amplitudes.</li> </ol> <p><b>Observations:</b> Record time period vs. length, mass, and amplitude in a table. Plot graphs.</p> <p><b>Conclusion:</b> Analyze which factors affect the time period and compare with theoretical formula:</p> $T = 2\pi \sqrt{\frac{L}{g}}$ <p>Students can create a <b>mini wooden/plastic stand with adjustable string lengths</b> and 2–3 interchangeable bobs. It can be used to demonstrate live changes in oscillation time with length, mass, and amplitude variations.</p>	<p>their expansion, prevention, impact etc on human life.</p> <ol style="list-style-type: none"> <li>A hospital based study of Rheumatic Heart Disease: Trends in the past 10 years in a tertiary care hospital of North India.</li> <li>clinical Profile of patients with premature coronary artery disease with Special focus on risk factors in young.</li> <li>Make an herbarium file on extinct plant.</li> <li>Diabetes drugs may offer heart protections to people who don't have diabetes</li> <li>Make a RED DATA BOOK FOR ANIMALS.</li> <li>Expanding treatment options for people with limb-threatening Peripheral Arterial disease</li> </ol>	<ul style="list-style-type: none"> <li><b>Activity:</b> Create Venn diagrams to represent relationships between different groups, such as students' subject choices or sports preferences.</li> <li><b>Deliverable:</b> A report with diagrams and explanations demonstrating the use of sets in real-life</li> <li><b>2. Functions and Their Graphs</b></li> <li><b>Objective:</b> Understand different types of functions and their graphical representations.</li> <li><b>Activity:</b> Plot graphs of linear, quadratic, and exponential functions using real data or hypothetical scenarios.</li> <li><b>Deliverable:</b> A portfolio of graphs with interpretations of each function's behavior.</li> </ul> <p><b>3. Mathematics in Architecture</b></p> <ul style="list-style-type: none"> <li><b>Objective:</b> Investigate the role of geometry and measurements in architectural designs.</li> <li><b>Activity:</b> Analyze the dimensions and shapes used in famous buildings or design a simple architectural model incorporating geometric principles.</li> </ul>
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<p>NOTE- This project-Portfolio is a compilation of the work that the students will submit in the first week of July.</p> <p>Individually Student has to prepare The Research Project.</p> <p>*The Project-Portfolios must include the following areas:</p> <ul style="list-style-type: none"> <li>* Cover page, Title page, school details.</li> <li>*Abstract and Table Content <ul style="list-style-type: none"> <li>* Statement of purpose/ objectives/Goals</li> <li>* Literature Review</li> <li>* Research Design and Methods</li> <li>* Implication and Contribution to Knowledge (Acknowledgement)</li> </ul> </li> <li>* Certificate of completion under the guidance of the teacher.</li> <li>* The 800-1000words essay/script/ Report</li> <li>* If possible, photograph that Capture the positive experience of the students.</li> <li>* Reference (List of resources)</li> </ul> <p>NOTE- Research Project Word Limit (800-1000 essay/script/ Report)</p> <p>*The following points must be kept for consideration while assessing the project portfolios</p> <ul style="list-style-type: none"> <li>*Quality of content of the project</li> <li>*Accuracy of information</li> <li>*Adherence to the specified timeline</li> <li>*Content in respect of (spelling, Grammar, Punctuation)</li> <li>*Clarity of thoughts and ideas</li> <li>*Creativity</li> <li>* Knowledge and experience gain</li> </ul>			<ul style="list-style-type: none"> <li>• <b>Deliverable:</b> A model or detailed drawings accompanied by mathematical calculations and explanations.</li> </ul> <p><b>4. Mathematics in Art: Tessellations</b></p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> Explore the intersection of mathematics and art through tessellations.