



Gems Akademia International School

SUMMER VACATION Holiday Homework

Class X

Subject	Homework
English I	Movie Review – X Write a review of the movie 'Money Ball'.
English II	The project topic is as follows: The theme of Hans Christian Anderson's short story 'The Little Match Girl' is "the need for compassion for those who have so much less than we do". Discuss. Please note that the Internal Assessment for Language will be conducted in class.
Hindi	ज्ञान प्राप्त करने के बहुत से साधन हैं। यात्रा पर जाना भी किसी पाठशाला में जाकर शिक्षा प्राप्त करने से कम नहीं है। ऐसी ही किसी यात्रा का वर्णन कीजिए जिसमें आपने क्या क्या सीखा। एक स्मरणीय धार्मिक स्थल की यात्रा का वर्णन कीजिए।
Bengali	মানুষ নিজেই তার ভাগ্যের নির্মাতা- এই নীতি বাক্য অবলম্বন করে ৪০০ শব্দের মধ্যে একটি মৌলিক গল্প রচনা করো। অথবা পথের পাঁচালী অথবা অপরাজিত চলচ্চিত্রটি দেখে তা আলোচনা করো ৪০০ শব্দের মধ্যে
Mathematics	A. PROJECT I (follow the format and instructions given below. Use file copy) <u>Objective:</u> Planning a home budget. <u>Principle:</u> People from different income group spend their earning in different items differently. This expenditure varies from person to person and is dependent on their respective earning. A socio-economic study of three income groups -- Lower, Middle and higher is to be done and represented them on a pie graph. For the comparison of their percentage expenditure on various items as well as savings a bar graph may be drawn.

Necessary Equipments: (i)Exercise book, (ii)Graph Papers,(iii)Geometry Box (iv) Colour Pencil/Pen

Necessary Calculations: (i) For pie graph data is represented in a circle where each item represents a sector of the circle.

$$\text{Central Angle for an item} = \frac{\text{Amount spent on it}}{\text{Total Items}} \times 360^\circ$$

(ii) For Bar Graph:

$$\text{Percentage for an item} = \frac{\text{Amount spent on the item}}{\text{Total Item}} \times 100$$

TABLE FOR HOME BUDGET

Income Group	Total Income	Item											
		FOOD		CLOTHING		RENT		EDUCATION		CONVEYANCE		ENTERTAINMENT	
		AMT.	%	AMT.	%	AMT.	%	AMT.	%	AMT.	%	AMT.	%
Low Income Group													
Middle Income Group													
High Income Group													

Procedure: Interview three families from three different income groups: - Lower, Middle and Higher. Find their total income, the amount they spend on different items and also amount they save. Form a Table as follows.

Illustration: (i) Three pie graphs representing data of the three different income groups with their expenditures and savings. (ii) A multiple bar graph representing the percentage expenditure of each income group on different items.

	<p>Use colour pencils or shade to differentiate between the different sectors of different multiple bars.</p> <p><u>Conclusion:</u> Write a report on the survey of your project and draw conclusions from your graphs.</p> <p><u>Bibliography</u></p> <p><u>Acknowledgement</u></p> <p><u>NOTE: Project I to be submitted latest by 23rd June 2022</u></p> <p>A. Practice more sums on Inequation, Factorization of polynomials</p> <p>B. And Matrices.</p>
History	<p>Topic</p> <p>Present a life sketch on any one of the following president of India</p> <p>Dr. APJ Abdul Kalam</p> <p>Dr. Radhakrishnan</p> <p>Dr. Rajendra Prasad</p>
Geography	<p>Students will prepare a project on any ONE topic given below.</p> <ol style="list-style-type: none"> 1. Transport in India: Rail, roads, sea ports, air routes and their development. Policies of India. Countries-problems and plans for solving them. 2. List different types of industries in the states and collect information about the types of raw materials used, modes of their procurement and disposal of wastes generated. Classify the unit as polluting or environment friendly and suggest possible ways of reducing pollution. 3.Environment:Wildlife conservation efforts in India. 4.Need for industrialization in India, latest trends and its impact on economy of India.
Physics	<p>Practical Work:</p> <p>Experiment No. 1 – Determination of Mass of a metre rule by applying the Principle of Moments.</p> <p>Experiment No. 2 – (i) To show that when Refraction through a Glass Block takes place, the emergent ray is parallel to the incident ray.</p> <p>(ii) To measure the lateral displacement.</p> <p>(Writing of Experiment 2. to be completed during the holidays, the Experiment to be done after the holidays).</p>

