



WINTER HOLIDAY

HOME WORK

CLASS XI

SESSION: 2024-2025

STUDENT NAME: _____

ROLL NO: _____

Winter Vacation is probably the best time of the year for you all; it's time for loads of fun, though we can't go out but getting pampered to no end and of course bonding with distant cousins can be done virtually. School is fun too; with learning happening at all times, Winter vacation can also be a time for learning with lots of activities around. Here are a few tasks for you to complete during the vacation. Do remember to complete the given tasks after reading them carefully.

Some Tips to make this holiday special:

- Have a family dinner every day of the holidays.
- Play board games with your parents and sibling and show them who is the smartest.

Spend some quality time with an elderly person in the family



Some useful tips for winter vacation

Some dos and don'ts during winter vacation:

Do's

- Eat a nutritious diet with plenty of water. Include citrus fruits (orange, lemon, grapefruit) and vegetables which are rich in vitamin C, vitamin D containing foods (cheese, egg yolks) and zinc-containing foods (legumes, lentils, beans, and nuts).
- Wash your hands frequently, always with soap and water for at least 20 seconds or frequently use alcohol-based hand rub.
- Wear light cotton clothes.
- Protect yourself and others.
- Be a leader in keeping yourself, your school, family and community healthy.
- Cough and sneeze into a tissue or your elbow and avoid touching your face, eyes, mouth and nose.
- Share what you learn about preventing disease with your Family and friends, especially with younger children.



Don'ts:

- Do not share cups, eating, utensils, food or drinks with others.
- Do not have close contacts with a sick person.
- Do not participate in large gatherings.
- Do not touch your face, nose and eyes without washing hands.
- Don't dirty your place of living.
- Don't have junk food.
- Don't watch too much TV.
- Don't waste time being lazy.

SUBJECT: PHYSICS

Learning:

Q. Define centre of mass. How do you calculate the centre of mass of a two-particle system?

Assignment:

1. A wheel of radius 0.5 m rotates with an angular velocity of 10 rad/s. Calculate its linear velocity at the rim.
2. Define the term stress and strain. Differentiate between elastic and plastic deformation.
3. Define temperature and heat. How are they different?
4. Define specific heat capacity. How is it related to the amount of heat required to raise the temperature of a substance?
5. What is the relationship between pressure and volume in gases according to Boyle's Law? Explain with an example.
6. A wire of length 2 meters and cross-sectional area is stretched by a force of 50 N. Calculate the strain produced in the wire.
7. Define work and energy. How are they related? Explain with examples.
8. Define simple harmonic motion (SHM). Derive the equation for displacement in SHM.
9. What is the difference between transverse and longitudinal waves? Give examples.
10. What is the acceleration due to gravity at the surface of the Earth? Derive the formula for the acceleration due to gravity.

Project:

Constructing a Water Rocket

Objective: Demonstrate the principles of Newton's third law of motion using a water rocket.

Project Description: Construct a water rocket using a plastic bottle, water, and air pressure. When the bottle is pressurized and the water is expelled, it propels the rocket upwards. This project helps you demonstrate action and reaction forces.

Materials Needed: Plastic bottle, water, air pump, cork, tape, cardboard.

SUBJECT: CHEMISTRY

Learning:

Q. Learn elements upto 30 atomic numbers.

Assignment:

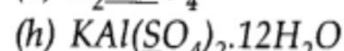
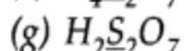
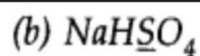
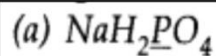
Q.1) Explain quantum numbers with suitable examples.

Q.2) Define paper Chromatography with diagram

Q.3) Discuss the shape of the following molecules using the VSEPR model:

BeCl₂, BCl₃, SiCl₄, AsF₅, H₂S, PH₃

Q.5) Assign oxidation number to the underlined elements in each of the following species:



species:

ject work (Models)* /4

*Make the models on thick Cardboard/ Thermocol (Thick) sheet.