</li> <li>• <b>Activity:</b> Create tessellation patterns using geometric shapes, understanding the mathematical rules that allow for seamless tiling.</li> <li>• <b>Deliverable:</b> Artistic tessellation designs with accompanying explanations of the mathematical concepts involved.</li> </ul> <p> <b>Guidelines for Project Submission</b></p> <ul style="list-style-type: none"> <li>• <b>Format:</b> Handwritten or typed report, 10–15 pages.</li> <li>• <b>Components:</b> <ul style="list-style-type: none"> <li>○ Title Page</li> <li>○ Table of Contents</li> <li>○ Introduction</li> <li>○ Objective</li> <li>○ Methodology</li> <li>○ Data/Findings</li> <li>○ Analysis</li> <li>○ Conclusion</li> <li>○ Bibliography</li> </ul> </li> </ul>
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			<ul style="list-style-type: none"> <li>• <b>Presentation:</b> Use of diagrams, charts, and illustrations to enhance understanding.</li> <li>• <b>Submission:</b> Hard copy</li> </ul> <p>NOTE – ONLY 1 TOPIC</p>
SOCIOLOGY	PAT	POLITICAL SCIENCE	ELECTRONOC & HARDWARE
<ol style="list-style-type: none"> <li>1. <b>Task:</b> Choose two social institutions (e.g., family, education, religion, economy, government) that you observe functioning in your daily life in Ghaziabad.</li> <li>2. Find a news article or a short report about a social issue or event in Ghaziabad or Uttar Pradesh (e.g., a change in local traditions, a community initiative, an issue related to social inequality, a cultural event).</li> <li>3. <b>Activity:</b> Create a list of 10-12 key sociological terms from Chapter 2 (e.g., status, role, social group, community, social stratification, norms, values, culture, social control).</li> <li>4. <b>Task:</b> For each term, find a real-life example of it in your surroundings in Ghaziabad. This could be something you observe, read about in a local newspaper, or experience.</li> </ol>	<p><b>Practical-: 1 (Do this work in the practical file, it will be included in it)</b>  <b>TOPIC: -Role of Physical Education in Child Development (UNIT-I)</b></p> <ul style="list-style-type: none"> <li>• Planning and conducting <b>two</b> physical activities tailored for children.</li> <li>• Creating <b>two</b> lesson plans for various physical activities.</li> </ul>	<p><b>POLITICAL SCIENCE</b></p> <ol style="list-style-type: none"> <li>1. Comic Strip/Short Story: Create a comic strip or a short story that explains a concept from the chapter in an engaging way.</li> <li>2. Making of the Indian Constitution: Research the Constituent Assembly debates or the contributions of key figures in the making of the Indian Constitution. Create a timeline, biographical sketches, or a report on a specific aspect.</li> <li>3. Case Study Analysis: Analyze a recent news article or a court judgment that relates to a topic covered in Chapter 2. Write a brief analysis of how the constitutional principles are applied in the case.</li> <li>4. The Preamble: Analysis: Write an analysis of the Preamble to the Indian Constitution. Explain the meaning of each key term (Sovereign, Socialist, Secular, Democratic, Republic, Justice, Liberty, Equality, Fraternity). Discuss its significance and how</li> </ol>	<p><b>Project Title:</b> <i>Build a Basic Electronic Appliance</i>  <b>Choose any one project:</b></p> <ol style="list-style-type: none"> <li>1. Automatic Night Lamp using LDR</li> <li>2. Water Level Indicator</li> <li>3. Touch-Based LED Light</li> <li>4. Simple Burglar Alarm</li> <li>5. Temperature Sensor with Display (LM35 + Arduino)</li> </ol> <p><b>What to Submit:</b></p> <ul style="list-style-type: none"> <li>• Circuit Diagram</li> <li>• List of Components</li> <li>• Photos of the Working Model</li> <li>• Short Report (1–2 pages) covering: <ul style="list-style-type: none"> <li>○ Introduction</li> <li>○ Working</li> <li>○ Applications</li> <li>○ Safety Precautions</li> </ul> </li> </ul> <p><b>(Optional):</b> Short demo video (2–3 minutes)</p>