	<p>Theory:</p> <p>Force: Ex 1A, Numerical Problems: Nos. 11,13,15, 17. Ex 1C, Question/answers: Nos. 5,8,14.</p> <p>Work, Power and Energy: Ex 2A, Questions/answer: Nos. 4,5,13,25. Ex 2A, Numerical Problems: Nos. 3,5,7,9,11,13,15.</p> <p>Both Experiments and the work from the Textbook have to be completed and Lab Manuals and CW Exercise books submitted on 20th June 2022.</p>
Chemistry	<p>Topic: 1) Action of heat on some compounds : calcium carbonate, zinc carbonate, lead nitrate, zi 2) Identification of gases : hydrogen, chlorine, ammonia and sulphur dioxide.</p> <p>Children will be asked to record the observations, identify the gas evolved and make deductions in Chemistry Practical File and submit the same post summer break.</p>
Biology	<p>PRACTICAL WORK</p> <p>TOPICS</p> <ol style="list-style-type: none"> 1. Mitosis 2. Diffusion 3. Osmosis 4. Absorption 5. Transpiration 6. Photosynthesis

EVS	<p>PROJECT</p> <p>TOPICS</p> <ol style="list-style-type: none"> 1. Aalok Sutradhar – Solid waste 2. Adrija Banerjee – Sustainable cities 3. Aaryan Ali – Soil conservation 4. Anurag Sinha – In situ conservation 5. Arittri Chatterjee – Terrace farming 6. Gandham Venkat – Mixed cropping 7. Md. Ibrahim – Crop rotation 8. Mongal Mondol – Deforestation 9. Moupiya Banerjee – Global warming 10. Rafsun Janne Rafi - Genebanks 11. Ruma Singh - Biodiversity 12. Samima Khatun – Soil conservation 13. Sanjit Murmu – Nuclear energy 14. Shipan Chowdhury – Botanical Garden 15. Vineet Chowdhury – Climate change 16. Sagar Mondal – Solar energy
Economics	<p>The project topic is: Bioenergy, pollution and economic growth. The students have been explained elaborately on how to do the project in the class.</p>
Home Science	<ol style="list-style-type: none"> 1.Care of clothing: Laundering of cotton, silk and wool. 2.Preparing a family budget based on information received from parents.

<p>Commercial Application</p>	<p>PROJECT WORK:</p> <ol style="list-style-type: none"> I. Study 5 different advertisement in any 1 media of the SMGC and explain the positive and negative points II. Write an essay on the role of central bank in any economy with special reference to the Indian scenario. III. Study the working of commercial bank of India by studying the working of the branch office of commercial bank <p>QUESTION ANSWERS:</p> <ol style="list-style-type: none"> I. State 4 difference between product and service II. Explain all the stages of marketing III. Difference between marketing and selling IV. Discuss the importance of personal selling in marketing V. Intensive competition has made advertisement essential for corporate survival
<p>Computer Application</p>	<ol style="list-style-type: none"> 1. Define a class named movieMagic with the following description: <p><u>instance variables/data members:</u></p> <p>int year - to store the year of release of a movie.</p> <p>String title - to store the title of the movie</p> <p>float rating - to store the popularity rating of the movie (minimum rating=0.0 and maximum rating=5.0)</p> <p><u>Member methods:</u></p> <p>void initialize() - is a method to initialize numeric data members to 0 and String data member to “ ”.</p>

void accept(int Y, String T, double R) - is a method which assigns the values to the instance variables year, title and rating.

void display() - to display the title of a movie and a message based on the rating as per the table below.

Rating Message to be displayed

0.0 to 2.0 Flop

2.1 to 3.4 Semi-hit

3.5 to 4.5 Hit

4.6 to 5.0 Super Hit

Write a **main method** to create an object of the class and call the above member methods.

2. Define a class **ParkingLot** with the following description:

Instance variable/data members:

int vno - to store the vehicle number.

int hours - to store the number of hours the vehicle is parked in the parking lot

double bill - to store the bill amount

Member Methods:

void initialize() - is a method to initialize the member variables to their default values.

 void input() - to input and store vno and hours

 void calculate() - to compute the parking charge @ `10 for the first hour or a part thereof, ` 5.50 for each additional hour or part thereof.

 void display() – To display the details.

Write a **main method** to create an object of the class and call the above member methods.