Roll No. 1 to 5: Prepare Rutherford model.

Roll No. 6 to 10: Prepare ball stick model for alkane, alkene and alkyne.

Roll No. 11 to 15: Prepare atomic structure model.

Roll No. 16 to 20: Prepare periodic table model.

Roll No. 21 to 25: Prepare Solar Water Purifier model.

Roll No. 26 to 30: Prepare Bohr model

Roll No. 31 to 35: Prepare model on Chromatography

Roll No. 36 to 40: Dumas method for estimation of NITROGEN

SUBJECT: MATHEMATICS

Learning :-

Q1 . Explain fundamental principle of counting and pascal triangle.

Q2 . Define a G. P. and its terminology.

Q3 . Discuss all the straight line forms in detail.

Q4 . What is the concurrency of three lines?

Q5. Write some standard real functions and their graphs.

Assignment :-

Q1. Find the coordinates of a point on the x-axis whose distance from the line $3x - 4y - 2 = 0$ is equal to 2.

Q2. Find the equation of circle concentric with circle $x^2 + y^2 - 6x + 12y + 15 = 0$ and has double its area.

Q3. Find the equation of the circle passing through the points A(5,7), B (6,6) and C(2,2).

Q4 . The sum of the perpendicular distances of a variable point P(x,y) from two lines $x + y - 5 = 0$ and $3x - 2y + 7 = 0$ is always 10. Show that P must move on a line.

Q5 . Find the area of the triangle formed by joining the vertex of the parabola $x^2 = 64y$ to the two ends of its latus rectum.

Q6 . The focus of a parabolic mirror is at a distance of 6 cm from the vertex. If the mirror is 20 cm deep, find the vertical diameter of the mirror.

Q7. A road of length 12 cm moves with its ends always touching the coordinate axis. Determine the equation of the locus of a point P on the road which is 3 cm from the end in contact with the x-axis.

Q8. P is any point on the ellipse $x^2/64 + y^2/48 = 1$ verify that $PS_1 + PS_2 = 16$, where S_1 and S_2 are the foci of the ellipse.

Q9. Find the equation of the hyperbola in the standard form given that the distance between the foci is 5, the conjugate axis is of the length 3, the foci lie on the x-axis.

Q10. Find the distance between the two directrices of ellipse $x^2/36 + y^2/20 = 1$

Project / Activity Work-

1. Make the tabular form of all the terminology used for all the conics like circle, parabola, ellipse, and hyperbola on a chart paper.
2. Trace/ Sketch the graph of $25x^2 + 9y^2 - 150x - 90y + 225 = 0$ and paste it on a chart paper.
3. Write all the formulas of trigonometry on a chart paper.
4. Make a model to represent all the octants of 3- dimensional geometry.

SUBJECT: BIOLOGY

Learning:-

Learn about the Vitamins. (their role and functions)

Assignment:

1. Explain the Mitosis and its Significance in Life.
2. Describe the various categories of classification in the animal kingdom.
3. Describe the Human Respiratory System.
4. Explain the Calvin Cycle.
5. Explain the Endocrine Glands and their functions.
6. Explain the composition of Blood.
7. Describe the Human Skeleton.
8. Explain the process of photosynthesis which includes the light and dark reactions.
9. Explain the role and functions of Plant Growth Regulators.
10. Describe the human excretory system.

Project Work:-

Make a project file on Human Hormones

(Research on different hormones from where they are synthesized and secreted in your body and their functions.)

SUBJECT: BUSINESS STUDIES

Learning:

1. Difference between street shop and street traders.
2. Various types of services which a Retailer is provided to customer and wholesaler.

