

ARMY PUBLIC SCHOOL, KANDRORI
HOLIDAY HOME WORK (2022-23) CLASS – 10

ENGLISH

Revise PT-I Syllabus

Solve the given comprehension passages (6)

Digital presentation on Nelson Mandela or Dust of Snow or Fire and Ice

HINDI

क) 1. डायरी लेखन : छुट्टियों की दिनचर्या को सुंदर एवं स्पष्ट रूप से अपने शब्दों में लिखें।

2. बसंत ऋतु विषय पर एक कविता बनाएँ।

ख) कबीर, मीरा, डायरी का एक पत्रा, बड़े भाई साहब, ततारा वामीरो कथा, हरिहर काका सम्पूर्ण अभ्यास दोहराएं।

ग) व्याकरण पुस्तक से

मुहावरे, पदबंध, वाक्य रूपांतरण दोहराएं।

घ) व्याकरण पुस्तक अभ्यास से कोई 3 औपचारिक पत्र तथा 3 अनुच्छेद सुलेख बनाकर लिखें।

MATHS

1. Revise PT-1 syllabus.(Ch-1,2,3,7,15)

2. Write a self-created/written article on any topic of Mathematics on an A₄ sheet.

3. Do the following activities in your practical file:

(i) **Objective:** To verify the conditions for consistency of a system of linear equations in two variables by graphical representation.

(ii) **Objective:** To set the idea of probability of an event through a double colour cards experiment.

4. Do the given 4 assignments.

ASSIGNMENT-I

1. Find the HCF of 4032 and 262 by Euclid's division algorithm.

2. Prove that $\sqrt{5}$ is irrational.

3. **Express each number as a product of its prime factors:**

(i) 3825

(ii) 5005

(iii) 7429

4. **Given that HCF (306, 657) = 9, find LCM (306, 657).**

5. **Prove that $3 + 2\sqrt{5}$ is irrational.**

6. **Check whether 15^n can end with the digit 0 for any natural number n.**

7. What is the HCF of the smallest prime number and the smallest composite number?

8. Using Euclid's Algorithm, find the HCF of 2048 and 960.

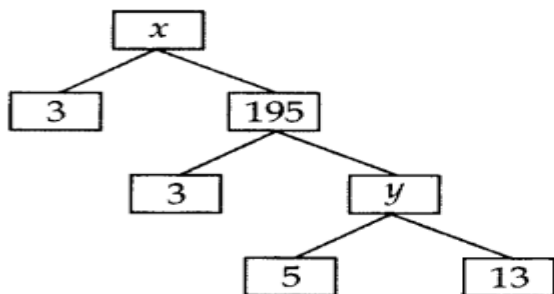
9. Find HCF and LCM of 404 and 96 and verify that HCF \times LCM = Product of the two given numbers.

10. Given that $\sqrt{2}$ is irrational, prove that $(5 - 3\sqrt{2})$ is an irrational number.

11. Find the LCM of 96 and 360 by using fundamental theorem of arithmetic.

12.

Complete the following factor tree and find the composite number x.



ASSIGNMENT-II

1. If the sum of zeroes of the quadratic polynomial $3x^2 - kx + 6$ is 3, then find the value of k.
2. If α and β are the zeroes of the polynomial $ax^2 + bx + c$, find the value of $\alpha^2 + \beta^2$.
3. If the sum of the zeroes of the polynomial $p(x) = (k^2 - 14)x^2 - 2x - 12$ is 1, then find the value of k.
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. Find a quadratic polynomial, whose zeroes are -4 and -5.
6. Form a quadratic polynomial whose zeroes are $3 + \sqrt{2}$ and $3 - \sqrt{2}$.
7. Find a quadratic polynomial, the sum and product of whose zeroes are $\sqrt{3}$ and $\frac{1}{\sqrt{3}}$ respectively.
8. Find the zeroes of the quadratic polynomial $\sqrt{3}x^2 - 8x + 4\sqrt{3}$.
9. If the zeroes of the polynomial $x^2 + px + q$ are double in value to the zeroes of $2x^2 - 5x - 3$, find the value of p and q.
10. Find the zeroes of the quadratic polynomial $3x^2 - 75$ and verify the relationship between the zeroes and the coefficients.

