

ST. Thomas School, Indirapuram
Holiday Homework, 2024-25
Class XI

English

1. Read the Newspaper daily and collect one good ARTICLE / FEATURE related to the Elderly and Paste it in your register.
2. Design a POSTER as to how technology can help improve the quality of life for the Elderly.
3. Revise the SYLLABUS done in the class

Physics

1. Written part of all the experiments in practical file
2. Worksheet (will be shared as EduNext)
3. Revision of Chapter 1 and 2

Chemistry

- Q.1 Round up the following upto 3 significant figures 10.4107
- Q.2 Which mode of expressing concentration is dependent of temperature?
a) Molality b) Mole fraction c) Mass % d) Molarity
- Q.3 What is the volume occupied by 1 mole of dioxygen at STP ?
- Q.4 When 22.4 L of H₂ (g) is mixed with 11.2 L of Cl₂ (g) at STP, how many moles of HCl gas will be formed ?
a) 1 mol b) 2 mol c) 0.5 mol d) 1.5 mol
- Q.5 A solution is prepared by dissolving 2g of Substance A to 18 g of water. Calculate the mass % of the solute.
- Q.6 How 0.5m NaOH and 0.5M NaOH are different ?
- Q.7 If 10 volumes of dihydrogen reacts with five volumes of dioxygen gas, how many moles of water vapors are produced ?
Is Gay Lussac law holds true here ?
- Q.8 Calcium carbonate reacts with aqueous HCl according to the reaction
 $\text{CaCO}_3 (\text{s}) + 2\text{HCl} (\text{aq}) \longrightarrow \text{CaCl}_2 (\text{aq}) + \text{CO}_2 (\text{g}) + \text{H}_2\text{O} (\text{l})$.
What mass of CaCO₃ is required to react completely with 25 mL of 0.75 M HCl?
- Q.9 Determine the empirical formula of an oxide of Iron which has 69.9 % iron and 30.1 % dioxygen by mass.
Atomic masses Fe 56 amu , O= 16 amu
- Q.10 H₂SO₄ used in lead storage cell is 38% by mass and has density of 1.03g/ mL. Calculate its Molarity.

Q.12 What mass of solid AgCl is obtained when 25ml of 0.068M AgNO₃ reacts with excess of aq HCl ?

Mathematics

Revise Chapter Sets, Relations and Functions, Linear Inequalities. Complete All the Exercises On Your Register and Cover Your Register with Brown Paper.

DO THE FOLLOWING QUESTIONS ALONG WITH THE EXERCISE WORK.

1. Write the solution set of the equation $x^2 - 9 = 0$ in roster form.
2. Write the set $B = \{1, 3, 5, 7, 9, \dots\}$ in set-builder form.
3. Write an example of a finite and infinite set in set builder form.
4. Write $\{x: x \in \mathbb{R}, 2 \leq x \leq 5\}$ as an interval.
5. Write the subsets of $\{2, 4, 6\}$.
6. If $B = \{4, 6, 8, 10, 12\}$, $C = \{8, 10, 12, 14\}$, $D = \{12, 14, 16\}$. Find $B \cap (C \cup D)$.
7. Given that $N = \{1, 2, 3, \dots, 100\}$, then
 - (i) Write the subset A of N, whose elements are odd numbers.
 - (ii) Write the subset B of N, whose elements are represented by $x + 2$, where $x \in N$.
8. Let $X = \{1, 2, 3, 4, 5, 6\}$. If n represent any member of X, express the following as sets:
 - (i) $n \in X$ but $2n \notin X$
 - (ii) $n + 5 = 8$
 - (iii) n is greater than 4
9. Let $U = \{1, 2, 3, 4, 5, 6, 7\}$, $A = \{2, 4, 6\}$, $B = \{3, 5\}$ and $C = \{1, 2, 4, 7\}$, find
 - (i) $A' \cup (B \cap C')$
 - (ii) $(B - A) \cup (A - C)$
10. Given $A = \{1, 2, 3, 4, 5\}$, $S = \{(x, y) : x \in A, y \in A\}$. Find the ordered pairs which satisfy the conditions given below
 $x + y = 5$ (ii) $x + y < 5$ (iii) $x + y > 8$
11. Given $R = \{(x, y) : x, y \in \mathbb{W}, x^2 + y^2 = 25\}$. Find the domain and range of R
12. If f and g are real functions defined by $f(x) = x^2 + 7$ and $g(x) = 3x + 5$, find each of the following:

