#### Chapter - 1 Real Numbers

#### **Previous Years Questions**

#### **1.1 Introduction**

#### MCQ

1. The total number of factors of a prime number is

(a) 1

(b) 0

(c) 2

(d) 3

(2020)

#### **1.2 The Fundamental Theorem of Arithmetic**

#### MCQ

- 2. The ratio of HCF to LCM of the least composite number and the least prime number is (a) 1:2
  - (b) 2:1
  - (c) 1:1
  - (d) 1:3
  - (2023)
- 3. If HCF(39,91) = 13, then LCM(39,91) is
  - (a) 91
  - (b) 273
  - (c) 39
  - (d) 3549

(Term I, 2021-22)

- 4. Two positive numbers have their HCF as 12 and their product as 6336. The number of pairs possible for the numbers, is
  - (a) 2
  - (b) 3
  - (c) 4
  - (d) 1

(Term I, 2021-22)

If 'n ' is any natural number, then (12)<sup>n</sup> cannot end with the digit

 (a) 2

(b) 4

- (c) 8
- (d) 0

(Term I, 2021-22)

6. The number 385 can be expressed as the product of prime factors as (a)  $5 \times 11 \times 13$ 

(a)  $5 \times 11 \times 13$ (b)  $5 \times 7 \times 11$ (c)  $5 \times 7 \times 13$ (d)  $5 \times 11 \times 17$ (Term I, 2021-22)

- 7. The HCF and the LCM of 12,21 and 15 respectively, are
  - (a) 3,140
  - (b) 12,420 (c) 3,420
  - (d) 420,3
  - (2020) Ap

VSA (1 mark)

- 8. The LCM of two numbers is 182 and their HCF is 13. If one of the numbers is 26, find the other. (2020)
- 9. The LCM of two numbers is 9 times their HCF. The sum of LCM and HCF is 500. Find the HCF of the two numbers.

(2019C)

10. If HCF(336,54) = 6, find LCM(336,54).

(2019)

- 11. The HCF of two numbers a and b is 5 and their LCM is 200. Find the product ab.(AI 2019)
- 12. What is the HCF of smallest prime number and the smallest composite number?(2018)
- 13. Show that any number of the form  $6^n$ , where  $n \in N$  can never end with digit 0 (Board Term I, 2017) An
- 14. The HCF of two numbers is 27 and their LCM is 162, if one of the numbers is 54, find the other number

(Board Term I, 2017)

15. The LCM of two numbers is 2079 and their HCF is 27. If one of the numbers is 297. Find the other number

(Board Term I, 2015)

#### SA I (2 marks)

- 16. Find the least number which when divided by 12,16 and 24 leaves remainder 7 in each case.(2023)
- 17. Two numbers are in the ratio 2:3 and their LCM is 180. What is the HCF of these numbers?
- 18. Explain why  $2 \times 3 \times 5 + 5$  and  $5 \times 7 \times 11 + 7 \times 5$  are composite numbers.

(2021C)

- 19. If HCF of 65 and 117 is expressible in the form 65n 117, then find the value of *n*. (2019)
- 20. Find the HCF of 612 and 1314 using prime factorization.

(Al 2019)

21. Express 5050 as product of its prime factors. Is it unique?

(Board Term I, 2017)

22. Show that the numbers 231 and 396 are not co-prime. (Board Term I, 2017)

#### SA II (3 marks)

- 23. Find HCF and LCM of 404 and 96 and verify that HCF  $\times$  LCM = Product of the two given numbers. (2018)
- 24. An army contingent of 678 soldiers is to march behind an army band of 36 members in a Republic Day parade. The two groups are to march in the same number of columns. What is the maximum number of columns they can march?

(Board Term I, 2017)

25. On a morning walk, three persons steps off together and their steps measure 40 cm, 42 cm, and 45 cm respectively. What is the minimum distance each should walk so that each can cover same distance in complete steps?

