

General Instructions:

Q1 to be done on an A-4 size sheet.

Do Q3 & 4 in your English notebook.

Attempt all the questions and do them neatly.

Q1. Poster Making:

Make a poster portraying your thoughts and point of view on:

"Love for freedom is the natural instinct of every living being."

You may read Leslie Norris's A Tiger in the Zoo for your reference.

Q2. Travel Brochure

i) Research about places to visit in **Nagaland** and prepare a Travel Brochure of any one place describing the location, ways to reach there, weather, best time to visit, hotels, the flora and fauna, food, suggested activities, culture etc.

ii) It should be handwritten. There should be 4-5 pages, where you may draw or paste some pictures associated with that place. Draw borders around the pictures if they are pasted. Give details about the same.

iii) There should be interesting and catchy HEADINGS above each detailed paragraph.

iv) Each picture in the brochure should have a CAPTION (i.e. a Photo caption, also known as cutline, a line of text used to explain and elaborate a photograph).

Q3. Read lesson no 3, 4 and 5 from the book 'Footprints Without Feet' and attempt the exercises given at the back in your notebook.

Q4. Do the grammar section from previous year's ten sample question papers of CBSE Board.

Class - X

Summer Vacation Homework

Mathematics (Project work)

(KK)

(SDS)

(GP)

1. Solve the given assignment.

2. Project (To be papered in a separate file):

"While the overall policy focus should be on meeting basic needs and expanding opportunities for growth, they should not be at the expense of unsustainable environmental degradation". Let us do a small survey at our homes.

- (i) Find out five gadgets using most electricity at your homes and represent their daily unit consumption graphically.
- (ii) Can we replace at least one conventional gadget by the one using solar energy or any other renewable source of energy?
- (iii) Although solar gadgets are costly, but their running cost make it cost effective. Prove it mathematically.
- (iv) If we want to move away from conventional source of electricity to solar, find out the cost of solar panels required according to your daily electricity consumption and after how many years will we be able to recover their cost.
- (v) After your study do a telephonic survey and find out how many of your known people/ family friends / relatives would like to switch over to solar energy as source instead of conventional sources of electricity and represent it graphically.

MCQ WORKSHEET
CHAPTER - 1

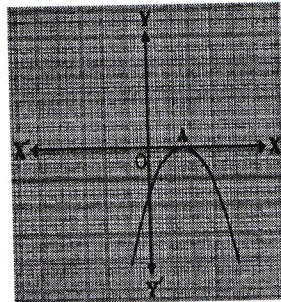
1. π is
(a) a natural number (b) not a real number
(c) a rational number (d) an irrational number
2. The decimal expansion of π
(a) is terminating (b) is non terminating and recurring
(c) is non terminating and non recurring (d) does not exist.
3. Which of the following is not a rational number?
(a) $\sqrt{6}$ (b) $\sqrt{9}$ (c) $\sqrt{25}$ (d) $\sqrt{36}$
4. Which of the following is a rational number?
(a) $\sqrt{36}$ (b) $\sqrt{12}$ (c) $\sqrt{14}$ (d) $\sqrt{21}$
5. If a and b are positive integers, then $\text{HCF}(a, b) \times \text{LCM}(a, b) =$
(a) $a \times b$ (b) $a + b$ (c) $a - b$ (d) a/b
6. If the HCF of two numbers is 1, then the two numbers are called
(a) composite (b) relatively prime or co-prime
(c) perfect (d) irrational numbers
7. The decimal expansion of $\frac{93}{1500}$ will be
(a) terminating (b) non-terminating (c) non-terminating repeating
(d) non-terminating non-repeating.
8. $\sqrt{3}$ is
(a) a natural number (b) not a real number
(c) a rational number (d) an irrational number
9. The HCF of 52 and 130 is
(a) 52 (b) 130 (c) 26 (d) 13
10. For some integer q, every odd integer is of the form
(a) q (b) $q + 1$ (c) $2q$ (d) none of these

CHAPTER - 2

1. The value of k for which (-4) is a zero of the polynomial $x^2 - x - (2k + 2)$ is
 (a) 3 (b) 9 (c) 6 (d) -1

2. If the zeroes of the quadratic polynomial $ax^2 + bx + c$, $c \neq 0$ are equal, then

- (a) c and a have opposite sign (b) c and b have opposite sign
 (c) c and a have the same sign (d) c and b have the same sign



3. The number of zeroes of the polynomial from the graph is
 (a) 0 (b) 1 (c) 2 (d) 3

4. If one of the 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

5. 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 of the above.

