



HIMALAYAN PROGRESSIVE SCHOOL

SUMMER HOLIDAY HOMEWORK

CLASS X (2021-22)

Dear Parents,

Holidays are a time to relax, rebound and rejuvenate, but as they say - vacation is just one letter different from vocation. It provides a great opportunity to smoothen the edges, to affirm the skills and to turn knowing into performance. To keep up with our motto "Creating Leaders of tomorrow" we have designed these assignments with a lot of care to help our students have a meaningful, purposeful and rewarding vacation.

Knowledge is a powerful weapon, but it requires a lot of sharpening. Retention of the learning is an essential part of learning process. This homework is planned in order to support that. Also it has a lot of scope for creative and critical thinking, exploration, research with just the right amount of fun.

Encourage your child to organize and plan each activity in advance just to avoid last minute hurried completions. Your interest in his/her work will definitely make these tasks more meaningful for him/her.

Holidays are also a good time to spend quality time with your ward. So read, play, learn, explore and enjoy together, and create indelible memories for the years to come.

Compilation of work need to done as per the instruction given with the subject homework

Happy Vacations!

ENGLISH

(ALL OF THESE QUESTIONS ARE TO BE ATTEMPTED MANDATORILY)

1. Uttarakhand is a well-known tourist place and you feel that it has a tremendous potential to attract tourists, particularly international tourists. Make a tourist visit book expressing details about the place, its beauty, climate, facilities, etc. At least five visit spots should be mentioned with some attractive pictures. Visit book can be computerized and hand written.



2. Compose a **poem** on the topic ‘**English is Funny**’. Ensure that this piece of writing is not copied from anywhere. Use your ideas and imagination to bring out the best in you.

Both of these (1 & 2) are to be done on coloured sheets. Use colours, pictures and all that would take you to make these tasks fun filled. Also make sure that these are punched in a file. You can also record the poem and submit that to your teacher in video form.

3. Record a piece of audio (max: 2 minutes) on one of the following topics and upload the same in the google classroom. This will be considered as the submission towards your speaking skills (ASL) and carries 10 marks.

- Is it possible to eliminate poverty in every country in the world?
- Why humans should colonize mars

HINT: Let’s be honest here, humans are endangered species because all of us live only on one planet. Colonizing mars increases the chance of long-term survival of humankind and has many other benefits, so it’s definitely a great topic to talk about.

- Which of the two – success or failure – teaches you the most?
- If I ruled the world...

The audio is to be uploaded during the summer vacation; no submission shall be accepted once the school re-opens.

हिंदी

- (1) ऑनलाइन कक्षाओं के बारे में अपने अनुभव बताते हुए 100 - 150 शब्दों का अनुच्छेद लिखिए ।
- (2) ऑक्सीजन की कमी को देखते हुए पेड़ों के महत्व और उनकी सुरक्षा पर प्रकाश डालते हुए अपने मित्र को पत्र लिखिए तथा पर्यावरण के प्रति जागरूकता बढ़ाने के लिए 50 - 60 शब्दों का विज्ञापन तैयार कीजिए ।
- (3) छायावादी लेखकों के जीवन परिचय का कोलाज़ बनाएं एवं उनकी मुख्य कृतिया भी लिखे ।
- (4) " रहिमान पानी राखिए बिन पानी सब सून" ----- कबीरदास के इस दोहे की सार्थकता पर प्रकाश डालते हुए ' जल ही जीवन है ' विषय पर 80 - 100 शब्दों में अपने विचार लिखिए ।
- (5) तुम पुरुष हो डर रहे हो,
व्यर्थ ही संसार से ।
जीत लेते हो नहीं क्यों
त्याग से उपकार से ॥

उपर्युक्त पंक्तियों को आधार बनाकर आठ या दस लाइन की कविता लिखिए ।

CHEMISTRY

Answer the following questions:

1. Define a balanced chemical equation. Why should an equation be balanced?
2. Write the balanced chemical equation for the following reaction:
 - (i) Phosphorus burns in presence of chlorine to form phosphorus pentachloride.
 - (ii) Burning of natural gas.
 - (iii) The process of respiration.
3. Explain two ways by which food industries prevent rancidity.
4. Write one example for each of decomposition reaction carried out with help of;
 - (i) Electricity
 - (ii) Heat
 - (iii) Light
5. Which of the following statements is correct and why?
“copper can displace silver from silver nitrate” and “silver can displace copper from copper sulphate solution.”

