Srinath Public School

Summer Vacation Holiday Work
Session: 2025-26

Class: X

Subject	Questions
English	**1. Poster on Literary Devices** Create a colorful and informative poster on various literary devices (like simile, metaphor, alliteration, personification, etc.). Define each device and give suitable examples. Decorate it creatively on a chart paper. **2. Banner of Famous Dialogues** Prepare banners displaying famous dialogues or quotes by well-known authors or poets. You may use colored paper and decorate them to make them visually appealing. **3. Sample Paper** Solve one English sample paper in your English language notebook. Make sure to write neatly and answer all sections completely. **4. Prepare a vocab diary** Write one word each day in a diary with its meaning and sentence. 5. Read the recommended book and write the book review. Recommended book- The Diary of a Young Girl
Hindi	गद्य भाग 1.नेताजी का चश्मा 2.बालगोबिन भगत पद्य भाग -1.सूरदास के पद 2.राम लक्ष्मण परशुराम संवाद अभ्यास प्रश्न उत्तर नोट बुक में लिखें। व्यवहारिक व्याकरण -1.रचना के विचार से वाक्य भेद। परियोजना कार्य -जन संचार के साधनों के नाम चित्र एवं कार्य प्रणाली
Science	**PHYSICS** 1. What are the differences between real image and virtual image? 2. Define focus of a spherical mirror? 3. How will you identify a plane mirror, a concave mirror and a convex mirror without touching their surface? 4. Which mirror has a wider field of view? Where is it used? 5. What happens to a ray of light when it travels from a rarer medium to a denser medium 6. State Snell's law of refraction. 7. A lens always forms a diminished, erect and virtual image. Identify the nature of the lens. 8. Where should an object be placed so that a real and inverted image of the same size is formed using a convex lens? 9. What is the SI unit of power of a lens? Define it. 10. Write two phenomenon related to refraction of light. Explain in detail. 11. What do you understand by the term refractive index? Define it. **Numerical questions**

1. A concave lens has focal length of 20 cm. At what distance from the lens a 5 cm tall object be placed so that it forms an image at 15 cm from the lens? Also calculate the size of the image formed.
2. . An object 50 cm tall is placed on the principal axis of a convex lens. Its 20 cm tall image is formed on the screen placed at a distance of 10 cm from the lens. Calculate the focal length of the lens.
3. . The refractive index of glass is 1.50 and the speed of light in air is 3 x 10^9 ms-1. Calculate the speed of light in glass.

Biology

1. Draw the digestive system of human beings and lablel all its parts.
2. Discuss nutrition in amoeba diagrammatically .
3. Write the functions of WBC , RBC and Platelets .
4. What is the status of diaphragm, sternum and thoracic cavity during the process of inhalation and exhalation of breathing.
5. Discuss the events that takes place during light reaction and dark reaction of photosynthesis.

Chemistry

1. Complete the missing components/variables given as x and y in the following reactions
$$Pb(NO3)_2 \text{ (aq)} + 2KI(aq) \longrightarrow PbI_2(x) + 2KNO_3(y)$$
$$(b)\ Cu(s) + 2Ag\ NO_3(aq) \longrightarrow Cu(NO3)_2(aq) + x(s)$$
$$(c)\ Zn(s) + H_2SO_4(aq) \longrightarrow ZnSO_4(x) + H2(y)$$
$$(d)\ CaCO3(s) \longrightarrow CaO(s) + CO2(g)$$

2. Which among the following changes are exothermic or endothermic in nature?
   (a) Decomposition of ferrous sulphate
   (b) Dilution of sulphuric acid
   (c) Dissolution of sodium hydroxide in water
   (d) Dissolution of ammonium chloride in water

3. Identify the reducing agent in the following reactions
   (a) 4NH3 + 5O2 $\longrightarrow$ 4NO + 6H2O
   (b) H2O + F2 $\longrightarrow$ HF + HOF
   (c) Fe2O3 + 3CO $\longrightarrow$ 2Fe + 3CO2
   (d) 2H2 + O2 $\longrightarrow$ 2H2O

4. Identify the oxidizing agent (oxidant) in the following reactions
   (a) Pb3O4 + 8HCl $\longrightarrow$ 3PbCl2 + Cl2 + 4H2O
   (b) 2Mg + O2 $\longrightarrow$ 2MgO
   (c) CuSO4 + Zn $\longrightarrow$ Cu + ZnSO4
   (d) V2O5 + 5Ca $\longrightarrow$ 2V + 5CaO
   (e) 3Fe + 4H2O $\longrightarrow$ Fe3O4 + 4H2
   (f) CuO + H2 $\longrightarrow$ Cu + H2O

5. Write the balanced chemical equations for the following reactions
   (a) Sodium carbonate on reaction with hydrochloric acid in equal molar concentrations gives sodium chloride and sodium hydrogen carbonate.
   (b) Sodium hydrogen carbonate on reaction with hydrochloric acid gives sodium chloride, water and liberates carbon dioxide.
   (c) Copper sulphate on treatment with potassium iodide precipitates cuprous iodide (Cu_2I_2), liberates iodine gas and also forms potassium sulphate.