		<p>it reflects the philosophy of the Constitution.</p> <p>5. Case Law Study: Research a significant Supreme Court case related to a Fundamental Right and analyze the court's judgment and its impact.</p> <p>6. News Clipping Analysis:</p> <p>7. Task: Collect newspaper clippings or online news articles related to recent elections in India or other democratic countries.</p>	
	<b>COMMERCIAL ART</b>	<b>SCULPTURE</b>	<b>APPLIED MATHS</b>
<ul style="list-style-type: none"> <li>• <b>Stock Market Simulation</b></li> <li>• Select 5 companies from different sectors</li> <li>• Track stock prices daily for 2 weeks</li> <li>• Calculate probability of price increase/decrease based on historical data</li> <li>• Create moving averages and use basic prediction models</li> <li>• Use Excel or Google Sheets to calculate correlation between different stocks</li> <li>• Write a report on economic factors influencing stock performance</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>• <b>Social Media Trend Analysis</b></li> <li>• Collect data on trending topics across platforms for 1 week</li> <li>• Apply probability concepts to predict future trends</li> <li>• Use R or Python to create visualizations (provide starter code)</li> <li>• Calculate conditional probabilities of specific topics trending</li> <li>• Analyze how algorithms might influence what becomes popular</li> </ul>	<p><b>Cover Page</b> Your name, class, roll number, subject (Commercial Art), and the title: "Holiday Portfolio".</p> <p><b>Introduction Page</b> A short explanation of Commercial Art and how it shapes modern design.</p> <p><b>Artwork Section (4–6 pieces)</b> A poster to raise social awareness (like "Say No to Plastic" or "Save Trees"). An ad for a product (such as a juice brand, soap, or electronic item). A logo you create for a made-up brand. A page showing off calligraphy or fancy lettering. A simple still life drawing (using pencil or color).</p> <p><b>Materials Used</b> List the tools you used, like pencils, water colours, brush pens, A2 Size Sheet, sketch pens, and so on.</p>	<p>Relief Sculpture on Plaster of Paris (POP)</p> <p>Task: Create a low-relief sculpture on a POP slab or cardboard with POP paste. Theme Options: Mythological Scene Nature and Environment Decorative Pattern or Mandala Portrait Sculpture (Miniature)</p> <p>Task: Make a head or bust sculpture (miniature) of a famous personality or family member. Medium: Clay, Papier-mâché, or POP and Moderate clay .</p>	<p><b>Set Theory in Real Life</b></p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> Explore the application of set theory in everyday contexts.</li> <li>• <b>Activity:</b> Create Venn diagrams to represent relationships between different groups, such as students' subject choices or sports preferences.</li> <li>• <b>Deliverable:</b> A report with diagrams and explanations demonstrating the use of sets in real-life</li> <li>• <b>2. Functions and Their Graphs</b></li> <li>• <b>Objective:</b> Understand different types of functions and their graphical representations.</li> <li>• <b>Activity:</b> Plot graphs of linear, quadratic, and exponential functions</li> </ul>

			<p>using real data or hypothetical scenarios.</p> <ul style="list-style-type: none"><li>• <b>Deliverable:</b> A portfolio of graphs with interpretations of each function's behavior.</li></ul> <p><b>3. Mathematics in Architecture</b></p> <ul style="list-style-type: none"><li>• <b>Objective:</b> Investigate the role of geometry and measurements in architectural designs.</li><li>• <b>Activity:</b> Analyze the dimensions and shapes used in famous buildings or design a simple architectural model incorporating geometric principles.</li><li>• <b>Deliverable:</b> A model or detailed drawings accompanied by mathematical calculations and explanations.</li></ul> <p><b>4. Mathematics in Art: Tessellations</b></p> <ul style="list-style-type: none"><li>• <b>Objective:</b> Explore the intersection of mathematics and art through tessellations.</li><li>• <b>Activity:</b> Create tessellation patterns using geometric shapes, understanding the mathematical rules that allow for seamless tiling.</li><li>• <b>Deliverable:</b> Artistic tessellation designs with</li></ul>