6. What happens when a piece of
- (a) Zinc metal is added to copper sulphate solution.
 - (b) Aluminium metal is added to dilute hydrochloric acid.
 - (c) Silver metal is added to copper sulphate solution.

Also write the balanced chemical equation if the reaction occurs.

7. On heating blue coloured powder of copper (II) nitrate in a boiling tube, copper oxide (black), oxygen gas and a brown gas 'X' is formed.
- (a) Write a balanced chemical equation of the reaction
 - (b) Identify the brown gas 'X' evolved.
 - (c) Identify the type of reaction
 - (d) What could be the pH range of aqueous solution of the gas 'X'?

8. Name the reducing agent in the following reaction: $3\text{MnO}_2 + 4\text{Al} \rightarrow 3\text{Mn} + 2\text{Al}_2\text{O}_3$

State which is more reactive, Mn or Al and why?

9. Write a balanced chemical equation for the reaction between sodium chloride and silver nitrate indicating the physical state of the reactants and the products.
10. Write balanced equations for the following mentioning the type of reaction involved.
- (i) Aluminium + Bromine \rightarrow Aluminium bromide
 - (ii) Calcium carbonate \rightarrow Calcium oxide + Carbon dioxide
 - (iii) Silver chloride \rightarrow Silver + Chlorine

11. Why is respiration considered as an exothermic reaction?

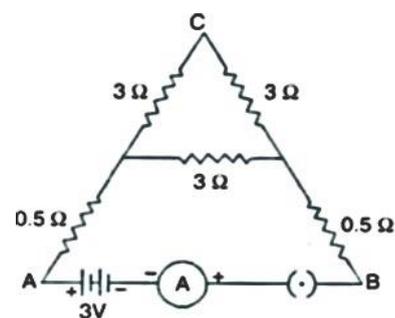
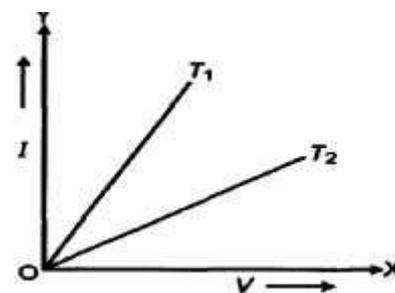
In the following Questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and Reason are correct and the reason is the correct explanation of the Assertion.
- (b) The Assertion and the reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the reason is true.

12. **Assertion:** Magnesium ribbon keeps on burning in atmosphere of nitrogen.
Reason: Magnesium reacts with nitrogen to form magnesium nitride and this reaction is combination reaction.
13. **Assertion:** Zinc reacts with sulphuric acid to form to form zinc sulphate and Hydrogen gas and it is displacement reaction.
Reason: Zinc reacts with oxygen to form Zinc oxide.
14. **Assertion:** lead nitrate on thermal decomposition gives lead oxide, brown coloured nitrogen dioxide and oxygen gas.
Reason: Lead nitrate reacts with potassium iodide to form yellow ppt of lead iodide and the reaction is double displacement as well as precipitation reaction.
15. Some crystals of copper sulphate were dissolved in water. The colour of the solution obtained would be....
 (a) Green (b) Red (c) Blue (d) Brown
16. When dilute HCl is added to zinc pieces taken in a test tube
 (a) No change take place
 (b) The colour of the solution becomes yellow
 (c) A pungent smelling gas gets liberated
 (d) A small bubble of H₂ gas appear on the surface of zinc pieces.

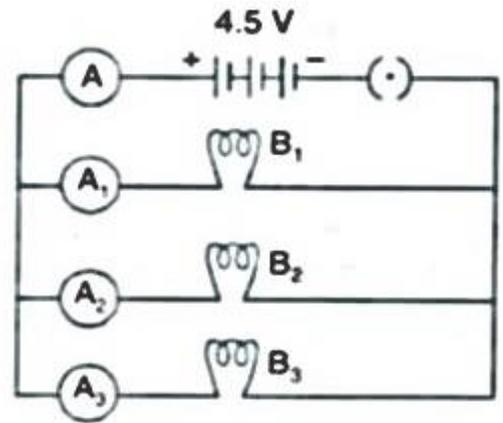
PHYSICS

- A wire of resistance $20\ \Omega$ is bent to form a closed square. What is the resistance across a diagonal of the square?
- Why is a series arrangement not used for connecting domestic electrical appliances in a circuit?
- The same resistor gives the following graphs at two different temperatures T_1 and T_2 Which of these is at higher temperature and why?
- There are two electric bulbs (i) marked $60\ \text{W}, 220\ \text{V}$ and (ii) marked $100\ \text{W}, 220\ \text{V}$. Which one of the two has a higher resistance?
- Five resistors are connected in a circuit as shown. Find the ammeter reading when circuit is closed.