(i) $f(3) + g(-5)$	(ii) $f(1/2) \times g(14)$
(iii) $f(-2) + g(-1)$	(iv) $f(t) - f(-2)$
(v) $\frac{f(t) - f(5)}{t - 5}$, if $t \neq 5$	

13. Find the range of the following functions given by

(i) $f(x) = \frac{3}{2 - x^2}$	(ii) $f(x) = 1 - x - 2 $
(iii) $f(x) = x - 3 $	(iv) $f(x) = 1 + 3 \cos 2x$

14. Redefine the function $f(x) = |x - 2| + |2 + x|$, $-3 \leq x \leq 3$
15. If $f(x) = y = ax - b / cx - a$ then prove that $f(y) = x$
16. Solve the following inequalities and represent the solution set graphically on the number line.
 $5x + 1 > -24$, $5x - 1 < 24$
17. Solve for x: $-5 \leq (5 - 3x)/2 \leq 8$

18. Find all pairs of consecutive odd natural numbers, both of which are larger than 10, such that their sum is less than 40.
19. The cost and revenue functions of a product are given by $C(x) = 20x + 4000$ and $R(x) = 60x + 2000$, respectively, where x is the number of items produced and sold. How many items must be sold to realise some profit?
20. Let $f = \{(2,4), (5,6), (8, -1), (10, -3)\}$ and $g = \{(2, 5), (7,1), (8,4), (10,13), (11, 5)\}$ be two real functions. Then match the following:

Column I		Column II	
(a)	$f - g$	(i)	$\left\{ \left(2, \frac{4}{5} \right), \left(8, \frac{-1}{4} \right), \left(10, \frac{-3}{13} \right) \right\}$
(b)	$f + g$	(ii)	$\{(2, 20), (8, -4), (10, -39)\}$
(c)	$f \times g$	(iii)	$\{(2, -1), (8, -5), (10, -16)\}$
(d)	$\frac{f}{g}$	(iv)	$\{(2, 9), (8, 3), (10, 10)\}$

21. Solve the inequality: $(x - 2)/(x + 5) > 2$

Biology

Puppet making and Posters/ illustration based on Conservation of Environment.

Computer Science

- Do the two Worksheets uploaded on Edunext of the Ch-Computer System Organisation and Getting started with Python
- Create a PowerPoint presentation on the topic “Cyber Safety “refer to Ch-11 of the book computer Science with PYTHON by Preeti Arora.

Economics

1.	Do complete the fair notebook.
2.	DO the assignment in fair note book. Assignment is given below.
3.	Prepare a small project on “DATA COLLECTION” . For project use folder and A-4 sheets. Details regarding project given below.
4.	Answer the general questionnaire “KNOW YOUR CLASS” on A-4 sheets. Questionnaire given below.