	6. A solution of potassium chloride when mixed with silver nitrate solution, an insoluble white substance is formed. Write the chemical reaction involved and also mention the type of the chemical reaction?
	
	7. Ferrous sulphate decomposes with the evolution of a gas having a characteristic odour of burning sulphur. Write the chemical reaction involved and identify the type of reaction.
	
	8. Grapes hanging on the plant do not ferment but after being plucked from the plant can be fermented. Under what conditions do these grapes ferment? Is it a chemical or a physical change?
	
	9. A substance X, which is an oxide of a group 2 element, is used intensively in the cement industry. This element is present in bones also. On treatment with water it forms a solution which turns red litmus blue. Identify X and also write the chemical reactions involved.
	
	10. A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by emission of light. If the burning ribbon is now placed in an atmosphere of nitrogen, it continues to burn and forms a compound Y.
	    (a) Write the chemical formulae of X and Y.
	    (b) Write a balanced chemical equation, when X is dissolved in water.
	
	11. Zinc liberates hydrogen gas when reacted with dilute hydrochloric acid, whereas copper does not. Explain why?
	
	12. A silver article generally turns black when kept in the open for a few days. The article when rubbed with toothpaste again starts shining.
	    (a) Why do silver articles turn black when kept in the open for a few days? Name the phenomenon involved.
	    (b) Name the black substance formed and give its chemical formula.

Social Science	**Economics Summer Assignment** Project work on Consumer Rights **Geography** Make a file of all the maps of all chapters. **History/Civics** • Make a file of all the maps of all chapters. • Solve sample papers. Click the below link https://drive.google.com/file/d/1mzi1YVsn_OWWyHF_iD711IFPQl3c7ODj/view

Math's

42. To enhance the reading skills of grade X students, the school nominates you and two of your friends to set up a class library. There are two sections- section A and Section B of grade X. There are 32 students in section A and 36 students in section B.

CBSE Question Bank

(i) What is the minimum number of books you will acquire for the class library, so that they can be distributed equally among students of section A or section B?
 (a) 144   (b) 128
 (c) 288   (d) 272

(ii) If the product of two positive integers is equal to the product of their HCF and LCM is true, then the HCF (32, 36) is
 (a) 2   (b) 4
 (c) 6   (d) 8

(iii) 36 can be expressed as a product of its primes as
 (a) $2^2 \times 3^2$ (b) $2^1 \times 3^3$
 (c) $2^3 \times 3^1$ (d) $2^0 \times 3^0$

(iv) $7 \times 11 \times 13 \times 15 + 15$ is a
 (a) prime number
 (b) composite number
 (c) neither prime nor composite
 (d) None of the above

(v) If p and q are positive integers such that $p = ab^2$ and $q = a^2b$, where a and b are prime numbers, then the LCM (p, q) is
 (a) ab (b) a^2b^2
 (c) a^3b^2 (d) a^3b^3

43. A seminar is being conducted by an Educational Organisation, where the participants will be educators of different subjects. The number of participants in Hindi, English and Mathematics are 60, 84 and 108, respectively.

CBSE Question Bank

(i) In each room the same number of participants are to be seated and all of them being in the same subject, hence maximum number participants that can accommodated in each room are
 (a) 14   (b) 12   (c) 16   (d) 18

(ii) What is the minimum number of rooms required during the event?
 (a) 11   (b) 31   (c) 41   (d) 21

(iii) The LCM of 60, 84 and 108 is
 (a) 3780   (b) 3680   (c) 4780   (d) 4680

(iv) The product of HCF and LCM of 60, 84 and 108 is
 (a) 55360   (b) 35360   (c) 45500   (d) 45360

(v) 108 can be expressed as a product of its primes as
 (a) $2^3 \times 3^2$ (b) $2^3 \times 3^3$
 (c) $2^2 \times 3^2$ (d) $2^2 \times 3^3$

1 Find the zeroes of the following quadratic polynomial and verify the relationship between the zeroes and the coefficients of the polynomial.
  (i) $5x^2 - 8x - 4$ (ii) $x^2 - 20x + 91$
  (iii) $x^2 - (\sqrt{2} + 1)x + \sqrt{2}$ (iv) $a(x^2 + 1) - x(a^2 + 1)$
  (v) $2\sqrt{3}x^2 - 5x + \sqrt{3}$.

2 Find the zeroes of the quadratic polynomial $y^2 + 92y + 1920$.

3 If zeroes α and β of a polynomial $x^2 - 7x + k$ are such that $\alpha - \beta = 1$, then find the value of k.   **CBSE 2015**

4 If α and β are the zeroes of the polynomial $2y^2 + 7y + 5$, then find the value of $\alpha + \beta + \alpha\beta$.
         CBSE 2010

5 If α and β are the zeroes of the quadratic polynomial $f(x) = 3x^2 - 5x - 2$, then evaluate $\alpha^3 + \beta^3$.

6 If α and β are the zeroes of $4x^2 + 3x + 7$, then find the value of $\dfrac{1}{\alpha} + \dfrac{1}{\beta}$.
         CBSE 2014

7 If one zero of the polynomial $(a^2 + 4)x^2 + 9x + 4a$ is the reciprocal of the other, find the value of a.

8 If one zero of the polynomial $3x^2 - 8x + 2k + 1$ is seven times the other, then find the zeroes and the value of k.   **CBSE 2010**

9 If the sum and difference of zeroes of quadratic polynomial are -3 and -10, respectively. Then, find the difference of the squares of zeroes.