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			<p>accompanying explanations of the mathematical concepts involved.</p> <p> <b>Guidelines for Project Submission</b></p> <ul style="list-style-type: none"> <li>• <b>Format:</b> Handwritten or typed report, 10–15 pages.</li> <li>• <b>Components:</b> <ul style="list-style-type: none"> <li>○ Title Page</li> <li>○ Table of Contents</li> <li>○ Introduction</li> <li>○ Objective</li> <li>○ Methodology</li> <li>○ Data/Findings</li> <li>○ Analysis</li> <li>○ Conclusion</li> <li>○ Bibliography</li> </ul> </li> <li>• <b>Presentation:</b> Use of diagrams, charts, and illustrations to enhance understanding.</li> <li>• <b>Submission:</b> Hard copy</li> </ul> <p>NOTE – ONLY 1 TOPIC</p>
PHE	DATA SCIENCE	CLUB:	SKILL:
<p><b>Practical:- 1 (Do this work in the practical file, it will be included in it )</b></p> <p><b>TOPIC: - YOGA (unit-3)</b></p> <p>*Meaning and Importance of Yoga</p> <p>*Elements of Yoga</p> <p>*Introduction - Asanas, Pranayam, Meditation and Yogic Kriyas</p> <p>* Yoga for concentration and related Asanas (Sukhasana; Tadasana; Padmasana and</p>	<ul style="list-style-type: none"> <li>• <b>Stock Market Simulation</b></li> <li>• Select 5 companies from different sectors</li> <li>• Track stock prices daily for 2 weeks</li> <li>• Calculate probability of price increase/decrease based on historical data</li> <li>• Create moving averages and use basic prediction models</li> </ul>	<p><b>MOVIE MAKING:</b></p> <p><b>CHOOSE A TOPIC</b></p> <p>The Case of the Missing Homework The Value of Empathy A Dream Come True The Unexpected Guest</p> <p><b>SCRIPT WRITING</b></p> <p>Write a script of choosen topic , create characters , make dialogues</p> <p><b>ARRANGEMENT</b></p> <p>Arrange all the require things to make yoiur scene full according to</p>	<p><b>EMBROIDERY: Phase 1: Basic Stitches</b></p> <p>Running Stitch: The simplest stitch - create a dotted line</p> <p>Back Stitch: Creates solid lines, perfect for outlines</p> <p>Satin Stitch: Used for filling in areas with solid color</p> <p>French Knot: Creates raised dots for texture</p> <p>Chain Stitch: Makes decorative lines and borders</p>

<p>Shashankasana, Naukasana, Vrikshasana (Tree pose), Garudasana (Eagle pose)</p> <p>*Relaxation Techniques for improving concentration - Yog-nidra</p> <ul style="list-style-type: none"> <li>• <b>Assessment:</b> Evaluation is based on the accuracy of the asana performance and the understanding of its benefits and contraindications</li> </ul>	<ul style="list-style-type: none"> <li>• Use Excel or Google Sheets to calculate correlation between different stocks</li> <li>• Write a report on economic factors influencing stock performance</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>• <b>Social Media Trend Analysis</b></li> <li>• Collect data on trending topics across platforms for 1 week</li> <li>• Apply probability concepts to predict future trends</li> <li>• Use R or Python to create visualizations (provide starter code)</li> <li>• Calculate conditional probabilities of specific topics trending</li> <li>• Analyze how algorithms might influence what becomes popular</li> </ul>	<p>your story . every scene need to be properly explained</p> <p><b>KEY POINTS TO REMEMBER WHILE FILMING</b></p> <ul style="list-style-type: none"> <li>• Shutter speed</li> <li>• Iso</li> <li>• Aparture</li> <li>• White balance</li> <li>• Camera angles</li> <li>• It should be silence while taking shot</li> <li>• Video