(Board Term I, 2015)

#### LA (4/5 / 6 marks)

26. A sweet shopkeeper prepares 396 gulab jamuns and 342 ras-gullas. He packs them into containers. Each container consists of either gulab jamun or ras-gullas but have equal number of pieces. Find the number of pieces he should put in each box so that number of boxes are least.

(Board Term I, 2017)

27. Find the largest possible positive integer that divides 125, 162 and 259 leaving remainder 5, 6 and 7 respectively.

(Board Term I, 2017)

#### **1.3 Revisiting Irrational Numbers**

#### SA I (2 marks)

28. Show that  $5 + 2\sqrt{7}$  is an irrational number, where  $\sqrt{7}$  is given to be an irrational number.

(2020)

29. Show that  $\frac{3+\sqrt{7}}{5}$  is an irrational number, given that  $\sqrt{7}$  is irrational.

(2019C)

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

(2018)

31. How many irrational numbers lie between  $\sqrt{2}$  and  $\sqrt{3}$ ? Write any two of them. (Board Term I, 2017)

#### SA II (3 marks)

- 32. Prove that  $\sqrt{3}$  is an irrational number. (2023)
- 33. Prove that  $\sqrt{5}$  is an irrational number. (2023, NCERT, AI 2019)
- 34. Prove that  $\sqrt{2}$  is an irrational number. (2020 C, NCERT, Delhi 2019)
- 35. Prove that  $2 + 5\sqrt{3}$  is an irrational number, given that  $\sqrt{3}$  is an irrational number.

(2019)

#### LA (4/5 / 6 marks)

36. Define irrational number and prove that  $3 + 2\sqrt{5}$  is an irrational number.

(NCERT, Board Term I, 2017)

37. Prove that  $2 + \sqrt{5}$  is an irrational number.

(Board Term I, 2015)

#### chapter - 2 Polynomials

#### **Previous Years Questions**

#### **2.1 Introduction**

#### MCQ

- If one of the zeroes of a quadratic polynomial (k − 1)x<sup>2</sup> + kx + 1 is -3, then the value of k is

   (a) <sup>4</sup>/<sub>3</sub>
  - (b)  $-\frac{4}{3}$ (c)  $\frac{2}{3}$ (d)  $-\frac{2}{3}$

(NCERT Exemplar, Term I, 2021-22)

- 2. The degree of polynomial having zeroes -3 and 4 only is
  - (a) 2 (b) 1
  - (c) more than 3
  - (d) 3
  - (2020)
- 3. If one of the zeroes of the quadratic polynomial  $x^2 + 3x + k$  is 2, then the value of k is
  - (a) 10
  - (b) -10
  - (c) -7 (d) -2
  - (2020)

#### 2.2 Geometrical Meaning of the Zeroes of a Polynomial

#### MCQ

4. The graph of y = p(x) is given, for a polynomial p(x). The number of zeroes of p(x) from the graph is



(a) 3

(b) 1 (c) 2

(d) 0

(2023)

#### 2.3 Relationship between Zeroes and Coefficients of a Polynomial

#### MCQ

- 5. Which of the following is a quadratic polynomial with zeroes  $\frac{5}{3}$  and 0 ?
  - (a) 3x(3x-5)(b) 3x(x-5)(c)  $x^2 - \frac{5}{3}$ (d)  $\frac{5}{3}x^2$ (2023)
- 6. If  $\alpha$ ,  $\beta$  are the zeroes of a polynomial  $p(x) = x^2 + x 1$ , then  $\frac{1}{\alpha} + \frac{1}{\beta}$  equals to
  - (a) 1
  - (b) 2 (c) -1
  - $(d)\frac{-1}{2}$

  - (2023)
- 7. If  $\alpha$ ,  $\beta$  are zeroes of the polynomial  $x^2 1$ , then value of  $(\alpha + \beta)$  is
  - (a) 2
  - (b) 1
  - (c) -1
  - (d) 0
  - (2023)
- 8. If  $\alpha$ ,  $\beta$  are the zeroes of the polynomial  $p(x) = 4x^2 3x$ -7, then  $\left(\frac{1}{\alpha} + \frac{1}{\beta}\right)$  is equal to
  - (a)  $\frac{7}{3}$ (b)  $\frac{-7}{3}$ (c)  $\frac{3}{7}$ (d)  $\frac{-3}{7}$

  - (2023)

Case study: A car moves on a highway. The path it traces is given below:



Based on the above information, attempt any 4 questions from 9 to 13.