STATISTICS ASSIGNMENT

L-1, 2, 3

Q.NO.	QUESTION										
1.	<p>Classify the following activities into economic and non-economic activities and give reason also.</p> <p>A. Mr. Mohan has donated ₹20,000 to “Akshaya Patra Foundation” a non-profit organisation.</p> <p>B. Mr. Sohan runs a shop of vegetables nearby a residential society.</p> <p>C. Dr. Sudha is a well known for her treatment. Daily she attends 100 patients in Govt. Hospital.</p> <p>D. Senior citizens in a society, meet once in a month and enjoy “quality time” at club, which is organised by them .</p>										
2.	<p>Identify the following statements as Statistics in ‘Singular sense and Plural sense’.</p> <p>A. Statistical study of collection of data.</p> <p>B. Statistics are affected to a marked extent by multiplicity of causes.</p> <p>C. Statistics include presentation of data.</p> <p>D. Statistics are collected in a systematic manner.</p>										
3.	<p>Which characteristics of ‘Statistics’ as ‘Plural sense’ possess in the given examples. Identify and explain them.</p> <p>A. 25% rise in prices may have been due to several causes, like reduction in supply, increase in demand, shortage of power, rise in wages, rise in taxes, etc.</p> <p>B. Production of wheat in India has increased by 20% between 2021-2023.</p>										
4.	<p>“Statistics helps in establishing mathematical relation”. Agree or disagree explain with example.</p>										
5.	<p>Identify the suitable method of collecting primary data for the following cases :</p> <ol style="list-style-type: none"> 1. When the data is to be collected in shorter duration. 2. When adequate finance and trained enumerators are available. 3. When respondents are literate and are likely to cooperate with investigation. 4. When regular and continuous information is required. 5. When investigation needs expert opinion. 6. When nature of enquiry is confidential. 										
6.	<p>Out of ‘Census method’ and sampling method, which one is suitable in the following cases:</p> <ol style="list-style-type: none"> 1. Relatively less money, time and labour is required. 2. Results are quite reliable and accurate. 3. Limited enquiry is conducted . 4. The only error that may arise is error of bias. 										
7.	<p>Match the following:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Characteristics</th> <th style="width: 50%;">Method</th> </tr> </thead> <tbody> <tr> <td>Certain items numbers of items are taken from each group.</td> <td>Cluster sampling</td> </tr> <tr> <td>Every nth item is selected as sample</td> <td>Stratified random sampling</td> </tr> <tr> <td>Total population is divided in into some recognizable sub- divisions.</td> <td>Multistage sampling.</td> </tr> <tr> <td>Sample is carried out in multiple stages</td> <td>Systematic sampling</td> </tr> </tbody> </table>	Characteristics	Method	Certain items numbers of items are taken from each group.	Cluster sampling	Every nth item is selected as sample	Stratified random sampling	Total population is divided in into some recognizable sub- divisions.	Multistage sampling.	Sample is carried out in multiple stages	Systematic sampling
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8.	<p>In a village of 400 farmers , Sohan had conducted a study to find out the cropping pattern . out of the 100 farmers surveyed, 50% grew only wheat.</p> <p>On the basis if above given information , answer the following questions:</p> <ol style="list-style-type: none"> 1. Sohan has collected ----- data (primary or secondary) 2. What is the population? 3. Which method of survey is used by Sohan ? 4. How many (absolute number) farmers grew only wheat? 5. How many farmers (absolute number) grew crops other than wheat? 										
9.	<p>Give two - two examples of the following published sources of secondary data:</p> <p>A. Central and state Govt.</p> <p>B. Publications of trade associations</p> <p>C. International publications</p>										

INSTRUCTIONS REGARDING “ DATA COLLECTION PROJECT”

1.	Select a relevant topic
2.	Prepare a questionnaire. (consisting 10 - 15 questions)
3.	Get it approved by teacher.
4.	Get it filled by 5 respondents, by using any method of collecting primary data.
5.	Answer the following questions: a. Which type of data is collected by you? b. Which method is used by you? c. Which method of survey is used by you?
6.	Keep all pages in a folder.

KYC “ KNOW YOUR CLASS”



Note: This is a general questionnaire to know more about the students. Answer the questions on A-4 sheets.

1.	Name
2.	Meaning of your name.
3.	Family
4.	Favourite quotation
5.	Favourite personality
6.	Your Positive aspects
7.	Your negative aspects
8.	Achievements
9.	Goal
10.	Road map to achieve “ GOAL”

BST

Students have to make collage classifying their family members into economic activities (Business, Profession & Employment) and non-economic activities highlighting features of each economic or non-economic activity in which their family member(s) are involved.