6. Study the circuit shown in which three identical bulbs B_1 , B_2 and B_3 are connected in parallel with a battery of 4.5 V.

- (i) What will happen to the glow of other two bulbs if the bulb B_3 gets fused?
 (ii) If the wattage of each bulb is 1.5 W, how much reading will the ammeter A show when all the three bulbs glow simultaneously?



7. Draw a labelled circuit diagram to study the relationship between the current (I) flowing through a conductor and the potential difference (V) applied across its two ends.

State the formula co-relating the I in a conductor and the V across it. Also show their relationship by drawing a diagram.

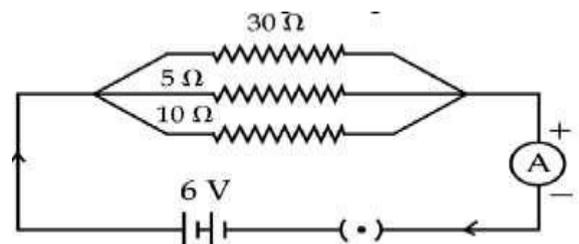
8. What would be the resistance of a resistor if the current flowing through it is 0.15 A when the potential difference across it is 1.05 V?

9. While experimentally verifying ohm's law a student observed that pointer of the voltmeter coincides with 15th division voltmeter has a least count of 0.05 V Find the observed reading of voltmeter.

10. Wire of length l and area of cross-section A was drawn into a wire of double its length by melting it. If its original resistivity and resistance were ρ and R respectively, what will be its new resistivity and resistance?

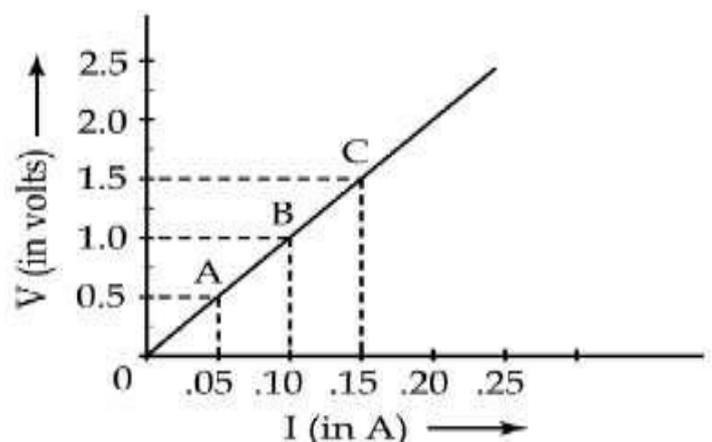
11. Calculate :

- (i) Value of current flowing through each resistor,
 (ii) The total current in the circuit,
 (iii) The total effective resistance of the circuit.



12. State the SI unit of current and define it. (ii)

An electric circuit consisting of a nichrome wire XY an ammeter, a voltmeter, four cells of 1.5V each and a plug key is to be set up. (a) for studying the relationship between the potential difference maintained between the point 'X' and 'Y' and the current flowing through the wire XY. Draw its circuit. (b) Graph shown in figure was plotted between V and I. What would be the value of V and I corresponding to points A and C on graph. Analyze these values and draw conclusion.



- Join khan academy using your school id and solve the assignments on the consecutive days:

- I) Day 1: Electric current, voltage and work and Quiz 1
- ii) Day 2: Ohm's law and resistance, resistance and resistivity
- iii) Day 3: Equivalent resistance, identifying types of resistors combination and Quiz 2.
- iv) Day 4 : Complex circuit, finding current and voltage , and Quiz 3
- v) Day 5: Electric power and heat dissipation
- vi) Day 6: Bulb in series or parallel and Quiz 4
- vii) Day 7: Finding cost of electrical operations
- viii) Day 8: Previous year problems.
- ix) Day 9: C.B.S.E numericals
- x) Day 10: Unit test

BIOLOGY

Guidelines:

- 1. Biology homework should be done in the respective notebooks.**
- 2. Diagrams should be neatly drawn, well labeled and colored enclosed in a box with the figure name and numbering, labelling should be done at one side only.**
- 3. Diagrams should be made with colorful pencil colors.**

1. Draw a well labeled colored diagram for various systems of human body such as :

- Human digestive System
- Respiratory System
- Circulatory System
- Human heart
- Reproductive parts of a flower
- Pollen germination in flower
- Male reproductive system
- Female reproductive system