6. The relationship between the zeroes and coefficients of the quadratic polynomial $ax^2 + bx + c$ is
 (a) $\alpha + \beta = \frac{c}{a}$ (b) $\alpha + \beta = \frac{-b}{a}$ (c) $\alpha + \beta = \frac{-c}{a}$ (d) $\alpha + \beta = \frac{b}{a}$

7. The zeroes of the polynomial $x^2 + 7x + 10$ are
 (a) 2 and 5 (b) -2 and 5 (c) -2 and -5 (d) 2 and -5

8. The relationship between the zeroes and coefficients of the quadratic polynomial $ax^2 + bx + c$ is
 (a) $\alpha \cdot \beta = \frac{c}{a}$ (b) $\alpha \cdot \beta = \frac{-b}{a}$ (c) $\alpha \cdot \beta = \frac{-c}{a}$ (d) $\alpha \cdot \beta = \frac{b}{a}$

9. The zeroes of the polynomial $x^2 - 3$ are
 (a) 2 and 5 (b) -2 and 5 (c) -2 and -5 (d) none of the above

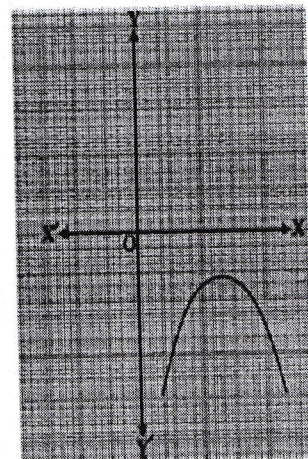
10. The number of zeroes of the polynomial from the graph is
 (a) 0 (b) 1 (c) 2 (d) 3

11. A quadratic polynomial whose sum and product of zeroes are -3 and 2 is

- (a) $x^2 - 3x + 2$ (b) $x^2 + 3x + 2$ (c) $x^2 + 2x - 3$ (d) $x^2 + 2x + 3$.

12. The zeroes of the quadratic polynomial $x^2 + kx + k$, $k \neq 0$,

- (a) cannot both be positive (b) cannot both be negative
 (c) are always unequal (d) are always equal



PRACTICE QUESTIONS

1. If $p(x) = 3x^3 - 2x^2 + 6x - 5$, find $p(2)$.
2. Draw the graph of the polynomial $f(x) = x^2 - 2x - 8$.
3. Draw the graph of the polynomial $f(x) = 3 - 2x - x^2$.
4. Draw the graph of the polynomial $f(x) = -3x^2 + 2x - 1$.
5. Draw the graph of the polynomial $f(x) = x^2 - 6x + 9$.
6. Draw the graph of the polynomial $f(x) = x^3$.
7. Draw the graph of the polynomial $f(x) = x^3 - 4x$.
8. Draw the graph of the polynomial $f(x) = x^3 - 2x^2$.
9. Draw the graph of the polynomial $f(x) = -4x^2 + 4x - 1$.
10. Draw the graph of the polynomial $f(x) = 2x^2 - 4x + 5$.
11. Find the quadratic polynomial whose zeroes are $2 + \sqrt{3}$ and $2 - \sqrt{3}$.
12. Find the quadratic polynomial whose zeroes are $\frac{3 - \sqrt{3}}{5}$ and $\frac{3 + \sqrt{3}}{5}$.
13. Find a quadratic polynomial whose sum and product of zeroes are $\sqrt{2}$ and 3 respectively.
14. Find the zeroes of the polynomial $mx^2 + (m + n)x + n$.
15. If m and n are zeroes of the polynomial $3x^2 + 11x - 4$, find the value of $\frac{m}{n} + \frac{n}{m}$.
16. If a and b are zeroes of the polynomial $x^2 - x - 6$, then find a quadratic polynomial whose zeroes are $(3a + 2b)$ and $(2a + 3b)$.
17. If p and q are zeroes of the polynomial $t^2 - 4t + 3$, show that $\frac{1}{p} + \frac{1}{q} - 2pq + \frac{14}{3} = 0$.
18. If $(x - 6)$ is a factor of $x^3 + ax^2 + bx - b = 0$ and $a - b = 7$, find the values of a and b .

If α and β are the zeroes of the quadratic polynomial $f(x) = 4x^2 - 5x - 1$, then find the value of

(i) $\alpha - \beta$

(ii) $\alpha^2 + \beta^2$

(iii) $\alpha^4 + \beta^4$

(iv) $\alpha\beta^2 + \alpha^2\beta$

(v) $\frac{1}{\alpha} + \frac{1}{\beta}$

(vi) $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$

(vii) $\frac{1}{\alpha} - \frac{1}{\beta}$

(viii) $\alpha^3 + \beta^3$

(ix) $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$

(x) $\frac{\alpha^2}{\beta} + \frac{\beta^2}{\alpha}$

(xi) $\frac{\alpha}{\beta} + \frac{\beta}{\alpha} + 2\left(\frac{1}{\alpha} + \frac{1}{\beta}\right) + 3\alpha\beta$

(xii) $\alpha^4\beta^3 + \alpha^3\beta^4$

(xiii) $\frac{1}{\alpha} + \frac{1}{\beta} - 2\alpha\beta$

(xiv) $\frac{\alpha^2}{\beta^2} + \frac{\beta^2}{\alpha^2}$

PRACTICE QUESTIONS

Solve for x and y :