- 9. What is the shape of the curve EFG?
  - (a) Parabola
  - (b) Ellipse
  - (c) Straight line
  - (d) Circle

(Term I, 2021-22)

10. If the curve ABC is represented by the polynomial  $-(x^2 + 4x + 3)$ , then its zeroes are

- (a) 1 and -3
- (b) -1 and 3
- (c) 1 and 3
- (d) -1 and -3
- (Term I, 2021-22)

11. If the path traced by the car has zeroes at -1 and 2, then it is given by

(a)  $x^{2} + x + 2$ (b)  $x^{2} - x + 2$ (c)  $x^{2} - x - 2$ (d)  $x^{2} + x - 2$ 

(Term I, 2021-22)

12. The number of zeroes of the polynomial representing the whole curve, is

- (a) 4
- (b) 3
- (c) 2
- (d) 1

(Term I, 2021-22)

- 13. The distance between C and G is
  - (a) 4 units
  - (b) 6 units
  - (c) 8 units
  - (d) 7 units

(Term I, 2021-22)

14. The quadratic polynomial, the sum of whose zeroes is -5 and their product is 6, is

(a)  $x^2 + 5x + 6$ (b)  $x^2 - 5x + 6$ (c)  $x^2 - 5x - 6$ (d)  $-x^2 + 5x + 6$ 

(Term I, 2021-22, 2020)

#### VSA (1 mark)

15. If  $\alpha$  and  $\beta$  are the zeroes of the quadratic polynomial  $f(x) = x^2 - x - 4$ , find the value of  $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$ 

(2021C)

16. If one zero of the quadratic polynomial  $x^2 + 3x + k$  is 2, then find the value of k. (2021C)

17. If  $\alpha$ ,  $\beta$  are zeroes of the polynomial  $2x^2 - 5x - 4$ , then  $\frac{1}{\alpha} + \frac{1}{\beta} =$  (2020C)

18. If  $\alpha$ ,  $\beta$  are zeroes of the polynomial  $-3x^2 + x - 5$ , then the value of  $\frac{1}{\alpha} + \frac{1}{\beta}$  is

(2020C)

- 19. Form a quadratic polynomial, the sum and product of whose zeroes are -3 and 2 respectively. (2020)
- 20. Find the quadratic polynomial whose zeroes are 3 and -4 respectively. (Board Term I, 2015)

#### SA I (2 marks)

21. If one zero of the polynomial  $p(x) = 6x^2 + 37x - (k - 2)$  is reciprocal of the other, then find the value of k.

#### (2023)

22. If  $\alpha$  and  $\beta$  are zeroes of the polynomial  $x^2 - p(x+1) + c$  such that  $(\alpha + 1)(\beta + 1) = 0$ , then find the value of *c*.

(Board Term I, 2016)

23. If  $\alpha$  and  $\beta$  are zeroes of  $4x^2 + 3x + 7$ , then find the value of  $\frac{1}{\alpha} + \frac{1}{\beta}$ .

(Board Term I, 2015)

#### SA II (3 marks)

24. Find a quadratic polynomial whose zeroes are reciprocals of the zeroes of the polynomial

 $f(x) = ax^2 + bx + c, a \neq 0, c \neq 0.$ 

(2020)

25. Find the value of k such that the polynomial  $x^2 - (k + 6)x + 2(2k - 1)$  has sum of its zeroes equal to half of their product.

