

## WINTER HOLIDAY HOMEWORK

### CLASS IX

#### **ENGLISH**

1. Description of a person- Write the description of the cyclist ' BausahebBawar' who visited your school and gave a motivational speech.
2. Create a collage using pictures of your career goals and write two sentences about each.
3. Pick any five modals and write sentences using them in everyday situations.

**(The work to be done in fair notebooks)**

#### **HINDI**

भारतीय त्योहारों का ऐतिहासिक,

सामाजिक व वैज्ञानिक महत्व विषय पर प्रकाश डालते हुए किसी एक त्योहार के विषय में लिखिए। साथ ही आप भारत के जिस सराज्य के रहने वाले हैं वहाँ पर वह त्योहार कैसे मनाया जाता है तथा उस त्योहार की तैयारी में आप अपना योगदान किस प्रकार देते हैं? घर की साज- सज्जा के लिए आप माता- पिता की किस प्रकार से मदद करते हैं व क्या-

क्या पकवान घर में बनाए जाते हैं?

आपको कैसी अनुभूति होती है? अपने विचार लिखिए। त्योहार का वर्णन सचित्र हिन्दी की उत्तर पुस्तिका में लिखिए।

#### **BIOLOGY**

1. Thorough reading and notes making of chapter "Improvement in Food Resources"
2. 🌍 Dive into the wonders of our planet by thoroughly exploring the chapter on Natural Resources. Choose and craft a compelling write-up \*on **one** of these intriguing topics:\*

☞  Option A: The Triple Threat - Pollution

Explore air, water, and soil pollution. Discuss causes, effects, and solutions with vivid examples and thoughtful reflections.

☞  Option B: Earth's Atmospheric

Challenges Investigate acid rain, the greenhouse effect, and ozone depletion. Discuss their interconnectedness, environmental impact, and mitigation strategies.

☞  Option C: The Elemental Cycle

Unravel the role of Carbon, Nitrogen, or Oxygen in sustaining life. Explain their cycles, significance, and human impact on their balance.

**(Write up to be prepared on A4 Sheets and submitted without any plastic folder) ✨🌟**

#### **PHYSICS**

Solve 10 numerical questions of NCERT exemplars from each chapter (Motion, Force and laws of motion, Gravitation, Work and Pressure) .

**(Do the work in fair notebook)**



## CHEMISTRY

Make a 3 D model of atom

Revise topics discussed of ch 3

## SOCIAL SCIENCES

1. Prepare a project on NATURAL DISASTERS IN INDIA in 2024 and suggest measures to prevent it.

**(Do it in A4 sheets and submit without any plastic folder, paste relevant pictures, maps & newsclips. It should be 5 to 6 pages)**

2. Mention all forest laws introduced by British. (Refer ch: Forest Society and Colonial Rule)

3. On the map of India mark the regions of different pastoral communities of India ( Refer Pastoral Communities in India)

4. Find out the latitudinal and longitudinal extent of your city

5. Make a map of your school

**( Do 2, 4 and 5 Activities in your fair notebooks. Paste Activity 3 map in the notebook)**

## MATHS

**INSTRUCTIONS : You have to solve following 20 revision sum and 6 activities from Lab Manual.**

1. If the polynomial  $az^3 + 4z^2 + 3z - 4$  and  $z^3 - 4z + a$  leave the same remainder when divided by  $z - 3$  find the value of  $a$ .

2. Factorise  $x^3 + 3x^2y + 3xy^2 + y^3 - 8$ .

3. The perimeter of a triangle is 50 cm. one side of a triangle is 4 cm longer than the smaller side and the third side 6 cm less than twice the smaller side. find the area of the triangle.

4. In a parallelogram ABCD, E and F are the mid-points of sides AB and CD respectively. show that AF and EC trisect the diagonal BD.

5. AB and AC are two chords of a circle of radius  $r$  such that  $AB = 2AC$ . if  $p$  and  $q$  are the distances of AB and AC from the centre. prove that  $4q^2 = p^2 + 3q^2$ .

6. If a chord of a circle is at a distance of 8 cm from the centre of a circle of radius 17 cm then find the length of the chord.

7. Locate  $\sqrt{10}$  on the number line.

8. By actual division find the quotient and remainder when  $3x^4 - 4x^3 - 3x - 1$  is divided by  $x + 1$ .

9. Factorise  $\frac{25}{4}x^2 - \frac{y^2}{9}$ .

10. Evaluate by using suitable identity a)  $(99)^3$  b)  $(104)^3$  c)  $105 \times 108$  d)  $96 \times 104$  e)  $(998)^2$  f)  $104 \times 95$


11. Factorise  $5\sqrt{5}x^2 + 30x + 8\sqrt{5}$ .

12. Factorise  $2x^3 - 3x^2 - 17x + 30$ .

13. Find three solutions of linear equation  $x = y$ .

14. PA is the bisector of  $\angle QPR$  and PM is perpendicular to QR. prove that  $\angle APM = \frac{1}{2}(\angle Q - \angle R)$

15. O is the centre of a circle of radius  $r$  cm, OP and OQ are perpendicular to AB and CD respectively and  $PQ = 1$  cm. if AB is parallel to CD,  $AB = 6$  cm and  $CD = 8$  cm, determine  $r$ .



16. A metal pipe is 77 cm long. The inner diameter of a cross section is 4 cm. The outer diameter being 4.4 cm. Find its a) inner curved surface area b) outer curved surface area c) total surface area d) volume of metal used in making pipe.

Q17. The sides of a triangle are 11 m, 60 m and 61 m. Find the altitude to the smallest side.

Q18. A triangular park ABC has sides 120 m, 80 m and 50 m. A gardener Dhanika has to put a fence all around it and also plant grass inside. How much area does she need to plant? Find the cost of fencing it with barbed wire at the rate of Rs 20 per metre leaving a space 3 m wide for a gate on one side.

Q19. Find the area of the quadrilateral ABCD in which  $AB=7\text{cm}$ ,  $BC=6\text{cm}$ ,  $CD=12\text{cm}$ ,  $DA=15\text{cm}$  and  $AC=9\text{cm}$ .

Q20. Find the area of the triangle formed by the points  $A(2,0)$ ,  $B(6,0)$  and  $C(4,6)$ .

### LAB MANUAL ACTIVITIES

NOTE : YOU HAVE TO COMPLETE 6 ACTIVITIES ON PRACTICAL NOTEBOOK (REGISTER SIZE ONE SIDED BLANK). ACTIVITIES NUMBERS AND TOPICS ARE MENTIONED FOLLOWING.

ACTIVITY NO 7 : Mid-POINT THEOREM.

ACTIVITY NO 10 : ANGLES SUBTENDED BY AN ARC OF A CIRCLE AT ITS CENTRE AND AT ANY POINT ON THE REMAINING PART OF THE CIRCLE.

ACTIVITY NO 11 : ANGLES IN THE SAME SEGMENT OF A CIRCLE.

ACTIVITY NO 13 : OPPOSITE ANGLES OF A CYCLIC QUADRILATERAL.

ACTIVITY NO 16 : AREA OF A TRIANGLE.

ACTIVITY NO 17 : AREA OF A RHOMBUS.