1. $11x + 15y + 23 = 0$; $7x - 2y - 20 = 0$.
2. $2x + y = 7$; $4x - 3y + 1 = 0$.
3. $23x - 29y = 98$; $29x - 23y = 110$.
4. $2x + 5y = \frac{8}{3}$; $3x - 2y = \frac{5}{6}$.
5. $4x - 3y = 8$; $6x - y = \frac{29}{3}$.
6. $2x - \frac{3}{4}y = 3$; $5x = 2y + 7$.
7. $2x - 3y = 13$; $7x - 2y = 20$.
8. $3x - 5y - 19 = 0$; $-7x + 3y + 1 = 0$.
9. $2x - 3y + 8 = 0$; $x - 4y + 7 = 0$.
10. $x + y = 5xy$; $3x + 2y = 13xy$; $x \neq 0, y \neq 0$.
11. $152x - 378y = -74$; $-378x + 152y = -604$.
12. $47x + 31y = 63$; $31x + 47y = 15$.
13. $71x + 37y = 253$; $37x + 71y = 287$.
14. $37x + 43y = 123$; $43x + 37y = 117$.
15. $217x + 131y = 913$; $131x + 217y = 827$.
16. $41x - 17y = 99$; $17x - 41y = 75$.
17. $\frac{5}{x} + 6y = 13$; $\frac{3}{x} + 4y = 7$, $x \neq 0$
18. $\frac{2}{x} + \frac{3}{y} = \frac{9}{xy}$; $\frac{4}{x} + \frac{9}{y} = \frac{21}{xy}$ ($x \neq 0, y \neq 0$)
19. $\frac{5}{x} - \frac{3}{y} = 1$; $\frac{3}{2x} + \frac{2}{3y} = 5$ ($x \neq 0, y \neq 0$)
20. $\frac{1}{7x} + \frac{1}{6y} = 3$; $\frac{1}{2x} - \frac{1}{3y} = 5$ ($x \neq 0, y \neq 0$)

MCQ WORKSHEET

CHAPTER - 4

- The value of $\sqrt{6+\sqrt{6+\sqrt{6+\dots}}}$ is
(a) 4 (b) 3 (c) -2 (d) $\frac{7}{2}$
- If 2 is the root of the equation $x^2 + bx + 12 = 0$ and the equation $x^2 + bx + q = 0$ has equal roots then $q =$
(a) 8 (b) 16 (c) -8 (d) -16
- If the equation $(a^2 + b^2)x^2 - 2(ac + bd)x + c^2 + d^2 = 0$ has equal roots then
(a) $ab = cd$ (b) $ad = bc$ (c) $ad = \sqrt{bc}$ (d) $ab = \sqrt{cd}$
- If a and b can take values 1, 2, 3, 4. Then the number of the equations of the form $ax^2 + bx + c = 0$ having real roots is
(a) 6 (b) 7 (c) 10 (d) 12
- The number of quadratic equations having real roots and which do not change by squaring their roots is
(a) 4 (b) 3 (c) 2 (d) 1
- If $px^2 + 3qx + q = 0$ has two roots $x = -1$ and $x = -2$, the value of $q - p$ is
(a) -1 (b) -2 (c) 1 (d) 2
- The common root of the quadratic equation $x^2 - 3x + 2 = 0$ and $2x^2 - 5x + 2 = 0$ is:
(a) $x = 2$ (b) $x = -2$ (c) $x = \frac{1}{2}$ (d) $x = 1$
- If $x^2 - 5x + 1 = 0$, the value of $\left(x + \frac{1}{x}\right)$ is:
(a) -5 (b) -2 (c) 5 (d) 3
- If $a - 3 = \frac{10}{a}$, the value of a are
(a) -5, 2 (b) 5, -2 (c) 5, 2 (d) 5, 0
- If the roots of the quadratic equation $kx^2 + (a + b)x + ab = 0$ are $(-1, -b)$, the value of k is:
(a) -1 (b) -2 (c) 1 (d) 2

PRACTICE QUESTIONS

Solve the following quadratic equations:

1. $x^2 + 11x + 30 = 0$

2. $x^2 + 18x + 32 = 0$

3. $x^2 + 7x - 18 = 0$

4. $x^2 + 5x - 6 = 0$

5. $y^2 - 4y + 3 = 0$

6. $x^2 - 21x + 108 = 0$

7. $x^2 - 11x - 80 = 0$

8. $x^2 - x - 156 = 0$

9. $z^2 - 32z - 105 = 0$

10. $40 + 3x - x^2 = 0$

11. $6 - x - x^2 = 0$

12. $7x^2 + 49x + 84 = 0$

13. $m^2 + 17mn - 84n^2 = 0$

14. $5x^2 + 16x + 3 = 0$

15. $6x^2 + 17x + 12 = 0$

16. $9x^2 + 18x + 8 = 0$

17. $14x^2 + 9x + 1 = 0$

18. $2x^2 + 3x - 90 = 0$

19. $2x^2 + 11x - 21 = 0$

20. $3x^2 - 14x + 8 = 0$

CLASS – X

Subject : Physics

(VP)

(BS)

SUMMER VACATION HOMEWORK (2023-24)

1. Solve the given assignment.
2. Solve the intext and text exercise questions of NCERT of chapter Light: Reflection & Refraction.
3. Write and learn all formulae and key points of the completed chapter.
4. Prepare a project file on image formation (ray diagrams) by mirror (concave, convex) and lens (convex, concave) & at least five applications of each mirror and lens.

