



**ARMY PUBLIC SCHOOL BIRPUR, DEHRADUN**  
**SUMMER HOLIDAY HOMEWORK**  
**SESSION 2024-25**  
**CLASS-9**

**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 PAPER 1 (NUMBER SYSTEM)**

1. 0.33333... can be expressed as:

- (i)  $1/3$                       (ii)  $1/2$                       (iii)  $2/3$                       (iv)  $1/9$

2 The number 1.01001000100001.....is:

- (i) integer    (ii) whole number    (iii) rational number    (iv) irrational number

3 The value of ' $\pi$ ' is:

- (i) terminating                                      (ii) non-terminating  
(iii) non-terminating, recurring              (iv) non-terminating and non- recurring

4 The value of  $(9)^{3/2}$  is:

- (i) 27    (ii) 18    (iii) 9    (iv) 3

5 The sum of two rational numbers is a rational/irrational number. (T/F)

6 Examine whether  $(\sqrt{2} + \sqrt{3})^2$  is a rational or irrational number.

7 If  $x=1/2$ , then find  $[(x-3)^{1/2}]^2$

8 Rationalise:  $\sqrt{5}+\sqrt{2}$

9 Locate  $\sqrt{5}$  on the number line.

10 Simplify the following expressions:

- (i)  $(5+\sqrt{7})(\sqrt{2}+5)$                       (ii)  $(3+\sqrt{7}) \times 2$

**PRACTISE PAPER 2 ( POLYNOMIALS)**

1. The value of k, if  $(x-1)$  is a factor of  $4x^3 + 3x^2 - 4x + k$  is:

- (i)  $k= 1$                       (ii)  $k=2$                       (iii)  $k=3$                       (iv)  $k= -3$

2 Without actually calculating the cubes, find the value of  $(55)^3 - (25)^3 - (30)^3$

3 Find  $P(2)$  for the polynomial  $P(x) = x^2 - x + 2$ .

4 The zero of the polynomial  $2x + 5$  is \_\_\_\_\_.

5 What is the degree of the polynomial  $x^3 + x^7 + x^4 - x + 6$ .

6 Which one of following is a cubic polynomial:

- (i)  $20x + 1$  (ii)  $x$  (iii)  $3x^2 + 10x + 1$  (iv)  $2 + 6x^3$

7 Find the remainder when  $x^3 - ax^2 + 6x - a$  is divided by  $x - a$ .

8 Give two examples each of (i) monomial (ii) quadratic polynomial

9 Factorise:  $3 - 12[(a-b)]^2$

10 Factorise:  $4[(x+y)]^2 - 28(x^2 - y^2) + 49[(x-y)]^2$

Can you think like a teacher?

**Prepare 1 question bank each of chapter 1 and 2** with following specifications:

6 MCQs

5 questions of 2 marks

5 questions of 3 marks

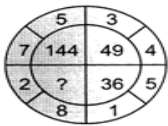
3 questions of 5 marks (including 1 HOTS)

1 case study with 4 sub parts

## LOGICAL REASONING QUESTIONS

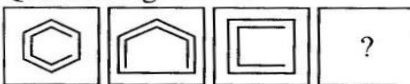
Identify the missing number in both the figures and complete it.

(i)



(ii)

Question Figures



Answer Figures



(A)

(B)

(C)

(D)

## LEARNING BY DOING!!!

Prepare a working model on any topic related to your syllabus. The best models will be kept in Maths Lab.

Lab Activity – Do 2 lab activities each from ch 1 and ch2 ( to be done in practical file -interleaf ones)

Prepare a formula chart ( Ch 1 and Ch 2 together)

## SCIENCE-

1. Write the following experiments in your practical file.

(i) Determination of the melting point of ice and the boiling point of water.

(ii) Preparation of stained temporary mounts of (a) onion peel, (b) human cheek cells & to record observations and draw their labelled diagrams.

(iii) Identification of Parenchyma, Collenchyma and Sclerenchyma tissues in plants, striped, smooth and cardiac muscle fibers and nerve cells in animals, from prepared slides. Draw their labelled diagrams.

2. Practise work to be done in a thin notebook

(i) Ch1 – Matter in our surrounding

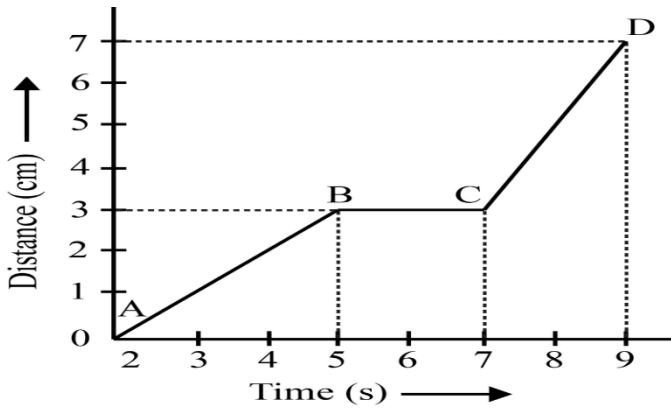
- Why does the temperature of a substance remain constant during its melting point or boiling point?
- EVAPORATION CAUSES COOLING'' in the light of this statement write down five examples from daily life that proves the statement.
- Write a short note on – Plasma & Bose-Einstein condensate.
- Define the following terms- diffusion, melting, freezing, condensation, boiling, evaporation & latent heat.

