



ARMY PUBLIC SCHOOL BIRPUR, DEHRADUN
SUMMER HOLIDAY HOMEWORK
SESSION 2024-25
CLASS-10

MATHS-

GENERAL INSTRUCTIONS:

Do the PRACTISE WORK in a thin notebook.

Do the activities in a practical file. (interleaf)

The PROJECT work has to be done by all students individually compulsorily.

PRACTISE WORKSHEET (CH 1- REAL NUMBERS)

- 1 If the HCF of 408 and 1032 is expressible in the form $1032 \times 2 + 408 \times p$, then find the value of p.
- 2 Prove that $5 + 2\sqrt{5}$ is irrational.
- 3 In a school, the duration of a period in junior section is 40 minutes and in senior section is 1 hour: If the first bell for each section rings at 9:00 a.m., when will the two bells ring together again?
- 4 The LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then find the other number.
- 5 Given that $\sqrt{2}$ is irrational, prove that $(5 + 3\sqrt{2})$ is an irrational number.
6. Write the smallest number which is divisible by both 360 and 657.
7. CASE STUDY QUESTION: To enhance the reading skills of grade X students, the school nominates you and two of your friends to set up a class library. There are two sections- section A and section B of grade X. There are 32 students in section A and 36 students in section B?
 - (i) What is the minimum number of books you will acquire for the class library, so that they can be distributed equally among students of Section A or Section B?
 - (ii) If the product of two positive integers is equal to the product of their HCF and LCM is true then, What is the HCF (32, 36) ?
 - (iii) If p and q are positive integers such that $p = ab^2$ and $q = a^2 b$, where a,b are prime numbers, then find the LCM (p, q).

PRACTISE WORKSHEET (CH 2- POLYNOMIALS)

1. Compute the zeroes of the polynomial $4x^2 - 4x - 8$. Also, establish a relationship between the zeroes and coefficients.

2. Find the quadratic polynomial if its zeroes are $0, \sqrt{5}$.
3. How many zeros does the polynomial $(x - 3)^2 - 4$ have? Also, find its zeroes.
4. If α and β are the zeroes of a polynomial such that $\alpha + \beta = -6$ and $\alpha\beta = 5$, then find the polynomial.
5. Form a quadratic polynomial whose zeroes are $3 + \sqrt{2}$ and $3 - \sqrt{2}$.
6. α and β are zeroes of the quadratic polynomial $x^2 - 6x + y$. Find the value of 'y' if $3\alpha + 2\beta = 20$.
7. CASE STUDY QUESTION: The below picture are few natural examples of parabolic shape which is represented by a quadratic polynomial. A parabolic arch is an arch in the shape of a parabola. In structures, their curve represents an efficient method of load, and so can be found in bridges and in architecture in a variety of forms.

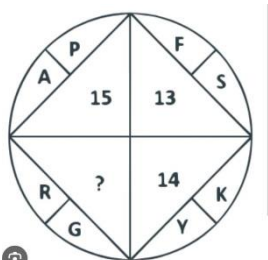


- (i) Name the shape of the graph of $x^2 + 1 = 0$.
- (ii) If α and $1/\alpha$ are the zeroes of the quadratic polynomial $2x^2 - x + 8k$, then find the value of k.
- (iii) In the standard form of quadratic polynomial, $ax^2 + bx + c$, write the product of the zeroes and sum of zeroes.

LOGICAL REASONING QUESTIONS

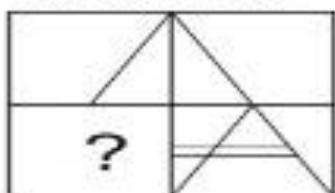
Solve the following puzzles

- (i)

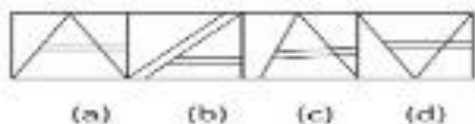


(ii)

Question Figure



Answer Figure



LEARNING BY DOING!!!

1. Prepare a working model on any topic related to your syllabus. The best models will be kept in Maths Lab.
2. Activity – (to be done in practical file -interleaf ones):
Check the consistency of any two pair of linear equations graphically.

SCIENCE-

1. Complete the following practical: (in practical file)

a) Performing and observing the following reactions and classifying them into: Combination reaction, Decomposition reaction , Displacement reaction or Double displacement reaction

(i) Action of water on quicklime

(ii) Action of heat on ferrous sulphate crystals

(iii) Iron nails kept in copper sulphate solution

(iv) Reaction between sodium sulphate and barium chloride solutions

b)Preparing a temporary mount of a leaf peel to show stomata.

c) Experimentally show that carbon dioxide is given out during respiration.

d) Determination of the focal length of:

i) Concave mirror

ii) Convex lens

by obtaining the image of a distant object.

e) Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.