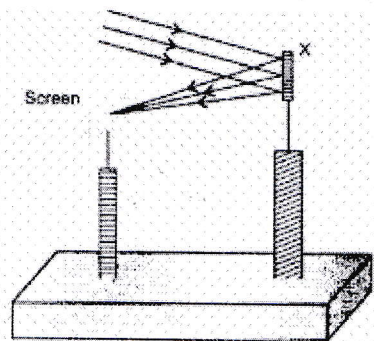
SUMMER VACATION ASSIGNMENT

Class : X

Subject: PHYSICS

Chapter 10 Light : Reflection and Refraction

1. A student determines the focal length of a device X, by focusing the image of a far off object on the screen positioned as shown in the figure below: **(1)**



The device X is a :

- Convex lens
 - Concave mirror
 - Concave lens
 - Convex lens
2. Name the type of image that can be obtained on a screen. **(1)**
- Real
 - Virtual
 - Blur
 - Undefined
3. If the angle of incidence is 90° , what is the angle of refraction? **(1)**
- $r = \underline{1}$
 - $r = 45^\circ$
 - $r = \sin^{-1} \left(\frac{1}{n} \right)$
 - $r = 90^\circ$
4. The extent to which a ray of light travelling in one medium and entering the second medium bends depends on: **(1)**
- The speed of light
 - None of the above

- c. The wavelength of light
 - d. The frequency of light
5. While doing experiment with candle to find focal length of a concave mirror, the candle is placed between: **(1)**
- a. pole and focus
 - b. at focus
 - c. focus and centre of curvature
 - d. beyond focus
6. Is it possible that a convergent lens in one medium becomes divergent, when placed in another medium? **(1)**
7. What kind of image can be obtained on the screen? **(1)**
8. Out of convex mirror and a concave mirror, whose focus is situated behind the mirror? **(1)**
9. Name a point inside a lens such that a ray of light passing through it goes undeviated. **(1)**
10. An object 3 cm high is placed 20 cm from convex lens of focal length 12 cm. Find the nature, position and height of the image. **(3)**
11. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image. **(3)**
12. An object of size 7.0 cm is placed at 27 cm in front of a concave mirror of focal length 18 cm. At what distance from the mirror should a screen be placed, so that a sharp focused image can be obtained? Find the size and the nature of the image. **(3)**
13. Why do we prefer a convex mirror as a rear-view mirror in vehicles? **(3)**
14. Under what condition in an arrangement of two plane mirrors, incident ray and reflected ray will always be parallel to each other, whatever may be angle of incidence. Show the same with the help of diagram. **(5)**
15. How are the images formed in convex mirror when object is moved from infinity to the mirror? **(5)**

DIRECTION : In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
- (c) Assertion (A) is true but reason (R) is false.
- (d) Assertion (A) is false but reason (R) is true.
- (e) Both Assertion and Reason are false.

1. **Assertion :** A point object is placed at a distance of 26 cm from a convex mirror of focal length 26 cm. The image will not form at infinity.

Reason : For above given system the equation $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$ gives $v = \infty$.

Ans :

2. **Assertion :** Keeping a point object fixed, if a plane mirror is moved, the image will also move.

Reason : In case of a plane mirror, distance of object and its image is equal from any point on the mirror.

Ans :

3. **Assertion :** If both plane mirror and object are moved through a distance x , then the image moves through a distance $2x$.

Reason : When the object is fixed and plane mirror is moved through a distance x . Then the image is also moves through the distance $2x$.

Ans :

4. **Assertion :** If a spherical mirror is dipped in water, its focal length remains unchanged.

Reason : A laser light is focused by a converging lens. There will be a significant chromatic aberration.

Ans :

5. **Assertion :** Large concave mirrors are used to concentrate sunlight to produce heat in solar cookers.

Reason : Concave mirror converges the light rays falling on it to a point.

Ans :

6. **Assertion :** Plane mirror may form real image.

Reason : Plane mirror forms virtual image, if objects is real.

Ans :

7. **Assertion :** The focal length of a convex mirror of radius R is equal to, $f = \left(\mu_g = \frac{3}{2}\right)$.

Reason : The focal length of convex lens in water becomes $4f$.

Ans :

8. **Assertion :** The speed of light in glass depends on colour of light.

Reason : The speed of light in glass $v_g = \frac{c}{n_g}$ the refractive index (n_g) of glass is different for different colours.