(Delhi 2019)

26. Find the zeroes of the quadratic polynomial  $7y^2 - \frac{11}{3}y - \frac{2}{3}$  and verify the relationship between the zeroes and the coefficients.

(2019)

27. Find the quadratic polynomial, sum and product of whose zeroes are -1 and -20 respectively. Also, find the zeroes of the polynomial so obtained.

(2019)

28. If  $\alpha$  and  $\beta$  are zeroes of  $4x^2 - x - 4$ , find quadratic polynomial whose zeroes are  $\frac{1}{2\alpha}$  and  $\frac{1}{2\beta}$ .

(Board Term I, 2017)

29. If  $\alpha$  and  $\beta$  are the zeroes of  $p(x) = 6x^2 - 7x + 2$ . Find the quadratic polynomial whose zeroes are  $\frac{1}{\alpha} \& \frac{1}{\beta}$ .

(Board Term I, 2017)

30. Find the zeroes of quadratic polynomial  $6x^2 - 3 - 7x$  and verify the relationship between the zeroes and the coefficients of the polynomial.

#### chapter -3

#### Pair of Linear Equations in Two Variables

#### **Previous Years Questions**

#### MCQ

- 1. The pair of linear equations 2x = 5y + 6 and 15y = 6x 18 represents two lines which are (a) intersecting
  - (b) parallel
  - (c) coincident
  - (d) either intersecting or parallel

(2023)

2. The pair of linear equations

 $\frac{3x}{2} + \frac{5y}{3} = 7$  and 9x + 10y = 14 is

(a) consistent

(b) inconsistent

- (c) consistent with one solution
- (d) consistent with many solutions

(2020)

#### SA I (2 marks)

3. Find whether the lines representing the following pair of linear equations intersect at a point, are parallel or coincident:

3x + y = 7,6x + 2y = 8

(Board Term I, 2017)

4. Find whether the lines representing the following pair of linear equations intersect at a point, are parallel or coincident:

 $\frac{3}{2}x + \frac{5}{3}y = 7$  and  $\frac{3}{2}x + \frac{2}{3}y = 6$ 

(Board Term I, 2017)

5. Find whether the lines representing the following pair of linear equations intersect at a point, are parallel or coincident:

2x + y + 3 = 0,4x + 2y + 6 = 0

(Board Term I, 2017)

#### 3.2 Graphical Method of Solution of a Pair of Linear Equations

#### MCQ

- 6. The pair of lines represented by the linear equations 3x + 2y = 7 and 4x + 8y 11 = 0 are (a) perpendicular
  - (b) parallel
  - (c) intersecting
  - (d) coincident

(Term I, 2021-22)

- 7. The pair of equations y = 2 and y = -3 has (a) one solution
  - (b) two solutions

  - (c) infinitely many solutions
  - (d) no solution

(Term I, 2021-22)

- 8. The pair of equations x = 5 and y = 5 has
  - (a) no solution
  - (b) unique solution
  - (c) many solutions
  - (d) only solution (0,0)

(2020 C)

- 9. The pair of equations x = a and y = b graphically represent lines which are
  - (a) Intersecting at (a, b)
  - (b) Intersecting at (b, a)
  - (c) Coincident
  - (d) Parallel
  - (2020 C)

#### SAI(2 marks)

10. Solve the pair of equations x = 5 and y = 7 graphically.

(2023)

11. Using graphical method, find whether pair of equations x = 0 and y = -3, is consistent or not. (2023)

#### SA II (3 marks)

12. Determine graphically the coordinates of the vertices of a triangle, the equations of whose sides are given by 2y - x = 8.5y - x = 14 and y - 2x = 1.

(2020)

- 13. Solve the equations x + 2y = 6 and 2x 5y = 12 graphically. (2020 C)
- 14. Draw the graph of the equations x y + 1 = 0 and 3x + 2y 12 = 0. Using this graph, find the values of x and y which satisfy both the equations.