10 If one of the zeroes of the cubic polynomial $x^3 + ax^2 + bx + c$ is -1, then find the product of the other two zeroes.

11 Two zeroes of cubic polynomial $ax^3 + 3x^2 - bx - 6$ are -1 and -2. Find the third zero and values of a and b.

12 Find a quadratic polynomial, the sum and product of whose zeroes are, respectively
  (i) 0 and $-\sqrt{2}$ **CBSE 2015**
  (ii) $2 + \sqrt{3}$ and $2 - \sqrt{3}$ (iii) $2\sqrt{5}$ and $-\sqrt{5}$
  (iv) $\dfrac{3}{2}$ and $-\dfrac{1}{2}$ (v) $\dfrac{1}{4}$ and $\dfrac{1}{4}$

13 If sum and product of zeroes of quadratic polynomial are, respectively 8 and 12, then find their zeroes.   **CBSE 2008**

14 Find the quadratic polynomial whose zeroes are $2\sqrt{7}$ and $-5\sqrt{7}$.

15 Find the quadratic polynomial whose zeroes are 2 and -6, respectively. Verify the relation between the coefficients and zeroes of the polynomial. **CBSE 2010**

16 Write the cubic polynomial whose zeroes are $\dfrac{2 + \sqrt{5}}{2}, \dfrac{2 - \sqrt{5}}{2}$ and 4.

17 If 1 and -1 are zeroes of polynomial $Lx^4 + Mx^3 + Nx^2 + Rx + P$, then show that $L + N + P = M + R$.

18 How many polynomials will have their zeroes as -2 and 5?

19 If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 + x - 2$, then find a polynomial whose zeroes are $2\alpha + 1$ and $2\beta + 1$ **CBSE 2015**

20 If α and β are zeroes of the quadratic polynomial $p(x) = 6x^2 + x - 1$, then find the value of
  $\dfrac{\alpha}{\beta} + \dfrac{\beta}{\alpha} + 2\left(\dfrac{1}{\alpha} + \dfrac{1}{\beta}\right) + 3\alpha\beta$.

21 If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - 3x - 2$, find a polynomial whose zeroes are
  (i) $\dfrac{2\alpha}{\beta}$ and $\dfrac{2\beta}{\alpha}$
  (ii) $(2\alpha + 3\beta)$ and $(3\alpha + 2\beta)$
  (iii) $\dfrac{\alpha^2}{\beta}$ and $\dfrac{\beta^2}{\alpha}$
  (iv) $\dfrac{1}{2\alpha + \beta}$ and $\dfrac{1}{2\beta + \alpha}$

	1 Find the solution of the following system of equations by substitution method. (i) $x + y = 8, 2x - 3y = 1$ (ii) $3x + 2y = 10, 12x + 8y = 30$ (iii) $2x - 7y = 11, 6x - 21y = 33$ (iv) $\sqrt{2}x + \sqrt{5}y = 0, \sqrt{6}x + \sqrt{15}y = 0$ (v) $3x - y = 3, 9x - 3y = 9$ **2** Solve the following pair of linear equations by substitution method. (i) $x - y = 2, 3x + 2y = 16$ (ii) $7x - 4y = 3, x + 2y = 3$ (iii) $3x + 7y = 37, 5x + 6y = 39$ (iv) $\dfrac{3x - 4y}{2} = 10, \dfrac{3x + 2y}{4} = 2$ (v) $y = \dfrac{2}{3}x + 6, 2y - 4x = 20$ (vi) $3x - \dfrac{y + 7}{11} = 8, 2y + \dfrac{x + 11}{7} = 10$ (vii) $1.1x + 1.5y + 2.3 = 0, 0.7x - 0.2y = 2$ (viii) $0.2x + 0.3y = 1.3, 0.4x + 0.5y = 2.3$ (ix) $\sqrt{7}x + \sqrt{11}y = 0, \sqrt{3}x - \sqrt{5}y = 0$ (x) $7(y + 3) - 2(x + 2) = 14, 4(y - 2) + 3(x - 3) = 2$ **3** Solve for x and y by substitution method (i) $x + y = a - b, ax - by = a^2 + b^2$ (ii) $\dfrac{x}{a} + \dfrac{y}{b} = 2, ax - by = a^2 - b^2$
Artificial Intelligence	• **To be done in Stick file.** 1. Write a paragraph on Impact of Artificial Intelligence in human lives. 2. Explain the different types of intelligence. 3. Explain any three applications of AI. 4. Explain the domains of AI. 5. Write the relation between AI, DL and ML. 6. What is AI Bias? Explain its types. 7. Explain any five features of Python language. 8. Explain the different data types of Python. 9. What is syntax? 10. What is a variable? Mention any three rules of naming a variable. 11. Explain the difference between /, // and % operator with the help of an example.