Ans :

9. **Assertion :** If the rays are diverging after emerging from a lens; the lens must be concave.

Reason : The convex lens can give diverging rays.

Ans :

10. **Assertion :** Light travels faster in glass than in air.

Reason : Glass is denser than air.

Ans :

11. **Assertion :** A ray of light incident along the normal to the plane mirror retraces its path after reflection from the mirror.

Reason : A ray of light along the normal has angle of incidence as $\pi/2$ and hence, it retraces its own path after reflection from mirror.

Ans :

12. **Assertion :** The height of an object is always considered positive.

Reason : An object is always placed above the principal axis in this upward direction.

Ans :

13. **Assertion :** Refractive index has no units.

Reason : The refractive index is a ratio of two similar quantities.

Ans :

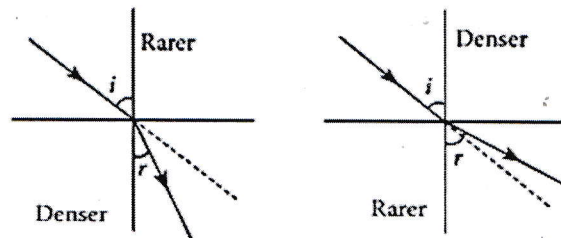
14. **Assertion :** When a concave mirror is held under water, its focal length will increase.

Reason : The focal length of a concave mirror is independent of the medium in which it is placed.

Ans :

CASE STUDY BASED QUESTIONS

1. When the rays of light travels from one transparent medium to another, the path of light is deviated. This phenomena is called refraction of light. The bending of light depends on the optical density of medium through which the light pass.



The speed of light varies from medium to medium. A medium in which the speed of light is more is optically rarer medium whereas in which the speed of light is less is optically denser medium. Whenever light goes from one medium to another, the frequency of light does not change however, speed and wavelength change. It concluded that change in speed of light is the basic cause of refraction.

- (i) When light travels from air to glass, the ray of light bends
 (a) towards the normal (b) away from normal (c) anywhere (d) none of these
- (ii) A ray of light passes from a medium A to another medium B. No bending of light occurs if the ray of light hits the boundary of medium B at an angle of
 (a) 0° (b) 45° (c) 90° (d) 120°
- (iii) When light passes from one medium to another, the frequency of light
 (a) increases (b) decreases (c) remains same (d) none of these
- (iv) When light passes from glass to water, the speed of light
 (a) increases (b) decreases
 (c) remains same (d) first increases then decrease
- (v) The bottom of pool filled with water appears to be _____ due to refraction of light.
 (a) shallower (b) deeper (c) at same depth (d) empty

2. The relationship between the distance of object from the lens (u), distance of image from the lens (v) and the focal length (f) of the lens is called lens formula. It can be written as $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$.

The size of image formed by a lens depends on the position of the object from the lens. A lens of short focal length has more power whereas a lens of long focal length has less power. When the lens is convex, the power is positive and for concave lens, the power is negative.

The magnification produced by a lens is the ratio of height of image to the height of object as the size of the image relative to the object is given by linear magnification (m).

When, m is negative, image formed is real and when m is positive, image formed is virtual. If $m < 1$, size of image is smaller than the object. If $m > 1$, size of image is larger than the object.

- (i) An object 4 cm in height is placed at a distance of 10 cm from a convex lens of focal length 20 cm. The position of image is
 (a) -20 cm (b) 20 cm (c) -10 cm (d) 10 cm
- (ii) In the above question, the size of image is
 (a) 16 cm (b) 8 cm (c) 4 cm (d) 2 cm
- (iii) An object is placed 50 cm from a concave lens and produces a virtual image at a distance of 10 cm in front of lens. The focal length of lens is
 (a) -25 cm (b) -12.5 cm (c) 12.5 cm (d) 10 cm
- (iv) A convex lens forms an image of magnification -2 of the height of image is 6 cm, the height of object is
 (a) 6 cm (b) 4 cm (c) 3 cm (d) 2 cm
- (v) A concave lens of focal length 5 cm, the power of lens is
 (a) 20 D (b) -20 D (c) 90 D (d) -5 D

HOLIDAY HOMEWORK
(SUMMER VACATION ASSIGNMENT)

SCIENCE(Chemistry) (SK) (GYP)