2. **Make 10 mcq question (apart from textbook questions) from each chapter that are taught in class.**

3 **Do these questions in thin copy**

Q1 Giving an example list two information which make a chemical equation more useful (informative).

Q2 Consider the following chemical reaction

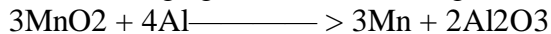
X + Barium chloride \longrightarrow Y + Sodium chloride

(White ppt)

(a) Identify 'X' and 'Y'

(b) The type of reaction

Q3. Name the reducing agent in the following reaction:



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

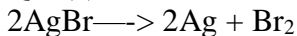
Q4 Write the chemical equation of the reaction in which the following changes have taken place with an example of each:

(i) Change in colour

(ii) Change in temperature

(iii) Formation of precipitate

Q 5 (a) Write the essential condition for the following reaction to take place:



Write one application of this reaction.

(b) Complete the following chemical equation of a chemical reaction $2\text{FeSO}_4 \longrightarrow$

(c) What happens when water is added to quick lime. Write chemical equation.

Q6 2g of ferrous sulphate crystals are heated in a dry boiling tube.

(i) List any two observations.

(ii) Name the type of chemical reaction taking place.

(iii) 'Write the chemical equation for the reaction.

Q7. (a) Define a balanced chemical equation. Why should an equation be balanced?

(b) Write the balanced chemical equation for the following reaction:

(i) Phosphorus burns in presence of chlorine to form phosphorus penta chloride.

(ii) Burning of natural gas.

(iii) The process of respiration.

Q8 (a) Explain two ways by which food industries prevent rancidity.

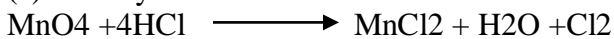
(b) Discuss the importance of decomposition reaction in metal industry with three points.

Q9. What is observed when a solution of potassium iodide solution is added to a solution of lead nitrate? Name the type of reaction. Write a balanced chemical equation to represent the above chemical reaction.

Q10 (a) Why is respiration considered as an exothermic reaction?

(b) Define the terms oxidation and reduction.

(c) Identify the substance that is oxidized and reduced in the following reaction.



Q11 Draw and label following organ systems

a) Digestive system

b) Respiratory system

c) Excretory system

Q12 Write the two laws of refraction of light .

Q13 A concave mirror produces three times magnified (enlarged) real image of an object placed at 10 cm in front of it . Where is the image located ?

Q14 Rohit focused the image of a candle flame on a white screen using a convex lens. He noted down the position of the candle , screen and lens as under :

Position of candle = 26.0 cm

Position of convex lens = 50.0 cm

Position of screen = 74.0 cm

i) What is the focal length of the convex lens?

ii) Where will the image be formed if he shifts the candle towards the lens at a position of 38 cm?

iii) Draw a ray diagram to show the formation of the image in case (ii) as said above?

Q15 Noopur needs a lens of power -4.5D for correction of her vision.

a) What kind of defect in vision is she suffering from?

b) What is the focal length and nature of the corrective lens?

c) Draw ray diagrams showing the (a) defected eye and (b) correction for this defect.

d) What are the causes of this defect?

ART INTEGRATED PROJECT

As per CBSE the integration of your state UTTARAKHAND will be done with UT PUDUCHERRY. The project should contain following points:

a) pollution level in water bodies (ganga and sea) and management of these water bodies

b) Flora and fauna c) tourism of the two states

Note: include maps, statistics, pictures, graphs etc

ENGLISH-

INSTRUCTION : Do Question 2&3 in A4 sheets / colouredpapers or in soft copy and submit the print outs in a folder to your respective English teacher.

Q1. Students have to make PPT (Power Point Presentation)on Comparative study of cuisines, costumes, historical places,music, art and festivals of Uttarakhand& Puducherry. PPT must includes 10-15 slides with audiodescription. One group includes five students. Kindly check your group given below;

Rollno

Group A- 1-5

Group B- 6-10

Group C- 11-15

Group D- 16-20

Group E - 21-25

Group F - 26-30

Group G- 31-35

Group H- 36-40

Group I- 41-45

Group J- 46-50

Note- 1 First slide includes topic “Comparative Study of Culture of Puducherry &Uttarakhand”, name of the school, session, submitted to and submitted by.

2 First slide is followed by Acknowledgement, introduction of Art integration, main content of project, conclusion and bibliography.

