

J.R.M. INTERNATIONAL SCHOOL

Achhnera Road, Sahai, Bichpuri, Agra

Session 2026-27

Holiday Homework

Class – 10th A

1. हिन्दी –

प्रश्न 1. हिन्दी साहित्य के सुप्रसिद्ध दो कवियों तथा दो कवयित्रियों का जीवन परिचय व रचनाओं का सचित्र काल के पाँच प्रसिद्ध कवियों का जीवन परिचय व रचनाओं का सचित्र वर्णन कीजिए।

प्रश्न 2. हिन्दी भाषा में लिखे गये एक महान ग्रंथ पर एक लेख लिखिए तथा आवश्यकतानुसार सम्बन्धित चित्रों का भी प्रयोग कीजिए।

प्रश्न 3. निम्नलिखित विषयों में से किसी एक विषय पर अनुच्छेद लगभग 120 शब्दों में लिखिए।

क) शिक्षक कुशल कुम्हार (अनुक्रमांक 01 से 10 तक)

ख) रिश्तों की अहमियत (अनुक्रमांक 11 से 20 तक)

ग) आत्म निर्भर भारत (अनुक्रमांक 21 से 30 तक)

घ) भारतीय आधुनिक नारी की चुनौतियाँ (अनुक्रमांक 31 से 40 तक)

प्रश्न 4. कोई एक शिक्षाप्रद लघुकथा लिखिए। जिसके अन्त में वह शिक्षा दर्शित की गयी हो।

नोट: समस्त कार्य प्रोजेक्ट फाइल में स्वच्छ व सुन्दर लेख में कीजिए।

2. English:

Literature –

Write a biographical sketch of Nelson Mandela or another freedom fighter, highlighting their journey.

Language –

Project file work:

1. Write articles in about 250 words on the topics

- Save Girl Child
- Healthy Life Style

2. Write the keynotes of poster making and also make posters on –

- Save Environment
- Importance of Education

3. Make a formal of formal letters and write letters to the editors on the problem of –

- Attack on lonely aged person
- Addition of Mobile Phones in Youngsters

3. Mathematics:

1. If one zero of the quadratic polynomial x^2+3x+k is 2, then the value of k is
(A) 10 (B) -10 (C) 5 (D) -5
2. If one of the zeroes of the quadratic polynomial $(k-1)x^2+kx+1$ is -3, then the value of k is
(A) 4/3 (B) -4/3 (C) 2/3 (D) -2
3. If the zeroes of the quadratic polynomial $x^2+(a+1)x+b$ are 2 and -3, then
(A) $a=-7, b=-1$ (B) $a=5, b=-1$ (C) $a=2, b=-6$ (D) $a=0, b=-6$
- 1 The zeroes of the quadratic polynomial $x^2+99x+127$ are
(A) both positive (B) both negative (C) one positive & one negative (D) None
- 2 A quadratic polynomial, whose zeroes are -3 and 4, is
(A) x^2-x+12 (B) x^2+x+12 (C) $2x^2+2x-24$ (D) None
- 3 The pair of equations $5x-15y=8$ and $3x-9y=24/5$ has
(A) one solution (B) two solutions (C) infinitely many solutions (D) no solution
- 4 The pair of equations $x+2y+5=0$ and $-3x-6y+1=0$ have
(A) a unique solution (B) exactly two solutions (C) infinitely many solutions (D) no solution
8. If a pair of linear equations is inconsistent, then the lines will be
(A) parallel (B) always coincident (C) intersecting or coincident (D) always intersecting
9. The pair of equations $xy=0$ and $y=-7$ has
(A) one solution (B) two solutions (C) infinitely many solutions (D) no solution
10. The pair of equations $ax=a$ and $y=b$ graphically represents lines which are
(A) parallel (B) intersecting at (b,a) (C) coincident (D) intersecting at (a,b)
- 11 Which of the following equations has 2 as a root?
(A) $x^2-4x+5=0$ (B) $x^2+3x-12=0$ (C) $2x^2-7x+6=0$ (D) None
- 12 If $1/2$ is a root of the equation $x^2+kx-5/4=0$, then the value of k is
(A) 2 (B) -2 (C) $1/4$ (D) $1/2$
- 13 Values of k for which the quadratic equation $2x^2-kx+k=0$ has equal roots is
(A) 0 only (B) 4 (C) 8 only (D) 0, 8
- 14 The quadratic equation $2x^2-5x+1=0$ has
(A) two distinct real roots (B) two equal real roots (C) no real roots (D) None
- 15 If the quadratic equation $x^2-x+1=0$ represents the shape of a headlight of a car then the nature of roots is
(A) two distinct real (B) two equal real (C) no real roots (D) None




SECTION B

Find a quadratic polynomial whose sum and product of zeroes are $\sqrt{2}$ and 3 respectively.