(2019)

#### LA (4/5/6 marks)

15. For Uttarakhand flood victims two sections *A* and *B* of class *X* contributed ₹1500. If the contribution of *XA* was ₹100 less than that of *XB*, find graphically the amounts contributed by both the sections

(Board Term I, 2017)

16. Three lines 3x + 5y = 15,6x - 5y = 30 and x = 0 are enclosing a beautiful triangular park. Find the points of intersection of the lines graphically and the area of the park if all measurements are in km.

What type of behaviour should be expected by public in this type of park? (Board Term I, 2017) Ap

17. Solve the following pair of linear equations graphically 6x - y + 4 = 0 and 2x - 5y = 8. Shade the region bounded by the lines and *y*-axis.

(Board Term I, 2017) Ev

18. Find the graphically solution of

x - 2y = 0 and 3x + 4y = 20.

(Board Term I, 2017)

19. Solve graphically the following pair of linear equations:

2y - 3x = 14, 2x + 3y = 8

Hence, shade the region enclosed by these lines and y-axis.

(Board Term I, 2017)

20. Draw the graph of the following pair of linear equations:

x + 3y = 6 and 2x - 3y = 12

Find the ratio of the areas of the two triangles formed by first line, x = 0, y = 0 and second line, x = 0, y = 0.

(Board Term I, 2016)

21. Solve the following pair of linear equations graphically:

$$2x + y = 4$$
$$2x - y = 4$$

Also, find the co-ordinates of the vertices of the triangle formed by the lines with *y*-axis and also find the area of triangle.

(Board Term I, 2015)

#### 3.3 Algebraic Methods of Solving a Pair of Linear Equations

#### MCQ

- 22. The value of k for which the pair of equations kx = y + 2 and 6x = 2y + 3 has infinitely many solutions.
  - (a) is k = 3(b) does not exist (c) is k = -3(d) is k = 4
  - (2023)
- 23. A father is three times as old as his son. In 12 years time, he will be twice as old as his son. The sum of the present ages of the father and the son is
  - (a) 36 years
  - (b) 48 years
  - (c) 60 years
  - (d) 42 years

(Term I, 2021-22)

24. If 17x - 19y = 53 and 19x - 17y = 55, then the value of (x + y) is

- (a) 1
- (b) -1

(c) 3

(d) -3

(Term l, 2021-22)

#### SA I (2 marks)

25. The sum of the numerator and the denominator of a fraction is 18. If the denominator is increased by 2, the fraction reduces to  $\frac{1}{3}$ . Find the fraction.

(2021C)

26. The larger of two supplementary angles exceeds the smaller by 18°. Find the angles.

(2019)

27. Solve the following pair of linear equations:

3x - 5y = 4,2y + 7 = 9x

(2019)

28. In figure, *ABCD* is a rectangle. Find the values of x and y.



(2018)

#### SA II (3 marks)

29. Half of the difference between two numbers is 2. The sum of the greater number and twice the smaller number is 13. Find the numbers.

(2023)

30. A fraction becomes  $\frac{1}{3}$  when 1 is subtracted from the numerator and it becomes  $\frac{1}{4}$  when 8 is added to its denominator. Find the fraction.

(2020)

- 31. The present age of a father is three years more than three times the age of his son. Three years hence the father's age will be 10 years more than twice the age of the son. Determine their present ages. (2020)
- 32. A father's age is three times the sum of the ages of his two children. After 5 years his age will be two times the sum of their ages. Find the present age of the father.

(Delhi 2019)

33. A fraction becomes  $\frac{1}{3}$  when 2 is subtracted from the numerator and it becomes  $\frac{1}{2}$  when 1 is subtracted from the denominator. Find the fraction.

(Delhi 2019)

34. A part of monthly hostel charges in a college hostel are fixed and the remaining depends on the number of days one has taken food in the mess. When a student *A* takes food for 25 days, he has to pay ₹ 4,500, whereas a student *B* who takes food for 30 days, has to pay ₹5,200. Find the fixed charges per month and the cost of food per day.

