SRI RAM KRISHAN DAV PUBLIC SCHOOL,SURIYA(GIRIDIH)

DIWALI AND CHHATH PUJA HOLIDAY HOME WORK

SESSION(2026-27)

CLASS-X

ENGLISH

Prepare Portfolio as per the given information in PDF sent to the group**. (Take out print out of the PDF)**

SCIENCE (PHYSICS)

Solve NCERT Exemplar questions from Magnetic Effects of Electric Current.

SCIENCE (BIOLOGY)

Solve NCERT Exemplar questions from Heredity.

SCIENCE(CHEMISTRY)

Chapter-4- Write any 20 Compounds formed by Carbon. Also draw it's structural formula, Molecular formula and Electronic dot structure in your notebook.

MATHEMATICS

Case-Based Question 1

Mr. RK Agrawal is the owner of a famous amusement park in Delhi. The ticket charge for the park is ₹150 for children and ₹400 for adults.

Generally, he does not go to the park and it is managed by a team of staff. One day Mr. Agrawal decided to randomly check the park and went there. When he checked the cash counter, he found that 480 tickets were sold and ₹1,34,500 was collected.

(i) Let the number of children who visited the park be x and the number of adults who visited be y. What is the pair of equations that models the problem?

(ii) How many children visited the park?

OR

How much money would have been collected if 300 children and 350 adults had visited the park?

(iii) How much more or less would have been collected if the price of the ticket for children and adults had been ₹200 and ₹300 respectively?

Case-Based Question 2

Two schools ‘P’ and ‘Q’ decided to award prizes to their students for two games of Hockey (₹x per student) and Cricket (₹y per student). School ‘P’ decided to award a total of ₹9,500 for the two games to 5 and 4 students respectively, while school ‘Q’ decided to award ₹7,370 for the two games to 4 and 3 students respectively.

Based on the above information, answer the following questions:

(i) Represent the following information algebraically (in terms of x and y).

(ii) What is the prize amount for hockey?

OR

Prize amount on which game is more and by how much?

(iii) What will be the total prize amount if there are 2 students each from two games?

Case-Based Question 3

A test consists of 'True' or 'False' questions. One mark is awarded for every correct answer while 1/4 mark is deducted for every wrong answer. A student knew answers to some of the questions. Rest of the questions he attempted by guessing. He answered 120 questions and got 90 marks.

Based on the given information, answer the following questions:

(i) If answers to all the questions he attempted by guessing were wrong, then how many questions did he answer correctly?

(ii) If answers to all the questions attempted by guessing were wrong and he answered 80 correctly, then how many marks did he get?

(iii) If answers to all the questions attempted by guessing were wrong, then how many questions did he answer correctly to score 95 marks?

OR

If answers to all the questions attempted by guessing were wrong, then how many questions did he answer incorrectly to score 110 marks?

Students are required to complete the following five activities in their Mathematics Lab Manual.

Activity 1: Relationship Between Zeroes and Coefficients of a Quadratic Polynomial

Aim: To verify the relationship between the zeroes and coefficients of a quadratic polynomial.

Materials Required: Graph paper, pencil, ruler and eraser.

Theory:

For a quadratic polynomial $ax^2 + bx + c$, if its zeroes are α and β, then:

$\alpha + \beta = -b/a$

$\alpha\beta = c/a$

Procedure:

1. Take the polynomial $p(x) = x^2 - 5x + 6$.

2. Find its zeroes by factorisation.

3. Write the values of α and β.

4. Calculate their sum and product.

5. Compare the results with the coefficients.

Observation:

$x^2 - 5x + 6 = (x - 2)(x - 3)$

Zeroes: $\alpha = 2, \beta = 3$

$\alpha + \beta = 2 + 3 = 5$

$\alpha\beta = 2 \times 3 = 6$

Result: The relationship between the zeroes and coefficients is verified.

Activity 2: Basic Proportionality Theorem (BPT)

Aim: To verify the Basic Proportionality Theorem.

Materials Required: White paper, pencil, ruler, compass and set square.

Theory:

If a line is drawn parallel to one side of a triangle, intersecting the other two sides at distinct points, then it divides those two sides in the same ratio.

AD/DB = AE/EC

Procedure:

1. Draw a triangle ABC.

2. Mark a point D on AB and a point E on AC.

3. Draw DE parallel to BC.

4. Measure AD, DB, AE and EC.

5. Calculate the ratios AD/DB and AE/EC.

6. Compare both ratios.

Observation: AD/DB = AE/EC

Result: The Basic Proportionality Theorem is verified.