- 1) Find the zeroes of the polynomial $mx^2 + (m+n)x + n$.
- 2) If m and n are zeroes of the polynomial $3x^2 + 11x - 4$, find the value of $\frac{m}{n} + \frac{n}{m}$.
- 3) Find the sum and product of zeroes of $p(x) = 2(x^2 - 3) + x$.
- 4) Find a quadratic polynomial, the sum of whose zeroes is 4 and one zero is 5.
- 5) If α and β are the zeroes of $2x^2 + 5(x - 2)$, then find the product of α and β .
- 6) Find a quadratic polynomial, the sum and product of whose zeroes are 5 and 3 respectively.
- 7) Solve the following system of linear equations graphically: $2x - 3y - 17 = 0$; $4x + y - 13 = 0$. Shade the region bounded by the above lines and x-axis.
- 8) Solve the following system of linear equations graphically: $2x + 3y = 4$; $3x - y = 5$. Shade the region bounded by the above lines and y-axis.
- 9) The difference between two numbers is 14 and the difference between their squares is 448, then find the numbers.
- 10) Sum of two numbers is 50 and their difference is 10, then find the numbers.
- 11) The sum of the digits of a two digit number is 9. If 27 is added to it, the digits of the numbers get reversed. Find the number.
- 12) The sum of a two-digit number and the number formed by interchanging its digits is 110. If 10 is subtracted from the original number, the new number is 4 more than 5 times the sum of the digits of the original number. Find the original number.
- 13) If twice the son's age in years is added to the mother's age, the sum is 70 years. But if twice the mother's age is added to the son's age, the sum is 95 years. Find the age of the mother and her son.
- 14) Find the value of k for which the quadratic equation $(k - 12)x^2 + 2(k - 12)x + 2 = 0$ has two real equal roots..
- 15) Find the value of k for which the quadratic equation $k^2x^2 - 2(k - 1)x + 4 = 0$ has two real equal roots..
- 16) If the roots of the equation $(a - b)x^2 + (b - c)x + (c - a) = 0$ are equal, prove that $b + c = 2a$.
- 17) The sum of the squares of the two positive integers is 208. If the square of the larger number is 18 times the smaller number, find the numbers.
- 18) Two numbers differ by 3 and their product is 504. Find the numbers.
- 19) Seven years ago Varun's age was five times the square of Swati's age. Three years hence Swati's age will be two-fifths of Varun's age. Find their present ages.
- 20) The product of Rohit's age five years ago with his age 9 years later is 15 in years. Find his present age.
- 21) The product of Archana's age five years ago with her age 8 years later is 30 in years. Find her present age.
- 22) The speed of a boat in still water is 8 km/hr. It can go 15 km upstream and 22 km downstream in 5 hours. Find the speed of the stream.

- 23) In a flight for 6000 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 400 km/hr and consequently time of flight increased by 30 minutes. Find the original duration of flight.

Casestudy

<p>1. A passenger train takes 2 hours less for a journey of 300 km if its speed is increased by 5 km/hr from its usual speed. Find its usual speed.</p>	
<p>2. If two pipes function simultaneously, a reservoir will be filled in 12 hours. One pipe fills the reservoir 10 hours faster than the other. How many hours will the second pipe take to fill the reservoir?</p>	
<p>3. A man's age is three times the sum of the ages of his two sons. After 5 years his age will be twice the sum of the ages of his two sons. Find the age of the man.</p>	

**PAIR OF LINEAR EQUATIONS IN TWO VARIABLES
ASSIGNMENT – 3(A)
SUBJECTIVE**

- Solve for x and y:

$$148x + 231y = 527$$

$$231x + 148y = 610$$
- For what values of k will the system of equations have infinitely many solutions?

2015]

[CBSE

$$kx + 3y = k - 3 \quad 12x + ky = k$$

- Solve for x and y:

$$2^x + 3^y = 17$$

$$2^{x+2} - 3^{y+1} = 5$$

4. Solve the following equations using the method of cross multiplication:

[CBSE

2016]

$$\begin{array}{r} x \quad y \\ -+ \quad - = 2 \\ a \quad b \end{array}$$

$$ax - by = a^2 - b^2.$$

5. Find the values of k for which the following system of equations is inconsistent

[CBSE

2014]

$$\begin{array}{l} (3k+1)x + 3y = 2 \\ (k^2+1)x + (k-2)y - 5 = 0 \end{array}$$

6. It takes 12 hours to fill a swimming pool using two pipes. If the pipe of larger diameter is used for 4 hours and the pipe of smaller diameter for 9 hours, only half the pool can be filled. How long would it take for each pipe to fill the pool separately?