2. Differentiate between the following (4-6 points each):

Sr. No	Column A	Column B
1.	Aerobic Respiration	Anaerobic Respiration
2.	Photosynthesis	Respiration
3.	Arteries	Veins
4.	Blood	Lymph
5.	Inhalation	Exhalation

Every alternate day an assignment will be shared from Khan Academy. You all need to solve that assignment in the app only. The topics are as follow

- Day 1 - Types of Nutrition, Guard Cell, Photosynthesis
- Day 3 - Digestion
- Day 4 - Quiz 1
- Day 6 - Respiration
- Day 7- Quiz 2
- Day 9 - Transportation in plants
- Day 11 - Transportation in animals
- Day 12- Quiz

SOCIAL SCIENCE

Topic- CONSUMER AWARENESS

Project Guidelines and Format

- Acknowledgement
- Contents
- Foreword
- Body
- Bibliography



N.B.

- Project must be supported with newspaper clipping, collage work, internet material, magazine articles and photographs.
- Project should have 15-17 pages and it should be hand written.

1. Objective: The overall objective of the project work is to help students gain an insight and pragmatic understanding of the theme and see all the Social Science disciplines from interdisciplinary perspective. It should also help in enhancing the Life Skills of the students.

Students are expected to apply the Social Science concepts that they have learnt over the years in order to prepare the project report.

If required, students may collect data and use different primary and secondary resources to prepare the project. If possible, various forms of art may be integrated in the project work.

The Project Report should be handwritten by the students themselves.

2. The distribution of marks over different aspects relating to Project Work is as follows:

Sr. No.	Aspects	Marks
1	Content accuracy, originality and analysis	2
2	Presentation and creativity	2
3	Viva Voce	1

***Draw or trace the political map of India and do the following.**

Map1 Soil- Types of India

Map 2- Major Ports of India (at least 10)

Map 3- Major Iron Ore Belts of India

Map 4- Rice, wheat, Tea and coffee producing states of India

Map 5- Major Technology Software parks of India (at least 7)

MATHEMATICS

1. Find the zeroes of the following quadratic polynomials and verify the relationship between the zeroes and the coefficients.
(i) $5x^2 - 29x + 20$ (ii) $x^2 - 5x$
2. Form the quadratic polynomials whose zeroes are (i) $3 \pm \sqrt{2}$ (ii) $-\sqrt{2}$ and $\sqrt{2}$
3. Find all the zeroes of $x^3 + 6x^2 + 11x + 6$ if $(x + 1)$ is a factor.
4. Find all the zeroes of $x^3 - 10x^2 + 31x - 30$ if 2 is a zero of it.
5. Find the values of 'a' and 'b', if 2 and 3 are zeroes of $x^3 + ax^2 + bx - 30$
6. Divide $x^4 - 4x^3 + 8x^2 + 7x + 10$ by $(x - 2)$ and verify the division algorithm.
7. Find the value of 'k', if $(x - 2)$ is a factor of $x^2 - kx + 10$.
8. Find the value of 'm', if 2 is a zero of $3x^2 - 17x + m$.
9. Find all the zeroes of $4x^4 - 20x^3 + 23x^2 + 5x - 6$ if two of its zeroes are 2 and 3.
10. If α and β are the zeroes of $x^2 + 5x + 6$, find the value of $\alpha^{-1} + \beta^{-1}$.
11. If $\frac{1}{2}$ and 1 are the zeroes of $2x^4 - 3x^3 - 3x^2 + 6x - 2$, find the other zeroes.
12. If one of the zeroes of the polynomial $5z^2 + 13z - p$ is the reciprocal of the other, find 'p'.
13. On dividing the polynomial $4x^4 - 3x^3 - 42x^2 - 55x - 17$ by the polynomial $g(x)$ the quotient is $x^2 - 3x - 5$ and the remainder is $5x + 8$. Find $g(x)$.
14. Verify that 1, 2 and $\frac{1}{2}$ are zeroes of $2x^3 + x^2 - 5x + 2$. Also, verify the relationship between the zeroes and the coefficients.
15. If α and β are the zeroes of the quadratic polynomial $x^2 - kx + 15$ such that $(\alpha + \beta)^2 - 2\alpha\beta = 34$, find 'k'.
16. If one zero of polynomial $2x^2 - 3x + p$ is 3, then find the other root. Also, find the value of 'p'.
17. If α and β are the zeroes of the quadratic polynomial $ax^2 + bx + c$, find the value of $\frac{1}{\alpha}$ and $\frac{1}{\beta}$.
18. If α and β are the zeroes of $2x^2 - 9x + 10$, form the polynomial whose zeroes are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$.
19. The curve which represents a quadratic polynomial meets the X-axis at (2, 0) and (-2, 0). Form the quadratic polynomial.
20. Find the values of 'a' and 'b' such that $x^4 + x^3 + 8x^2 + ax + b$ is exactly divisible by $x^2 + 1$.
21. If the polynomial $p(x) = x^4 - 6x^3 + 16x^2 - 25x + 10$ divided by $x^2 - 2x + k$, the remainder is $x + a$. Find 'k' and 'a'.
22. The zeroes of $x^2 - kx + 6$ are in the ratio 3:2, find 'k'.
23. What must be subtracted from $8x^4 + 14x^3 - 2x^2 + 7x - 8$ so that the resulting polynomial is exactly divisible by $4x^2 + 3x - 2$?
24. What must be added $4x^4 + 2x^3 - 2x^2 + x - 1$ so that the resulting polynomial is exactly divisible by $x^2 + 2x - 3$?