3. Define a class **EmployeePayment** have the following description:

Instance Members/Data Members:

int pan – to store personal account number

String name - to store name

double tax_income – to store the annual taxable income

double tax - to store tax that is calculated

Member Methods:

void initialize() - is a method to initialize the member variables to their default values and String variables to “ ”.

void input(int pan_no, String nm, double tax_inc) - is a method which assigns the values to the member variables pan, name and tax_income with user values and tax with default value.

calc() - Calculate tax for an employee

display() - Output details of an employee

Write a **main method** to create object of a class and call the above member method and display the output as per given format.

Conditions

Total annual taxable income	Tax Rate
Upto Rs. 2,50,000	No Tax
From Rs. 2,50,001 – 3,00,000	10% of the income exceeding Rs. 2,50,000
From Rs. 3,00,001 – 3,50,000	Rs.7,000 + 20% of the income exceeding Rs. 3,00,000

Above Rs. 3,50,000

Rs. 25,000 + 30% of the income exceeding Rs. 3,50,000

Output:

Pan Number	Name	Taxable Income	Tax Paid
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4. Define a class called **Library** with the following description:

Instance Members/Data Members:

int acc_num : stores the accession number of books.

String title : stores the title of the book

String author : stores the name of the author

double charge : stores the fine.

Constructor/Member Methods:

void initialize() - is a method to initialize the member variables to their default values and String variables to "".

void Input(int accession_no, String ttl, String aut_nm) - is a method which assigns the values to the member variables with the user input values.

void Compute()- - to accept the numbers of days late, calculate and display the fine charged
Late charge @ ` 2 per day.

void Display - to display the details of accession number, title of the book, author number and fine charged.

Write a **main method** to create object of a class and call the above member method

5. Define a class named **Book Fair** with the following description:

Data Members/Instance Variables:

String Bname - stores the name of the book
 double Price - stores the price of the book
 double netAmount - stores the net amount paid by the customer after discount.

Constructors/Member methods:

void initialize() - is a method to initializes the member variables to their default values and String variables to “ ”.

void Input () - to input and store the name and the price of the book.

double Calculate () - To calculate the price after discount. Discount is calculated based on the following criteria

Price	Discount
Less than or equal to `1000	2% of price
More than `1000 and less than or equal to `3000	10% of price
More than `3000	15% of price

Write a **main method** to create object of a class and call the above member method.

The **main method** will also display the details like book name, price of the book and the net amount paid by the customer.

6. Write a program in Java which checks whether the number given by a user is **Palindrome** or not. The specifications are given below:

Class - Palindrome

Data Members/Instance Variables -

int x - is a variable which stores the number given by the user.

Member Methods -

void initialize() - is a method which initializes the instance variable x to 0.

void accept(int num) - assigns the instance variable with the value stored in num.

boolean check Palindrome() - is a method which checks whether the number is **Palindrome** or not. It returns true if the number is a **Palindrome** else return false.

(A palindromic number is a number that remains the same when its digits are reversed.

For example, 343, 565, 121, 949 etc.)

Write a main() method which creates an object of a class and call the above member methods.

7. Define a class named SumSeries2 with the following description

Data Members/Instance Variables -

int x - stores the number of the given series.

int n - stores the term of the series.

double sum - stores the sum of the series.

Member Methods -

void initialize() - is a method which initializes the instance variable to their default legal values.

void accept(int num, int term) - assigns the instance variables x and n with the values stored in num and term respectively.

double computeSeries() - is a method which computes the sum of the series and returns the value of the sum.

$$\text{sum} = \underline{x} + \underline{x} + \underline{x} + \underline{x} + \dots + \underline{x}$$

1! 2! 3! 4! n!

Write a main() method which creates an object of a class and call the above member methods.

8. Write a program in Java which checks whether the number given by a user is

Automorphic or not. The specifications are given below:

Class - **Automorphic**

Data Members/Instance Variables -

int x - is a variable which stores the number given by the user.

Member Methods -

void initialize() - is a method which initializes the instance variable x to 0.

void accept(int num) - assigns the instance variable with the value stored in num.

int checkAutomorphic() - is a method which checks whether the number is

Automorphic or not. If the number is **Automorphic** then it returns 1 else it returns 0.

(An automorphic number is a number whose square "ends" in the same digits as the number itself.)

Some examples are $5^2 = 25$, $6^2 = 36$, $76^2 = 5776$, etc.)

Write a main() method which creates an object of a class and call the above member methods.