11.

Find a quadratic polynomial whose zeroes are $\frac{3+\sqrt{5}}{5}$ and $\frac{3-\sqrt{5}}{5}$.

12. If α and β are the zeroes of the polynomial $6y^2 - 7y + 2$, find a quadratic polynomial whose zeroes are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$.
13. In a family of 3 children calculate the probability of having at least one boy.
14. A letter of English alphabet is chosen at random. Determine the probability that the chosen letter is a consonant.
15. A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting neither a red card nor a queen.
16. A box contains cards numbered 6 to 50. A card is drawn at random from the box. Calculate the probability that the drawn card has a number which is a perfect square.
17. A number is chosen at random from the numbers -3, -2, -1, 0, 1, 2, 3. What will be the probability that square of this number is less than or equal to 1?
18. Two different dices are tossed together. Find the probability that the product of the two numbers on the top of the dice is 6.
19. Two different dice are tossed together. Find the probability.
 - (i) that the number on each die is even.
 - (ii) that the sum of numbers appearing on the two dice is 5
20. Three different coins are tossed together. Find the probability of getting
 - (i) exactly two heads
 - (ii) at least two heads
 - (iii) at least two tails.

ASSIGNMENT-III

1. How many solutions does the pair of equations $y = 0$ and $y = -5$ have?
2. For what value of k, the pair of equations $4x - 3y = 9$, $2x + ky = 11$ has no solution?
3. Calculate the area bounded by the line $x + y = 10$ and both the co-ordinate axes.
4. Find whether the following pair of linear equations is consistent or inconsistent:
 $3x + 2y = 8$ & $6x - 4y = 9$.
5. Check graphically whether the pair of equations $3x - 2y + 2 = 0$ and $\frac{3}{2}x - y + 3 = 0$, is consistent. Also find the coordinates of the points where the graphs of the equations meet the Y-axis.
6. Draw the graph of $2y = 4x - 6$; $2x = y + 3$ and determine whether this system of linear equations has a unique solution or not.
7. Solve the following pair of linear equations for x and y:
 $141x + 93y = 189$; $93x + 141y = 45$
- 8.

Solve the following pair of linear equations for x and y:

$$\frac{b}{a}x + \frac{a}{b}y = a^2 + b^2; x + y = 2ab$$

9. Solve for x and y: $27x + 31y = 85$; $31x + 27y = 89$
10. Solve the following pair of equations: $49x + 51y = 499$ & $51x + 49y = 501$
11. Find the value of α and β for which the following pair of linear equations has infinite number of solutions: $2x + 3y = 7$; $\alpha x + (\alpha + \beta)y = 28$
12. The sum of the digits of a two digit number is 8 and the difference between the number and that formed by reversing the digits is 18. Find the number.
13. A man earns ₹600 per month more than his wife. One-tenth of the man's salary and $\frac{1}{6}$ th of the wife's salary amount to ₹1,500, which is saved every month. Find their incomes.
14. The age of the father is twice the sum of the ages of his 2 children. After 20 years, his age will be equal to the sum of the ages of his children. Find the age of the father.
15. Sita Devi wants to make a rectangular pond on the road side for the purpose of providing drinking water for street animals. The area of the pond will be decreased by 3 square feet if its length is decreased by 2 ft. and breadth is increased by 1 ft. Its area will be increased by 4 square feet if the length is increased by 1 ft. and breadth remains same. Find the dimensions of the pond.
16. The owner of a taxi company decides to run all the taxis on CNG fuel instead of petrol/diesel. The taxi charges in city comprises of fixed charges together with the charge for the distance covered. For a journey of 12 km, the charge paid is 789 and for journey of 20 km, the charge paid is ₹145. What will a person have to pay for travelling a distance of 30 km?