CLASS- X

- Write the balance chemical equation for the following statements. Also identify the kind of equation.
 - Zinc granules are into dilute Hydrochloric acid.
 - Heating of lead nitrate
 - Carbon dioxide gas is passed into quick lime solution
 - Copper metal is heated in presence of air
 - Potassium chlorate is heated in presence of oxygen
 - Zinc granules placed into iron sulphate solutions
 - Barium chloride solution poured into sodium sulphate
 - Silver chloride is exposed into air and sunlight
 - A small piece of sodium metal placed in water
 - Hydrogen gas is passed into vegetable oil in presence of nickel catalyst
- Identify x y and z in the following statements. Also write the balanced chemical equation for each change.
 - A red brown shiny metal X burned in the air and formed an oxide Y of black colour. When hydrogen gas is passed on Y it converts into X and forms a compound Z.
 - A silver-grey metal X reacts with hot water forms compound Y and gas Z. Because of gas Z, metal X float on water surface.
 - A substance X is used in whitewashing and is obtained by heating of substance Y. X also reacts with water rigorously releasing large amount of heat and producing compound Z.
- In the following questions two statements assertion and reasons are given, read the statements and accordingly choose the options given below:
 - If both assertion and reason are true and reason is the correct explanation of assertion.
 - If both assertion and reason are true, but reason is not the correct explanation of assertion.
 - If assertion is true, reason is false.
 - If both assertion and reason are false
 - ASSERTION: Corrosion is the process of corrosion of iron instant as rusting.
REASON: The corrosion of iron occurs only if there is a presence of water and air.
 - ASSERTION: The white silver chloride turns grey if exposed to sunlight.
REASON: Decomposition of silver chloride in the presence of sunlight takes place to form silver metal and chlorine gas.
 - ASSERTION: The process of photosynthesis is known to be an endothermic reaction.

REASON: Energy gets released in the process of photosynthesis.

4. ASSERTION: When quicklime reacts with water vigorously releases a large amount of heat

REASON: The above chemical reaction is an example of an endothermic reaction.

4. CASE BASED QUESTION

In the redox reactions, oxidation and reduction takes place simultaneously. In oxidation, oxygen is being added to the substance or hydrogen is removed from the substance. In reduction, hydrogen is being added or oxygen is being removed from the substance. To study the redox reaction in a chemistry laboratory, a chemist heated a brown coloured copper powder in a china dish for sometime. After 20 min he observed that the powder changes to black. But when he passed hydrogen gas over this black coloured substance, it changes to brown.

1. The black colored substance formed because:
 - a. Copper reacts with carbon dioxide present in air.
 - b. Copper reacts with carbon monoxide present in air.
 - c. Copper reacts with oxygen present in air.
 - d. Copper reacts with hydrogen present in air.
2. The reaction of copper with air is:
 - a. Redox reaction
 - b. Reduction reaction
 - c. oxidation reaction
 - d. displacement reaction
3. When hydrogen gas is passed over black substance, it changes to brown copper because:
 - a. Oxygen is added to copper oxide.
 - b. Hydrogen is added to copper oxide.
 - c. Oxidation of copper takes place
 - d. Oxygen is removed from copper oxide.
4. In the chemical reaction,
$$\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$$
 - a. C is an oxidising agent.
 - b. ZnO is a reducing agent.
 - c. C is a reducing agent
 - d. Zn is an oxidizing agent.

Holiday Homework

Class – X

Biology. (PY) (HJ)

The Holiday homework has 3 Section A, B and C, each question in the section is marked 2, 3 and 20 respectively. Students need to do question equivalent to 30 marks according to their will. You can choose the skill you wish to enhance while doing the homework.

Homework will be uploaded online by students to avoid creating stationary waste and improve typing skills and learn digitalization.

Section A – each question 2 marks (Answer in 50- 100 words)

1. How does the process of digestion change as food moves from the mouth to the small intestine? Explain the role of each organ involved in the process.
2. Compare and contrast the digestive systems of herbivores, carnivores, and omnivores. Explain the adaptations that each type of digestive system has developed for their diet.
3. Analyze the effects of poor nutrition on the digestive system. How can poor nutrition lead to digestive disorders and what steps can be taken to prevent them?
4. Evaluate the impact of gut microbiota on digestion. How does the composition of gut microbiota affect the digestion of nutrients and overall health?
5. Critically analyze the role of enzymes in the process of digestion. How do enzymes facilitate the breakdown of food molecules and how do different types of enzymes work in different parts of the digestive system?
6. Formulate a hypothesis about the effects of stress on digestion. How might stress affect the digestive process and what mechanisms might be involved?
7. Interpret the relationship between diet and digestive disorders such as lactose intolerance and celiac disease. How does the body react to different types of foods and how can dietary changes alleviate these conditions?
8. Apply knowledge of the digestive system to create a dietary plan for someone with a specific digestive disorder. How can the diet be adjusted to provide optimal nutrition while minimizing symptoms?
9. Synthesize information about the digestive system to explain how certain drugs and medications can affect digestion. How can different types of drugs interfere with the normal functioning of the digestive system and what are the implications for health?
10. Generate a proposal for a research project on the topic of digestion. What are some interesting questions that can be explored using current scientific knowledge and what methods could be used to address them?