Accountancy

Class- XI - Students must note down the accounting terms often used in their day to day activities and also they should have conversation with their parents about their work or profession and try to find out the practical use of the Accounting terms like- Salary, entity and also about the terms like sale, purchase which they use in their routine life. After noting these points they must relate and should be able to explain in class. Atleast 20 terms they should write and explain when and where is has been used.

Revise the syllabus taught till now and complete your notebook.

Applied Mathematics

Solve the following questions:

- Which of the following sets are empty and which are singleton sets?
(i) $\{x : x \text{ is an even prime number}\}$. (ii) $\{x : x \text{ is a natural number and } -1 < x < 1\}$.
(iii) $\{x : x \text{ is an integer and } -1 < x < 1\}$. (iv) $\{x : x \text{ is a vowel in the word 'EYE'}\}$
- Write the following in set-builder form. (i) (1, 3) (ii) $[-1, 3]$ (iii) $(-4, 0]$ (iv) $[-1, 1)$ (v) $[0, \infty)$
- Write the following in roster form:
(i) $A = \{x : x \text{ is a whole number less than } 5\}$ (ii) $B = \{x : x \text{ is an integer and } -4 < x \leq 6\}$
(iii) $C =$ The set of all letters of the word FOLLOW.
(iv) $D = \{x : x \text{ is a two-digit number such that the sum of its digits is } 6\}$
- State and prove De Morgan's Law(Venn diagram)
- Write the power set of A, where $A = \{-1, 0, 2\}$.
- Let U be the set of all triangles in a plane. If A is the set of all triangles in that plane with at least one angle different from 60° , what is A' ?
- Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$, $P = \{1, 2, 3, 4\}$, $Q = \{2, 4, 6, 8\}$ and $R = \{3, 4, 5, 6\}$. Find
(i) P' (ii) Q' (iii) $(P \cap R)'$ (iv) $(P \cup Q)'$ (v) $(P')'$ (vi) $(Q - R)'$
- Let A and B be two sets such that $n(A) = 35$, $n(A \cap B) = 11$ and $n((A \cup B)') = 17$. If $n(U) = 57$, find (i) $n(B)$ (ii) $n(A - B)$ (iii) $n(B - A)$
- Out of 20 members in a family, 12 like tea and 15 like coffee. Assume that each one likes atleast one of the two drinks, how many like. (i) Both coffee and tea. (ii) Only tea and not coffee (iii) Only coffee and not tea

10. Two finite sets have m and n elements respectively. The total number of subsets of the first set is 192 more than the total number of subsets of the second set. Find the values of m and n .
11. If A and B are two sets and U is the universal set such that $n(U) = 700$, $n(A) = 290$, $n(B) = 240$ and $n(A \cap B) = 110$, then find $n(A' \cap B')$.
12. In a survey of 60 people, it was found that 25 people read newspaper H ; 26 read newspaper T , 26 read newspapers I , 9 read both H and I , 11 read both H and T , 8 read both T and I and, 3 read all three newspapers. Find: (i) the number of people who read atleast one of the newspapers. (ii) the number of people who read exactly one newspaper.
13. If the ordered pairs $(x - 1, y + 3)$ and $(2, x + 4)$ are equal, find x and y .
14. If $A = \{3, 4\}$ and $B = \{1, 2\}$, find $A \times B$ and $B \times A$.
15. Let A be a non-empty set with $n(A) = 3$. Find the number of relations from set A to itself.

Draw the mindmap of following topics (i) Sets (ii) Relations

NOTE : All work is to be done in Applied Mathematics Register only.

History

Project work

Topic: *"Mesopotamia: The Cradle of All Civilization"*

Minimum 20 pages of content.

The topic should include its evidences, geography, economy, trade and commerce, communication, achievements, attributes and its contemporary sources.

Also include maps, pictures and flowcharts in this project.

Each student should make a file on the given topic and decorate it with your creativity.

Psychology

Make Notes and do question answers of NCERT of Ch -1 Introduction of Psychology and ch -6 learning

Geography

Project work on - Forest as a Natural Resource

Political Science

➤ **PROJECT WORK: (20 marks)**

1. Every student has to compulsorily undertake one project on the topics from the syllabus of session 2024-25. The Project Report should be *handwritten* by the students themselves on A3/4 size sheets.