Activity 3: Equal Tangents from an External Point

Aim: To verify that the lengths of tangents drawn from an external point to a circle are equal.

Materials Required: Compass, ruler, pencil, paper and geometry box.

Theory: The lengths of two tangents drawn from an external point to a circle are equal.

PA = PB

Procedure:

1. Draw a circle with centre O.

2. Mark a point P outside the circle.

3. Draw two tangents PA and PB to the circle.

4. Measure the lengths PA and PB using a ruler.

5. Compare both lengths.

Observation: PA = PB

Result: The lengths of tangents drawn from an external point to a circle are equal.

Activity 4: Opposite Angles of a Cyclic Quadrilateral

Aim: To verify that the opposite angles of a cyclic quadrilateral are supplementary.

Materials Required: Compass, ruler, pencil, paper and protractor.

Theory: The opposite angles of a cyclic quadrilateral are supplementary.

$\angle A + \angle C = 180°$

$\angle B + \angle D = 180°$

Procedure:

1. Draw a circle with the help of a compass.

2. Mark four points A, B, C and D on its circumference.

3. Join the points to form a cyclic quadrilateral ABCD.

4. Measure all four angles using a protractor.

5. Find the sum of the opposite angles.

Observation: $\angle A + \angle C = 180°$ and $\angle B + \angle D = 180°$.

Result: The opposite angles of a cyclic quadrilateral are supplementary.

Activity 5: Distance Formula

Aim: To verify the distance formula between two points in a coordinate plane.

Materials Required: Graph paper, pencil, ruler and eraser.

Theory:

The distance between $A(x_1, y_1)$ and $B(x_2, y_2)$ is:

$AB = \sqrt{[(x_2 - x_1)^2 + (y_2 - y_1)^2]}$

Procedure:

1. Draw the coordinate axes on graph paper.

2. Plot two points A(2, 3) and B(6, 6).

3. Join A and B.

4. Measure the horizontal and vertical distances.

5. Calculate the distance using the distance formula.

6. Compare the measured and calculated distances.

Observation:

$AB = \sqrt{[(6 - 2)^2 + (6 - 3)^2]}$

$= \sqrt{(16 + 9)}$

$= \sqrt{25} = 5$ units

Result: The distance formula is verified.

GENERAL INSTRUCTIONS

1. Complete all five activities in the Mathematics Lab Manual.

2. Write each activity neatly and systematically.

3. Write the following details for every activity: Activity Number and Title, Aim, Materials Required, Theory, Procedure, Observation, Result and Diagram/Figure (where required).

4. Draw all diagrams neatly using a pencil and ruler.

5. Use proper mathematical symbols and formulae.

6. Show all necessary calculations.

7. Maintain proper spacing and cleanliness.

8. Write the questions and answers wherever given in the activity.

9. Complete the work in your own handwriting.

10. Bring the completed Mathematics Lab Manual to school.

Note: These five activities are prepared for practice and are based on Class 10 Mathematics topics. They are not claimed to be verbatim reproductions of five activities from the official NCERT Laboratory Manual.

SOCIAL SCIENCE

Complete the prescribed Social Science Lab Manual in full. Ensure that all assigned activities are completed neatly and systematically.

HINDI

(१) ' मतदान एक अनिवार्य कर्तव्य है ' इस विषय पर चुनाव आयोग की ओर से एक आकर्षक विज्ञापन तैयार कीजिए।

(२) ' जल संरक्षण' के प्रति लोगों को जागरूक करने तथा ' वर्षा जल संचयन ' अपनाने के लिए लगभग 80 शब्दों में एक विज्ञापन तैयार कीजिए।

(३) राज स्तरीय विज्ञान प्रदर्शनी में प्रथम आने पर अपनी बड़ी बहन को बधाई पत्र लिखिए ।

(४) दीपावली की बधाई देते हुए एक शुभकामना संदेश लिखिए।

(५) दो औपचारिक तथा दो अनौपचारिक पत्र लिखें।

(६) निम्नलिखित विषय पर 80 से 100 शब्दों में एक अनुच्छेद लिखिए ।

(क) कृत्रिम बुद्धिमत्ता (ए.आई) एक वरदान या अभिशाप (ख) विज्ञापन की बढ़ती लोकप्रियता