length must be 2:30 to 3 minutes</li> </ul> <p>While shooting every scene you must be aware about these key points to gain quality of your film</p> <p><b>MECHATRONICS:</b>  <b>Project Title: Design and Fabrication of Half-Wave and Full-Wave Rectifiers</b></p> <p><b>Objective:</b>  To understand the working of rectifiers by designing, assembling, and testing both <b>Half-Wave</b> and <b>Full-Wave Rectifier Circuits</b> using:</p> <ul style="list-style-type: none"> <li>• A <b>Step-Down Transformer</b></li> <li>• <b>Diodes</b> (as rectifying elements)</li> <li>• A <b>Capacitor Filter</b></li> <li>• A small <b>DC Load</b> (e.g., LED)</li> </ul> <p><b>Project Requirements:</b>  Students will:  Design and assemble both rectifier circuits on a <b>PCB or breadboard</b></p>	<p><b>Phase 2: First Project - Simple Sampler</b>  Create a small practice piece featuring each stitch:</p> <p>Draw a 4-inch square on your fabric  Divide it into 5 sections  Practice each basic stitch in a different section  Use different colors to distinguish each stitch type</p>
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		<p>Use a <b>step-down transformer</b> (e.g., 230V to 12V or 6V)</p> <p>Use <b>IN4007 or similar diodes</b></p> <p>Use a <b>capacitor filter</b> (e.g., 1000μF, 25V) to smooth the DC output</p> <p>Demonstrate output by powering a small device or LED</p> <p>Prepare a neat <b>circuit diagram</b> for both rectifiers</p> <p>Verify and record output voltage using a <b>multimeter</b></p> <p><b>Components Required (Suggested):</b></p> <table><thead><tr><th>Component</th><th>Specification</th><th>Quantity</th></tr></thead><tbody><tr><td>Step-down Transformer</td><td>230V to 12V</td><td>1</td></tr><tr><td>Diodes</td><td>IN4007 or 1N5408</td><td>4</td></tr><tr><td>Capacitor</td><td>1000μF / 25V (or similar)</td><td>1</td></tr><tr><td>Resistor (Optional)</td><td>470Ω or as needed</td><td>1</td></tr><tr><td>LED</td><td>Standard 5mm</td><td>1</td></tr><tr><td>PCB or Breadboard</td><td>-</td><td>1</td></tr><tr><td>Wires, Soldering Kit</td><td>-</td><td>As needed</td></tr></tbody></table> <p><b>Guidelines:</b></p>	Component	Specification	Quantity	Step-down Transformer	230V to 12V	1	Diodes	IN4007 or 1N5408	4	Capacitor	1000μF / 25V (or similar)	1	Resistor (Optional)	470Ω or as needed	1	LED	Standard 5mm	1	PCB or Breadboard	-	1	Wires, Soldering Kit	-	As needed	
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		<ul style="list-style-type: none"><li>• Ensure neat and safe soldering on PCB</li><li>• Take necessary <b>precautions while working with AC current</b></li><li>• You must work <b>individually</b> (or in teams of 2, if allowed)</li><li>• Prepare a <b>short write-up</b> (1 page) on:<ul style="list-style-type: none"><li>◆ Working principle of rectifiers</li><li>◆ Differences between Half-Wave &amp; Full-Wave</li><li>◆ Role of capacitor in filtering</li><li>◆ Observed voltage readings and circuit behavior</li></ul></li></ul> <p><b>Documentation (To Be Submitted):</b></p> <ul style="list-style-type: none"><li>• Photos of your working circuit</li><li>• Hand-drawn or software-generated circuit diagrams</li><li>• Readings (with multimeter snapshots if possible)</li><li>• Final summary of the working model and learning</li></ul> <p><b>Bonus Marks (Optional):</b> Earn extra points for: Creative PCB layout Neat soldering and finishing Explaining the project in a short video (2–3 mins)</p> <p><b>Learning Outcome:</b> By completing this project, students will:</p>	
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		<ul style="list-style-type: none"><li>• Understand real-world application of <b>power electronics</b></li><li>• Gain hands-on experience in <b>soldering, PCB assembly, and circuit testing</b></li><li>• Learn how <b>rectification and filtering</b> convert AC to DC</li></ul>	
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