Q2. Make your profile by using the following hints :

- a. Name , Date of birth (also paste your Photograph)
- b. Introduction about yourself and family Your friends
- c. Your interests and hobbies
- d. Your strengths and weaknesses
- e. Your aim in life

Q3. Write about any ten Poetic devices(figures of speech) with examples which you have already read in the poems of your syllabus.

Q4.Go through all the chapters and topics that have been discussed so far in the classes.

Q5. Write some interesting articles,poeems, storiesetc. for the school magazine.

HINDI-

1. 26 जनवरी 1931 के दिन का महत्व और कलकत्ता वासियों का विशेष योगदान (आधे चार्ट पेपर में सूचनाप्रद कोलाज बनाएं)

2. दिए गए किसी एक विषय में स्वरचित कविता बनाएं। (A -4 sheet में)

जीवन

पर्यावरण

परीक्षा

स्वच्छता

खुशियां

मेरे दादा /मेरी दादी

(विषय का चुनाव स्वेच्छा से भी किया जा सकता है।)

3. अपना एक वीडियो/रिपोर्ट/सामग्री तैयार करें जो पांडिचेरी एवं उत्तराखंड के निम्नलिखित में से किसी एक विषय को दर्शाता हो।

(क) व्यंजन विधि (कोई एक, जिसमें पौष्टिकता का भी वर्णन हो)

(ख) गीत

(ग) नृत्य

(घ) वाद्य यंत्र

(ड.) हस्तकला (क्राफ्ट कार्य)

4. "ततारा - वामीरो कथा " को सचित्र ,संवाद सहित कॉमिक पुस्तक के समान बनाएं।

SOCIAL SCIENCE-

1. ART INTEGRATION ACTIVITY (Uttarakhand and Puducherry)

- ✓ Prepare colourful brochures with pictorial depictions of the **National Parks, Wildlife, Natural Vegetation and Rivers** of both the states.
- ✓ Find out recent calamities occurred in the domain of nature in Uttarakhand.
- ✓ Do this in Scrap book

2. Make a project on CONSUMER RIGHTS in project file.

- ✓ This will be assessed as Internal Projects for Boards.

3. Make a Project on the chapter **THE MAKING OF GLOBAL WORLD** and integrate it with **THE GLOBALIZATION** chapter of Economics...Do it in Project file...

4. Make 10 questions each from ***The Nationalism in Europe.*Power Sharing*Federalism*Development*Resources and Development and The making of Global world.**

ARTIFICIAL SCIENCE-

1 PROJECT:

TOPIC- AI CHATBOTS

Create a project on latest AI Chatbots that are currently working. (Any 10)

Instructions- Project should be of 4-5 A4 pages. It should consist of all relevant information along with the supported pictures. Mention School Name, Your Name, Class and Topic on first page of your project and place it in a Stick file.

2 Write the following Python Programs:

Instructions- Write all the given python programs in AI Practical File. Program output to be written with Pencil only. Practical file should be completely covered and presentable.

1 Write a Program to input Four numbers and find their sum and product.

2 Write a Program to calculate S.I. by inputting the value of Principal Amount, rate from the user and time period of 3 years.

3 Write a Program to accept Marks in 5 Subjects and calculate their average marks also.

4 Write a Program to Input a number and print its Square & Cube.

5 Write a Program to Input the age of a person and check whether a person is eligible to caste the vote or not.

6 Write a Program to Input a number and check whether a number is palindrome or not.

PALINDROME means the number= reverse of the number 313=313

7 Write a Program to Input a number and check whether the followings are Leap yeas or not.

(YEARS - 2020, 2021, 2033, 2037, 2041)

8Write a Program to check whether the number input by the user is Armstrong Number or not.

9Write a Program to take the temperature of all 7 days of the week and display the average temperature of that week.

10Write a Program to generate the following pattern.

1 1 1 1 1

2 2 2 2

3 3 3

4 4

5

INFORMATION TECHNOLOGY-

Do the following questions in a Practical File. Write the steps on the right-side page and paste the coloured printout of the output on the left page. Use *OpenOffice Writer*.

Task 1: Type a paragraph with at least 100 words and create the given styles as instructed below:

1. Heading: Font name: Times New Roman, Size: 24 , Colour: Red. Give the style name:

My_Heading (Use create style from selection command to create style)

2. Paragraph: Apply the style *Text Body* for the paragraph.

3. Quote: Font Name: Broadway, Size:16, Colour: Blue, Alignment: Center. Give the style name:

My_Quote

Task 2:Create a new document in OO Writer and type a paragraph. Insert a picture of your choice.

Adjust the picture to top left of the paragraph.

Task 3: Write your 5 strengths and 5 weaknesses.