Assignment:

Answer the following questions in 50-100 words-

1. What do you mean by Internal trade? Discuss different types of internal trade.
2. Distinguish between Departmental store and chain store
3. What is GST? How will GST benefit and empower citizens?
4. What are different types of retail trade? Discuss the mindetail.
5. Explain the following terms:-
a.COD b.FOB

PROJECT: Imagine that you are working as an Event manager in a reputed Event Management company. As an event manager you have to choose any occasion of your choice like marriage, kitty party, birthday celebration, etc.. Make a project file in which you have to explain your planning that how you will make arrangements for that particular function in terms of management and finance.

SUBJECT: ECONOMICS

Learning:

1. What is Law of supply? What are the various factors which effect supply of a commodity?
2. Difference between Extension and Contraction of supply?

Assignment:

Answer the following questions in 50-100 words:-

1. What do you mean by correlation?
2. Discuss the properties of correlation?
3. Discuss different methods of calculating correlation.
4. Discuss merits and demerits of correlation.
5. Write the Formulas given by Karl Pearson and Spearsman for correlation.

PROJECT:

Micro, small and medium scale industries play a significant role in generating the national income of a country?

In context with this statement make a project file and show your working by collecting the information from the economy

SUBJECT: ACCOUNTANCY

Learning:

- Q.1- Need of Accounting
- Q.2- Scope or Branches of Accounting.
- Q.3- Distinction between Accounting Standards (AS) and Ind-AS.
- Q.4- Give Fundamental accounting Equation.
- Q.5- "Every debit must have a corresponding credit." Discuss.
- Q.6- What is Double Entry System of Book-Keeping.
- Q.7- What is source document of accounting.
- Q.8- What are the types of Vouchers.
- Q.9- Name the two Central Taxes that have merged into GST.
- Q.10- Name the two State Taxes that have merged into GST.

Assignment:

- Q.1- Distinction between Tangible Assets and In tangible Assets.
- Q.2- Distinction between Trial Balance and Balance Sheet.
- Q.3- Why is closing stock valued at lower of cost or realizable value.
- Q.4- What are Outstanding Expenses?
- Q.5- What is meant by incomplete records system of Accounting?
- Q.6- What is the common objective of single Entry System and Double Entry System?
- Q.7- What is meant by rectifying entry?
- Q.8- What do you mean by Suspense Account?
- Q.9- Where will you transfer profit on sale of a fixed asset?
- Q.10- Difference between Provision and Reserve?

Project:

1. MRF Company
2. Adidas Company
3. Tata Motors Company
4. Nestle Company
5. Reliance Company
6. Nike company

SUBJECT: POLITICAL SCIENCE**Learning:**

Q.Learn and Revise Questions and Answers of Unit-5,6,7;8 chapters of (Part -A Book)

Assignment:

- 1- Which of the following are involved in the amendment of the Indian Constitution? In what way are they involved?
- 2- Which of the following is not a reasonable explanation of the conflict between the legislature and the judiciary over different amendments?
- 3- Why Fundamental Rights are important?
- 4- Who has the power to amend the Fundamental Rights?
- 5- Mention some Fundamental Duties of Indian Citizens.
- 6- Write an essay of two hundred words on the proposal to have an elected administration instead of an appointed administration.
- 7- Mention the tenure of the President of India.
- 8- How can we say that lack of education is a big obstacle to any kind of progress?
- 9- What rights of common nature have been granted to citizens by different states?
- 10- Mention the characteristics of a class struggle.

Note*:- All the Questions students will do in class political science copy

Project work:-

(To be complete in Milky Project file separately)

Students have to make project on India and the idea of secularism.

Collect pictures of secularism from different Books and paste on it ...

Also have the pages of acknowledgement, introduction, conclusion, bibliography

SUBJECT: HISTORY**Learning:**

- 1.What do you know about Wampum belts?

Assignment:

- 1.When did Britain recognize the USA as an independent country?
- 2.Mention a few sources which provide information about the history of central Islamic lands between 600-1200 CE.
- 3.Describe two features of early feudal society in France.
- 4.What was the function of medieval monasteries?
- 5.How was western European society divided?
- 6.Why was trade so significant to the Mongols?
- 7.Who were Mongols?