(ii) Ch-5 The fundamental unit of life

- Write the functions of various cell organelles.
- What will happen to the cells of onion peel and RBC if kept in – hypotonic, isotonic & hypertonic solutions.

(iii) Ch- Motion

- Define the following- Displacement, speed, velocity, uniform motion, non-uniform motion acceleration, retardation, uniform acceleration and non-uniform acceleration.
- A cyclist goes around the circular track once every two minutes. If the radius of the circular track is 105m. Calculate his speed. ( $\pi = 22/7$ ).
- A scooter moving at a speed of 10m/s is stopped by applying brakes which produce a uniform acceleration of  $-0.5\text{m/s}^2$ . How much distance will be covered by the scooter before it stops?
- The distance between Delhi and Agra is 200km. A train travels the first 100 km at a speed of 50 km/h. How fast must the train travel the next 100 km so as to average 70 km/h for the whole journey?
- The graph given alongside shows the positions of a body at different times. Calculate the speed of the body as it moves from :



- (a) A to B,
- (b) B to C, and
- (c) C to D.

3. Make a working model of Nerve cell.

Art integrated project.

Collect information about Uttarakhand and Puducherry on following topic  
Type of soil and the crops grown. Animal rearing done by the people there

**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 include 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,poems, storiesetc. for the school magazine.**

**HINDI- 1) विद्यालय की वार्षिक पत्रिका हेतु स्वरचित कविता, कहानी अथवा लेख लिखें।**

2) सड़क किनारे, फुटपाथ पर बैठने वाले लोग अथवा फेरी वालों का साक्षात्कार कीजिए। उनके जीवनयापन में आने वाली परेशानियों तथा समाज में उनके प्रति दृष्टिकोण का पता लगाइए। उस पर आधारित एक सचित्र रिपोर्ट तैयार कीजिए।

3) अवकाश के दौरान आपने क्या नया सीखा अथवा कौन-से नए स्थान का अनुभव प्राप्त किया? उस पर आधारित अनुच्छेद लिखिए तथा उसका शीर्षक भी लिखिए।

4) करवाया गया समस्त पाठ्यक्रम नियत कालिक परीक्षा 1 हेतु याद करें।  
नोट – प्रश्न संख्या 1, 2, 3 ए 4 शीट पर करके फाइल में लगाएं।

**SOCIAL SCIENCE-**

**1. ART INTEGRATION ACTIVITY (Uttarakhand and Puducherry)**

- ✓ **Wildlife sanctuary of Uttarakhand and Puducherry.**
- ✓ Prepare colourful brochures with pictorial depictions of the wildlife of both the states.
- ✓ Do this in Scrap book

**2. Make a project on ANY ONE of the following disaster management topics. Meaning of disaster and mitigation measures of disaster. It should be supported by photographs and paper cutting of affected areas. (Multiple Assessment Activity -05 Marks)**

- (a) Tsunami
- (b) Cyclone
- (c) Flood
- (d) Landslide

- ✓ Mention what disaster can occur in Uttarakhand, their reason and prevention measures.
- ✓ Do this in Scrap Book

**3. Make and write ten questions and answers(one word or one sentence answer) from History CH1, Geography CH1&2, and Civics CH1.**

✓ **Do this in your fairnotebook**

**4. On the map of France, locate the following:**

- Paris
  - Nantes
  - Bordeaux
  - Marseilles
- ✓ Do in your fair notebook

## **ARTIFICIAL SCIENCE-**

1. PROJECT:

**TOPIC- REAL TIME TRANSLATORS**

**Create a project on Latest Real Time Translators that are in used now a days. (any 5)**

**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.

1. **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 three numbers and find their sum.
2. Write a Program to input four numbers and find their product.
3. Write a Program to calculate S.I. by inputting the value of Principal Amount, rate from the user and time period of 4 years.
4. Write a Program to accept Marks in 5 Subjects and calculate their average marks also.
5. Write a Program to Input a number and print its Square.
6. Write a Program to Input a number and print its Cube.
7. Write a Program to Input a number and check whether it is even or odd.
8. Write a Program to Input the age of a person and check whether a person is eligible to caste the vote or not.
9. Write a Program to Input a number and check whether it is positive or negative.
10. Write a Program to print numbers from 1-10 using range function.

## **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: Create a poster for air pollution in Open Office Writer with the following features:

- a. Font face
- b. Font size
- c. Font colour

d. Header and footer

e. Images

TASK 2: Create an article on “French Revolution” with 200-250 words using maximum features of open office – writer software.

TASK 3: Create a well formatted time table of your class.

TASK 4: Create a question paper of 15 marks on the topic Introduction to IT/ITes Industry. Take reference from your I.T book.

TASK 5: Design a certificate for an Inter-house Debate Competition in OpenOffice Writer, including title, recipient's name, house name, date, signatures of the Principal and the CCA Incharge.