PATTERN OF THE PROJECT FILE:

1. **Cover page** - School name, Project title, Session, Subject. At the bottom of the title page - write your Name (in CAPITAL) and Class (in two separate rows/Right align) followed by Roll No.
2. **First page** - Project Title, subject, session, name of the student, class/ section
3. **Certificate of Authenticity**
4. **Acknowledgment**
5. **Index** - With page numbers
6. **Introduction** of the Topic / Purpose and aim of the project
7. **Content:**
 - Introduction
 - Identifying causes, events, consequences and/or remedies.
 - Various stakeholders and effect on each of them.
 - Short-term and long-term implications of strategies suggested in the course of research.
 - Check list include validity, reliability, appropriateness and relevance of data used for research work.
 - Present material/ data/ statistics with related pictures, pie charts, bar graphs, cartoons, slogans, maps etc. **on the left side of the file (even # pages)** to make a quality project.
 - Report on primary source (with evidence)
 - **Conclusion**- Draw a relevant conclusion by mentioning the learning outcome and suggestions (if any).
8. **Bibliography**- Mention name of the book, newspaper, magazine, website, author, publisher

➤ **READING TASK:**

- *Read the newspaper daily.
- *Read Article-19 to 32 of the Indian Constitution.

➤ **ACTIVITY:**

Imagine you are Nelson Mandela. You are about to be released from jail after 28 years of imprisonment in colonial South Africa. Compose a poem/record your emotions in any form of literature, or create a cartoon to express your deep inner emotions.

➤ **REVISION**

Learn and revise UT-1 syllabus.

Physical Education

Show in a chart paper the diagram of the court of any one of the major game of IOA recognised sports.

Fine Arts

1. Market scene with water colour(minimum 4 human figures)
2. still life any with pencil shading.

Library

Vacation Time ! Time to rejoice and rejuvenate !. This is also the time to put on your creative hats. So let your finger dance around with ink pen, paper, colour, your mind be filled with imagination. “Reading is essential for all those who seek to rise above the ordinary.”

- 1) Read any classic novel and Read Newspaper Daily,
- 2) Some suggested Author – **Ruskin Bond**
Sudha Murty
Enid Blyton
Premchand
William Shakespeare

ACTIVITIES:

CLASS VI TO XI

- 1) ‘BE AN AUTHOR’ you are required to write your own story book in English and Hindi. Exhibit your creativity in making caricatures or Pictures according to your story. Decorate your book with an appealing Book Cover.
- 2) Make a ‘**WISHLIST**’ of books that you want to read. 5 Hindi books, 5 English Books.
- 3) 1 Book Mark and 1 Library Quote (Class 6 & 7).
- 4) Make a wall Hanging related to Library with beautiful quotes Be as Creative as possible. (Class -8)
- 5) Make a **V.shaped** desktop plate with library quotes (refer to the picture attached) (for class 9 & 10).

Hindi

कक्षा - 11 विषय -हिन्दु

1. मुंशी प्रेमचंद पर परियोजना कार्य तैयार कीजिए। परियोजना कार्य करते समय निम्नलिखित बिंदुओं को अपनाया जा सकता है।

- प्रमाण पत्र
- आभार ज्ञापन
- विषय सूची
- सुश्री प्रेमचंद्र जीवन परिचय
- शिक्षा
- साहित्यिक जीवन
- शादी
- प्रेमचंद्र का दूसरा विवाह
- आर्थिक विपत्तियों
- ईश्वर के प्रति आस्था
- व्यक्तित्व
- कृतियों
- भाषा / शैली
- पुरस्कार
- मृत्यु
- अध्ययन का परिणाम
- स्रोत
- अध्यापक टिप्पणी

2. (यूनिट-1) परीक्षा के लिए ईदगाह, दोपहर का भोजन, अरे इन दोहुन राह न पाई पाठ के प्रश्न-उत्तर याद करें।

-----X-----X-----X-----X-----