8.What do you mean by the 'Augustan age'?

9.What was the system to judge the behavior of Emperor in the Roman Empire?

10.How the Romans had formed their army structure?

Project Work:

Modernization in China, Japan, and Korea.

SUBJECT: GEOGRAPHY

Learning:

1. Differentiate between geomorphic processes and agents.

Assignment:

1. Describing factors that affect soil formation

2. What are the geotrophic winds?

3. Discuss the factors affecting the speed and direction of wind.

4. What are the causes behind differences in atmospheric pressure?

5. What is air mass? In how many categories are air masses categorized on the basis of their source regions?

6. What do you mean by Geostrophic wind? On what factors does their pattern depend?

7. Why is the colour of red and yellow soil red and yellow?

8. Explain the features of alluvial soils.

9. What is a continental margin?

10. What do you mean by extra tropical cyclones?

Project work:

Collect weather information over media such as newspaper, TV and radio for understanding the weather systems.

SUBJECT: ENGLISH

Learning:

Q. How Would You Describe the Step Taken by the Narrator to Voyage Along the Southern Indian Ocean Despite Knowing Its Dangers?

Assignment:

1. What is the central theme of the story "The Portrait of a Lady"? How does the author, Khushwant Singh, develop this theme throughout the story?

2. Analyze the character of the narrator in the story "We're Not Afraid to Die...". What emotions does the narrator experience throughout the story?

3. What is the significance of the title "A Photograph" in the poem? How does it relate to the theme of the poem?

4. Describe any of the one character from the story "Birth".

5. Analyze the poem "The Voice of the Rain". What message does the poet convey through this poem?

6. What is the central theme of the story "The Summer of the Beautiful White Horse"? How does the author, William Saroyan, develop this theme throughout the story?

7. Describe the character of the narrator in the story "The Address". What emotions does the narrator experience throughout the story?

8. Analyze the poem "father to son". What message does the poet convey through this poem?
9. What is the significance of the title "The Tale of Melon City" in the story? How does it relate to the theme of the story?
10. Describe the character of the old man in the story "Mother's Day". What symbolism can be inferred from his character?

Project/Survey-Based Question:

1. Conduct a survey of 10-15 people in your neighbourhood or community to gather information about their reading habits. Ask questions such as:

- What types of books do you enjoy reading?
- How often do you read?
- What motivates you to read?
- Do you prefer physical books or e-books?

Analyze the data collected and present your findings in a short report (Word limit: 200-250 words).

SUBJECT: COMPUTER

LEARNING QUESTIONS:

1.) Learn and write the all methods /functions of string , list, tuple and dictionary manipulation.

ASSIGNMENT QUESTIONS:

- 1) Write a program to check a number whether it is even or not.
- 2) Create a list of mixed numbers and find the sum of even and odd numbers.
- 3) Enter a string by user input and find the number of upper, lower and digits in that string.
- 4) Write a program to calculate the factorial of given number.
- 5) Write a code for reverse a string.
- 6) Python program to check whether the given number is prime or composite
- 7) Python code to find largest number among greatest number.
- 8) Python program to find area of triangle.
- 9) Python program to find sum of odd natural numbers till 20.
- 10) Consider the following list a = [1, 2, 3, 4, 5, 6, 7, 8, 9]
Perform the following Slicing output:-

- | | | | |
|----------------------|-------------------|--------------------|-----------------------|
| (a) print(a[1:4]) | (b)print(a[::]) | (c)print(a[:]) | (d)print(a[2:]) |
| (e)print(a[:3]) | (f)print(a[1:4]) | (g)print(a[:,2]) | (h)print(a[1:8:3]) |
| (j)print(a[-2:]) | (j)print(a[:-3]) | (k)print(a[-4:-1]) | (l) print(a[-8:-1:2]) |
| (m) print(a[:, -1]) | | | |

Project:

Develop a simple calculator in python scripting mode.