Section B- Each question 3 marks (answer in 150 words)

11. Analyze the impact of lifestyle choices such as exercise, diet, and smoking on cardiovascular health. How do these factors affect the circulatory system, and what can be done to maintain cardiovascular health?
12. Evaluate the role of the kidneys in maintaining fluid and electrolyte balance in the body. How do the kidneys regulate the concentration of various substances in the blood, and what happens when this balance is disrupted?
13. Synthesize information about the relationship between the circulatory and respiratory systems. How does the circulatory system support respiratory function, and how does respiratory function support circulation?
14. Formulate a hypothesis about the effects of dehydration on the excretory system. How might dehydration affect the production and elimination of urine, and what mechanisms might be involved?
15. Critically analyze the impact of environmental toxins on the circulatory and excretory systems. How do environmental toxins enter the body, and what are the mechanisms by which they can affect these systems? What steps can be taken to minimize exposure to these toxins and protect the health of these systems?

Section C – Each question 20 marks.

- 1 – Create a blog website on Your Science learning and education and make daily entry. Website should be appealing, Informative and well designed.
- 2- Create a virtual lab simulation to explore the effects of various drugs or toxins on the circulatory system. How do different substances (e.g., caffeine, alcohol, nicotine) affect blood pressure, heart rate, and the function of blood vessels and organs?
- 3- Using interactive graphics or 3D models, explore the structure and function of the kidneys and other organs involved in the excretory system. How does the body regulate water and electrolyte balance, and what happens when this balance is disrupted?
- 4- Design an online research project to investigate the effects of exercise on the circulatory and respiratory systems. What happens to heart rate, blood pressure, and oxygen consumption during different types and intensities of exercise? How do these responses vary across different age groups and fitness levels?

BIRLA SHISHU VIHAR PILANI

SUMMER VACATION - 2023-24

HOLIDAY HOMEWORK BASED ON

ENQUIRY, APPLICATION, SKILL RESEARCH AND ICT (RTS) (MP)

CLASS-X SOCIAL SCIENCE

SUBJECT	ACTIVITY	SKILLS
Social Science	Power Point Presentation	
1. EBSB Art Integrated learning Project Nagaland	<p>Naga Weaves---</p> <p>Woven Wonders of Nagas, An Assertion of Identity----</p> <p>Each Naga Shawl is a Thing of beauty, Mystery, history, and eternal appeal, Prepare a power point presentation on -</p> <p>(1) How each shawl wraps in its folds, a unique narrative.</p> <p>(2) The Magic of Short Stories Woven into Yarn</p> <p>(3) Focus on how it reflects Social Standing of 16 major tribes of Nagaland</p> <p>(4) The younger generation's Changing Tastes</p> <p>(5) Conclude with a critical analysis.</p>	<ul style="list-style-type: none">• Observation* Understanding* Comparing• Inquisitiveness• Analysis* SYNTHESIS* Problem Solving• Creativity• Artistic Skill* IT Skills• Application* Critical Thinking• Analysis

2.	History	<p>Compare the policies and methods used by Otto Von Bismarck and Sardar Vallabh Bhai Patel in Unification of Germany and Integration of states in India respectively. (Do on History Note book)</p> <p>Read the chapters taught carefully and draw the Concept Map of each chapter.</p>	<ul style="list-style-type: none"> * Observation * Evaluation • Analysis • Understanding * Explaining * Track cause and Effect • Critical Thinking • Application
3.	HISTORY GEO, ECO, & POL.SCI.	<p>Gather information about the Human Development Index from latest Human Development Report available & Prepare a consolidated Report by focusing on following points –(do on Economics Note book)</p> <ol style="list-style-type: none"> 1) India's Changing HDI Rank 2) India's Rank Compared to Its Neighbours 3) Different components of HDI and India's score on each 4) Compare HDI Data for India with figures for Economic growth of the country (Bar Diagram) 	<ul style="list-style-type: none"> * IT skill * Evaluation • Analysis • Understanding • Critical Thinking • Application * Creativity
4.	ECONOMICS		

5.	<p>SUBJECT ENRICHMENT PROJECT</p>	<p>Every student has to compulsorily undertake any one project on any one of the following Social Issues</p> <p>(Choose any one topic and prepare a file project)</p> <ul style="list-style-type: none"> ■ Unemployment ■ Poverty in India ■ Education ■ Lack of access to education ■ Literacy Rate ■ Overpopulation ■ Corruption ■ Dowry System ■ Drugs ■ Gender Inequality ■ wrong policies and priorities ■ Traditions and values ■ Poor and inadequate facilities ■ Social evils 	<ul style="list-style-type: none"> ● Classification ● Organisation ● Critical Thinking ● Inquisitiveness ● Observation *Problem solving
<p>Objective: The overall objective of the project work is to help students gain an insight and pragmatic understanding of the theme and see all the Social Science disciplines from interdisciplinary perspective. To help in enhancing the Life Skills of the students.</p> <p>Students are expected to apply the Social Science concepts that they have learnt over the years in order to prepare the project report.</p> <p>If required, students may go out for collecting data and use different primary and secondary resources to prepare the</p>			

project. If possible, different forms of Art may be integrated in the project work.