INFORMATION TECHNOLOGY (IT)

Web Applications

1. Write the steps to download Google Talk create your own account and chat with your friend. Paste the screenshot of the chat window.
2. Write the steps to turn on sticky keys and paste the screenshot for the same.
3. Collect the information about any 4 instant messaging software.
4. Write the steps to create a blog and paste the screenshot for each step.
5. Download Qumana and create a blog.
6. Perform online transactions for booking a (movie ticket, shopping) or bill payments on the secured websites. Write the steps for the same and paste the screenshots.
7. Download an antivirus in your computer and gather information about it.

Word Processing, Excel and Database

8. Using document templates create your own resume in MS WORD (point 1-4).
9. Insert header section in document: left side insert school logo, school name, heading of Summer Vacation Holiday Home work and Topic -Resume at center alignment.
10. Insert footer section which has page number, date, time and your name.
11. Insert your picture (passport size) at left align and wrap it along with the text using the text wrapping feature.
12. Download an image of clipArt in case the particular image does not exist in Clipart. (write down the steps with screenshot on new document)
13. Create a table as below and shading the first row. Insert an Octagon and write your name in the center.

Day /	Period I	Period II	Period IV	Period V
Sunday	Math	Science	English	Computer
Monday	Science	Computer	Math	English
Tuesday	English	Math	Computer	Science
Wednesday	Computer	Science	Math	English
Friday	Math	Science	English	Computer

- Create margin at the top & bottom 1.1 inch and right & left 1.5 inch
 - Create landscape orientation & A4 paper size
 - Insert Period III column after Period II
 - Insert Thursday row below Wednesday row
 - Insert page number center align and Arial font
 - Insert watermark "Hello world"
 - Table font "Times new roman" and 13 size
14. Write the steps to insert special characters and symbols in MS WORD. Support each step with a screenshot.
 15. Write the steps to create a table with minimum five fields on an entity "STUDENT" in design view. (using MS Access software create proper document using screenshot)
 16. Download and Install OPEN OFFICE.ORG in your system.
 17. Write the steps to create a new style in Open Office Writer.
 18. Write the steps to record Macro in open office calc.
 19. Write the steps to consolidate data of two sheets in Open Office Calc

INTRODUCTION TO FINANCIAL MARKETS (IFM)

1. On a handmade file, beautifully decorated, prepares a project on "KNOW YOUR COMPANY" covering the below mentioned points-

- | | |
|--|---|
| <ul style="list-style-type: none"> • Name of the company • Its sector or industry • Capitalization size (mid cap, large cap or small cap) • listing code NSE/BSE • last closing price • list of board of directors | <ul style="list-style-type: none"> • profit and loss statement • financial report • projects – working on; company's achievements, • future prospects, • products • capital distribution of the company like shares, debentures, warrants, ADRs, GDRs, etc. |
|--|---|

2. Write the myths and facts about mutual funds. (Minimum 12)
3. According to the list given in classroom app, write the closing prices of the 50 stocks of NIFTY50 date wise for two weeks.

4. On the basis of research and observations from Internet, web series or you tube, prepare a detailed report including facts and figures on any one of INDIAN FINANCIAL SCAM (HARSHAD MEHTA SCAM 1992, KETAN PARIKH SCAM, SATYAM COMPANY SCAM). List out the important terms used in it; write their meanings and usage and conclusion.

Do Question 2 and 3 in IFM notebook