SUBJECT: HINDI

Learning:

प्रश्न 1 निम्नलिखित प्रश्नों को याद करें-

- (i) कबीर की दृष्टि में ईश्वर एक है। इसके समर्थन में उन्होंने क्या तर्क दिए हैं?
- (ii) लोकलाज खोने का अभिप्राय क्या है?
- (iii) मेरे तो गिरधर गोपाल'पद का भाव स्पष्ट कीजिये।

- (iv) पानी रातभर गिरने और प्राण-गन के घिरने में परस्पर क्या संबंध है?
- (v) कबीर ने धार्मिक गुरुओं पर क्या व्यंग्य किया है?
- (vi) 'गजल' कविता के आधार पर बताइए कि भारतीय जनता कैसी है?
- (vii) 'आओ मिलकर बचाएँ' कविता आदिवासी समाज की किन बुराइयों की ओर संकेत करती है।
- (viii) पंडित जी के मन में वंशीधर के प्रति क्या भाव आए थे?
- (ix) भारत की चर्चा नेहरू जी कब और किससे करते थे?
- (x) रजनी संपादक से क्या करने के लिए कहती है?

Assignment:

प्रश्न 2 मीरा द्वारा कृष्ण के प्रति अपने प्रेम व भक्ति को प्रकट करते हुए एक चित्र चार्ट पेपर पर बनाए तथा मीरा के दोहे भी लिखे।

Project:

प्रश्न 3 फाइल कार्य- आप के आस पास हो रहे समाज सुधार के कार्यों व उन संस्थाओं का चित्र लगाकर तथा उनके द्वारा किये गये कार्यों का विवरण करें।

SUBJECT: PHYSICAL EDUCATION

Learning :

Q. Write four lifestyle diseases which can be cure by Yoga Asanas and explain the benefits of Asanas.

Assignment:

1. How can an occupational therapist helpline child with a special needs
2. How does physical education developed the ability and capacity of an individual
3. Briefly write about special Olympics symbol and Olympic flame
4. How kinesiology is important.
5. Discuss the role of special educator in overall development of children with special needs
6. Explain in brief the amphiarthrosis joint.
7. Enlist the reasons why the practice of yoga is important for us.
8. Why does the Olympic flag have five rings
9. Explain the major objective of the khelo India programme
10. Discuss the importance of test and measurement in sports.

Project:

Perform any 5 yoga asanas, and paste the picture of yourself while doing it in your note book.

SUBJECT: APPLIED MATHEMATICS

Learning based:

Q1. Define functions and its types.

Q2. Define domain and range of real functions with five different examples.

Q3. Permutations and Combinations:

Write and solve 10 problems based on real-life scenarios involving arrangements and selections (e.g., seating arrangements, group formation).

Q4. Probability:

Solve 5 real-life problems involving dice, cards, or coin tosses.

Apply the concept of independent and dependent events.

Assignment:-

Q1. Solve ten problems based on limits

Q2. Solve ten problems based on statistics.

Q3. Solve ten problems based on logarithms.

Q4. Financial Mathematics:

Project work:

Prepare a small project on Simple Interest and Compound Interest.

Objective Questions:

Solve 20 multiple-choice questions covering the following topics:

Sets and Relations

Functions

Sequences and Series

Activity-Based Learning:

Activity1: Venn Diagram Representation

Use Venn diagrams to solve real-life problems, such as survey data (e.g., students liking Mathematics, Science, or both).

Activity2: Research on Real-Life Applications of Mathematics

#Role of mathematics in Artificial Intelligence.

#Mathematics in Stock Market Analysis.3

Students prepare a short presentation or report.

Guidelines:

1. Submit your work in a neat, organized file.
2. Use graph paper for graphical representation.
3. Include a conclusion for the research and project work.

Submission Date: 9th, 10th and 11th Jan, 2025