ASSIGNMENT-IV

1. The centre of a circle is $(2a - 1, 7)$ and it passes through the point $(-3, -1)$. If the diameter of the circle is 20 units, then find the value of a.
2. The coordinates of one end point of a diameter of a circle are $(4, -1)$ and the coordinates of the centre of the circle are $(1, -3)$ Find the coordinates of the other end of the diameter.
3. Find the distance of the point $(-3, 4)$ from the x-axis.
4. In which quadrant the point P that divides the line segment joining the points $A(2, -5)$ and $B(5, 2)$ in the ratio 2 : 3 lies?
5. ABCD is a rectangle whose three vertices are $B(4, 0)$, $C(4, 3)$ and $D(0, 3)$. Calculate the length of one of its diagonals.
6. Find a relation between x and y such that the point $P(x, y)$ is equidistant from the points $A(2, 5)$ and $B(-3, 7)$.
7. Find the ratio in which the point $P(\frac{3}{4}, \frac{5}{12})$ divides the line segment joining the points $A(\frac{1}{2}, \frac{3}{2})$ and $B(2, -5)$.
8. Find the ratio in which y-axis divides the line segment joining the points $A(5, -6)$, and $B(-1, -4)$. Also find the coordinates of the point of division.
9. Let P and Q be the points of trisection of the line segment joining the points $A(2, -2)$ and $B(-7, 4)$ such that P is nearer to A. Find the coordinates of P and Q.
10. Three vertices of a parallelogram taken in order are $(-1, 0)$, $(3, 1)$ and $(2, 2)$ respectively. Find the coordinates of fourth vertex.
11. A line intersects the y-axis and x-axis at the points P and Q respectively. If $(2, -5)$ is the midpoint of PQ, then find the coordinates of P and Q.
12. Determine the ratio in which the line $3x + y - 9 = 0$ divides the segment joining the points $(1, 3)$ and $(2, 7)$.
13. If $A(5, 2)$, $B(2, -2)$ and $C(-2, t)$ are the vertices of a right angled triangle with $\angle B = 90^\circ$, then find the value of t.
14. If P divides the join of $A(-2, -2)$ and $B(2, -4)$ such that $AP/AB = 3/7$, find the coordinates of P.
5. Make any one of the following projects:
 - (i) Story of π .
 - (ii) Development of Number Systems with their needs.
 - (iii) Mathematical designs and patterns.
 - (iv) Indian Mathematicians and their contributions.

- (v) Ramanujan number (1729)
- (vi) Application of Geometry in day-to-day life.
- (vii) Application of Algebra in day-to-day life.
- (viii) Application of Mensuration in day-to-day life.

SCIENCE

PHYSICS

- Do the written practice of all ray diagrams and numerical questions (CHAPTER– LIGHT).

CHEMISTRY

- Revise and learn all the NCERT and NCERT EXEMPLAR objective and subjective type question answers.

UNIT – 1 – CHEMICAL REACTIONS AND EQUATIONS

UNIT – 2 - ACIDS, BASES AND SALTS (till pH topic only)

- Bring 1 article based on science for school magazine.

BIOLOGY

- Draw well labelled diagrams of- Digestive System, Respiratory System, Circulatory System and Excretory System
- Write NCERT textual question answers and NCERT exemplar question answers in a separate notebook.

Learn Ch-1

S Sci

1. On the outline map of India locate the following places:

- (A) 1920 Sept. Congress session.
- (B) 1920 Dec. Congress session.
- (C) Dandi March
- (D) 1929 Congress session.
- (E) Champaran Satyagrah / Kheda Peasants Satyagrah/ Ahmedabad Satyagrah.
- (F) Jalianwala Bagh Tragedy.

2. Read and revise the following Chapters:

- (1) Nationalism in India
- (2) Money and Credit
- (3) Gender, Caste and Religion

3. Collect deposit form / cheque / with draw form / fill it and paste it on note book.

4. Project: Prepare a project file on any topic (choose any one topic)

- (1) Consumer Awareness (2) Social issues / Sustainable Development.

INFORMATION TECHNOLOGY

List the name of all future technologies, their working and scope of improvement ideas. Students will make PPT for their research work or hand written documents.

Identify the different types of Network (Search from Google or IT Book)