S. No.	Aspects	Marks
a.	Content accuracy, originality and analysis	2
b.	Presentation and creativity	2
c.	Viva Voce	1

BY REETA SHARMA

Birla Shishu Vihar, Piliani

Holiday-Homework

Subject: AI(417)

Class-X

(AN)

(KY)

Q1 Why Python is Known as dynamically Typed language ?

Q2 What is the difference between break and continue statement.

Q3 Name any four fundamental data types in python.

Q4 What are Entry-Controlled loops ? Explain

Q5 Write a Python Program to :

1. To check whether given number is Prime or not.
2. To check whether given number is Armstrong or not.
3. To check whether given number is Palindrome or not.

Q6 Write any four features of Python language.

Q7 Explain the working of range() function with suitable function.

Q8 What is the difference between Mutable and Immutable objects in python.

Q9 Explain the working of While and For loop in python.

Q10 Write a python program to find larger number among four numbers.

बिरला शिशु विहार 2023-24

ग्रीष्मकालीन गृहकार्य

कक्षा 10 हिंदी (7P) 5 2 (STS)

नोट : - सभी लेखन कार्य व्याकरण की उत्तर पुस्तिका में करें -

1 लगभग 50-60 शब्दों में संदेश लिखिए -

i) परीक्षा में सफलता प्राप्त करने पर मित्र को बधाई संदेश ii) छोटी बहन को जन्मदिन की शुभकामना देते हुए संदेश लिखिए ।

2 लगभग 50-60 शब्दों में विज्ञापन तैयार कीजिए ।

i. बाजार में आने वाले किसी भी नए उत्पाद (प्रोडक्ट) के लिए ।

ii. प्रकृति की रक्षा से धरती और मानव - जाति की रक्षा संभव है -

3. निम्नलिखित विषयों पर लगभग 100 से 110 शब्दों में अनुच्छेद लिखिए -

i) आत्मनिर्भर भारत

iii) बुजुर्गों के प्रति हमारी जिम्मेदारी

ii) पहला सुख निरोगी काया

iv) प्रकृति और मानव

4. मुख्य चिकित्सा अधिकारी को पत्र, जिसमें छात्रों के स्वास्थ्य परीक्षण का निवेदन हो ।

5. चेक-बुक खो जाने की सूचना देते हुए अपने बैंक के प्रबंधक को पत्र लिखिए ।

6. रास्ते में गुम हो गए बैग को एक अपरिचित व्यक्ति द्वारा लौटाने पर धन्यवाद पत्र लिखिए ।

7. अपने छोटे भाई को फिज़ूल-खर्ची पर नियंत्रण करने की सलाह देते हुए पत्र लिखिए ।

8. निम्नलिखित परियोजना कार्य फ़ाइल में कीजिए -

1. भक्तिकाल के दस प्रमुख कवियों और उनकी रचनाओं के विषय में सचित्र जानकारी एकत्र कर उनकी विशेषताओं को लिखिए ।

2. वर्तमान समय में पाँच ऐसे विशिष्ट व्यक्तियों के बारे में जानकारी एकत्र कीजिए जिनका जन्म भारत में हुआ और कर्मभूमि विदेशों में है तथा पाँच ऐसे विशिष्ट व्यक्तियों के बारे में जानकारी एकत्र कीजिए जिनका जन्म विदेश में हुआ और कर्मभूमि भारत में है ।

3 नागालैंड तथा राजस्थान की लोक संस्कृति के विषय में सचित्र जानकारी एकत्र कीजिए ।

बिरला शिशु विहार 2023-24

ग्रीष्म कालीन गृहकार्य

कक्षा 10 Sanskrit (SDR)

नोट- निम्नलिखित कार्य कीजिए--- *CLASS NOTE BOOK में (प्रश्न 1 और 2)

*परियोजना कार्य अलग-अलग रूप से

1. पर्यावरण, विद्या, अस्माकं देशः, सत्संगति व माता पिता पर अनुच्छेद लेखन कीजिए | (CLASS NOTE BOOK)
2. पाठ्य-पुस्तक के चित्रों को आधारित कर किन्हीं पाँच चित्रों का वर्णन संस्कृत भाषा में कीजिए | (CLASS NOTE BOOK)
3. दश सूक्तियों का लेखन रचनात्मक रूप से करते हुए भित्ति-पत्रिका का निर्माण कीजिए | (बड़े चार्ट पेपर पर)
4. नागालैंड की संस्कृति व परम्परा के विषय में सचित्र जानकारी एकत्र कीजिए | (A 4 SIZE सीट पर)
5. श्रीमद्भगवद्गीता के अध्याय 11 से पञ्च श्लोकों का संकलन सार्थ कीजिए व याद कीजिए | (A 4 SIZE सीट पर)
6. 20 दिनों की दैनन्दिनी का लेखन संस्कृत भाषा में कीजिए | (स्वनिर्मित)
7. महर्षि वेद व्यास के जीवन एवं उपलब्धियों पर जानकारियाँ एकत्र कर लिखिए | (A 4 SIZE सीट पर)

BS