<p>Physical Education</p>	<p>Prepare a project with the following Guidelines</p> <p><u>Cover Page</u></p> <p>Name of the School:</p> <p>Name of the student, Class, Section, Student ID:</p> <p>Name of the Project:</p> <p>Physical Education Project- 1 (Basketball)</p> <p><u>Page -1:</u> Project -1: Basketball</p> <p><u>Page-2:</u> Acknowledgement</p> <p><u>Page-3:</u> Index</p> <p><u>Page-4:</u> Introduction of the game (Brief History of the game, description of the game and recent s International Platform).</p> <p><u>Page -5 &6:</u> Rules of the game.</p> <p><u>Page-7&8:</u> Describe the major Skills of the game (at least 5)</p> <p><u>Page-9&10:</u> Describe the major fitness components required for performing well in the Basketball</p> <p><u>Page-11 & 12:</u> Explain any five drills that are used in improvement of shooting & Passing skills of B</p> <p><u>Page 13&14:</u> Mention the names of the elite Basketball Players with their personal detail and ach International Players)</p> <p><u>Page 15:</u> Conclusion and References.</p> <p>N.B: - a) To be prepared in Practical File. b) Pictures to be pasted as per the requirement.</p>
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ART	<p>Collage</p>	<p>Collage describes both the technique and the resulting work of art in which pieces of paper, photographs, fabric and other ephemera are arranged and stuck down onto a supporting surface.</p>
	<p>Theme</p>	<p><i>Choose one starting point and develop your idea.</i></p> <p>A. Items in a basket. B. A rainy day. C. Journey to the moon.</p>
	<p>Activities</p>	<ol style="list-style-type: none"> 1. Size of the Collage should be 11 inch x 15 inch. 2. Make layout drawing. 3. Stuck onto supporting surface. (E.g.: Mount Board) 4. Final outcome.
SUPW	<p>Topic: i) Poster and ii) Candle</p> <p>Socially Useful Productive Work (SUPW) is a "purposive productive work and services related to the needs of the child and the community will be proved meaningful to the learner. The training acquired in the classroom or home is expected to help students to solve day-to-day problems of the community.</p> <p>In addition to developing individual skills, SUPW aims to help develop among the students the habit to work as a community, encourage community thinking, increase awareness of scientific advancements and develop a scientific outlook.</p> <p>Topic 1: Posters on Benefits of Yoga</p> <ol style="list-style-type: none"> 1. Identify the goal of your poster. 2. Consider your target audience. 3. Decide where you want to share your poster. 	

4. Select a pre-made **poster** template.
5. Pick a relevant or branded colour scheme.
6. Include a clear call to action.
7. Use varied fonts to **create** visual hierarchy.



Topic 2: Homemade Candles

Supply list: candle

- One package of candle-making soy wax
- One package of large candle wicks
- One bottle of fragrance oil
- One spatula
- One heat-proof container
- One double boiler
- One thermometer
- One pair of chopsticks or pencils

Step 1: Measure the wax

Before you begin the candle-making process, make sure you have a clean, flat surface to work on. You can also protect the area with newspaper or paper towels. Move anything that you don't want to get wax on.

Measure out how much wax you would need to fill your container, then double it. That's how much wax you will need to melt.

Step 2: Melt the wax

Pour the wax into your double boiler and allow to melt for **10 to 15 minutes**, stirring frequently.

Step 3: Add fragrance oils

When your candle wax is melted, it's time to add fragrance oils. Follow the instructions on your wax package for how much to add. Simply pour it into your melted wax and stir for a few seconds. While this step is optional, we definitely recommend it for a lovely floral smell.

Step 4: Attach the wick

The wick needs to be attached to the bottom of your container before you pour in the wax. You can attach the wick by dipping it in the melting wax then quickly sticking it to the bottom of the container. Let the wax sit **five minutes** to harden. Alternatively, you can superglue it.

Step 5: Pour the wax

Before you pour the wax into your container, let it cool for a few minutes. When the temperature on the thermometer reads 140 degrees, it's time to pour.

Then, slowly pour the wax into your container. Hold the wick in place, but don't pull on it. Leave a small amount of wax in the boiler for topping off your candle later.

Step 6: Secure the wick

To prevent your wick from swaying in the melty wax, you need to secure it in place. Lay two chopsticks across the top of the container. Sandwich the wick in between so that it stays centered while the wax hardens.

Allow the wax to set for **four hours** at room temperature.

Step 7: Add more wax

If your candle hardened with an unsightly top (think cracks or holes) simply reheat and add your remaining wax. Let harden.

Step 8: Cut the wick.

Your candle wick should be less than half an inch long. If, when lit, the candle flickers or has a tall flame, trim the wick.