7. The sum of a two digit number and the number formed by reversing its digits is 110. If 10 is subtracted from the number, the new number is 4 more than 5 times the sum of the digits in the original number. Find the number.

[CBS

E 2017]

8. Susan invested certain amount of money in two schemes A and B, which offer interest at the rate of 8% per annum and 9% per annum, respectively. She received ₹1860 as annual interest. However, had she interchanged the amount of investments in the two schemes, she would have received ₹20 more as annual interest. How much money did she invest in each scheme?

[HOTS]

9. X takes 3 hours more than Y to walk 30 km. But, if X doubles his speed, he is ahead of Y by 1.5 hours. Find their speed of walking.

[HOTS

10. In a function if 10 guests are sent from room A to B, the number of guests in room A and B are same. If 20 guests are sent from B to A, the number of guests in A is double the number of guests in B. Find number of guests in both the rooms in the beginning.

11. A vessel contains a mixture of 24 litres milk and 6 litres water and second vessel contains a mixture of 15 litres milk and 10 litres water. How much mixture of milk and water should be taken from the first and the second vessel separately and kept in a third vessel so that the third vessel may contain a mixture of 25 litres milk and 10 litres water.

12. A shopkeeper sells a shirt at 8% profit and a sweater at 10% discount, thereby, getting a sum ₹1008. If she had sold the shirt at 10% profit and the sweater at 8% discount, she would have got ₹1028. Find the cost price of the shirt and the list price (price before discount) of the sweater.

13. Solve graphically:

$$2x + y = 6$$

$$2x - y + 2 = 0$$

Find the ratio of the area of two triangles formed by the lines representing these equations with the x -axis and the lines with the line $x=0$.

14. Draw the graphs of the following equations:

$$2x + y = 2; 2x + y = 6.$$

15. Draw the graphs of the equations: $-x + 3y = 6$; $2x - 3y = 12$ and hence find the area of the triangle formed by these lines with Y-axis.
16. Show graphically that the pair of linear equations **[CBSE 2014]**
 $2x - 2y - 2 = 0$
 $4x - 4y - 10 = 0$ is inconsistent.
17. A and B are friends and their ages differ by 2 years. A's father is twice as old as A and B is twice as old as his sister C. The age of D and C differ by 40 years. Find the ages of A and B.
18. A boat covers 32 km up stream and 36 km down stream in 7 hours. Also, it covers 40 km up stream and 48 km down stream in 9 hours. Find the speed of the boat in still water and that of the stream. **[CBSE 2010, 2012]**
19. A lab assistant has a solution of 50% acid and the other one having 25% acid. How much of each should be mixed to make 10 litres of 40% acid solution?
20. Vijay had some sweets. He divided them into two lots A and B. He sold the first lot at the rate of ₹ 2 for 3 sweets and the second lot at ₹ 1 per sweet and thus received a total of ₹ 400. Had he sold the first lot at the rate of ₹ 1 per sweet and the second lot at ₹ 4 for 5 sweets, his total collection would have been ₹ 460. Find the total number of sweets he had.

4. Science:

First Part – Biology

Topic – Heredity and Evolution

Introduction –

- To prepare a port folio.
- Content : Should show your undertaking of concepts, experiments, activities and application in daily life.
- Originality: Your own work, no copy-paste from Google.
- Organization – Neat, Sequential, labeled.
- Evidence of learning – Include reflections, improvements and challenges faced.

How to structure it?

- | | | |
|--------------------|-----------------|-------------------------|
| 1. Cover page | 2. Index | 3. Statement of purpose |
| 4. Acknowledge | 5. Certificate | 6. Introduction |
| 7. Project content | 8. Bibliography | 9. Teacher remark paper |

Second Part – Chemistry

Topic : - Periodic Classification of the element.

Introduction –

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Third Part – Physics

Topic : - Electric effect of electric current.

Introduction –

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5. Information Technology:

Make a project file on database management system.

6. Social Science:

Introduction:- Prepare a project file on any one of the following topics.

Topic covered in project

Consumer rights – Role of consumer protection act (COPRA), consumer awareness, consumer courts, role of NGOs.

OR

Social issues – Gender inequality, caste discrimination, challenges to democracies, cyber security.

OR

Sustainable development – Resources management, water conservation methods, renewable energy initiatives.

OR

Environmental impact

6. Physical Activity Trainer –

- **Project:** Proficiency in games and sports skill of any one Indian cultured sports / game like – Kho-Kho, Kabaddi etc of choice.
- **Prepare First AID box.**