(AI 2019)

35. Solve by elimination 3x = y + 5 and 5x - y = 11.

(Board Term I, 2017)

36. Two chairs and three tables cost ₹5650 whereas three chairs and two tables cost ₹7100. Find the cost of a chair and a table separately.

(Board Term I, 2016)

#### LA (4/5/6 marks)

37. 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 given information, answer the following questions.

- (i) Represent the following information algebraically (in terms of x and y).
- (ii) (a) What is the prize amount for hockey?

#### OR

- (b) 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?

(2023)

38. The ratio of income of two persons is 9:7 and the ratio of their expenditure is 4:3, if each of them manage to save ₹ 2000/ month. Find their monthly incomes.

(Board Term I, 2017)

39. The sum of the digits of two digit number is 9. Also 9 times the number is twice the number obtain by reversing the order of digits. Find the numbers.

(Board Term I, 2017)

40. While teaching about the Indian National flag, teacher asked the students that how many lines are there in Blue colour wheel? One student replies that it is 8 times the number of colours in the flag. While other says that the sum of the number of colours in the flag and number of lines in the wheel of the flag is 27. Convert the statements given by the students into Linear Equation of two variables. Find the number of lines in the wheel. What does the wheel signifies in the flag?

(Board Term I, 2016)

41. Points *A* and *B* are 100 km apart on a highway. One car starts from *A* and another from *B* at the same time. If they travel in same direction at different speeds, they meet in 5 hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars?

What steps do you suggest to save petrol?

(Board Term I, 2015)

#### **Solution of Pair of Linear Equations**

#### MCQ

- 42. The value of k for which the system of equations x + y 4 = 0 and 2x + ky = 3, has no solution, is (a) -2
  - (a)  $\neq 2$ (b)  $\neq 2$
  - (c) 3
  - (d) 2
  - (2020)

#### SA I (2 marks)

43. Find the value of k for which the system of equations x + 2y = 5 and 3x + ky + 15 = 0 has no solution.

(2021 C)

44. Find the value(s) of k so that the pair of equations x + 2y = 5 and 3x + ky + 15 = 0 has a unique solution.

(2019)

45. Find the relation between p and q if x = 3 and y = 1 is the solution of the pair of equations x - 4y + p = 0 and 2x + y - q - 2 = 0.

(2019 C)

46. Find *c* if the system of equations cx + 3y + (3 - c) = 0; 12x + cy - c = 0 has infinitely many solutions?

(2019 C)

47. Find the value of k for which the following pair of linear equations have infinitely many solutions.

$$2x + 3y = 7, (k + 1)x + (2k - 1)y = 4k + 1$$

(Delhi 2019)

48. For what value of k, does the system of linear equations 2x + 3y = 7, (k - 1)x + (k + 2)y = 3k have an infinite number of solutions?

(Al 2019)

- 49. Find the value(s) of k for which the pair of equations  $\begin{cases} kx + 2y = 3\\ 3x + 6y = 10 \end{cases}$  has a unique solution.
- 50. Find k so that the following pair of linear equations has no solution.

3x + y = 1

(2k-1)x + (k-1)y = 2k + 1.

(Board Term I, 2015)

#### LA (4/5/6 marks)

51. Case study based question is compulsory. Attempt any 4 sub-parts from the question. Each sub-part carries 1 mark.

The residents of a housing society, on the occasion of environment day, decided to build two straight paths in the central park of the society and also plant trees along the boundary lines of each path.

Taking one corner of the park as origin and the two mutually perpendicular lines as the x-axis and y-axis, the paths were represented by the two linear equations 2x - 3y = 5 and -6x + 9y = 7.

Based on the above, answer the following questions:

(i) Two paths represented by the two equations here are

(a) intersecting

(b) overlapping

(c) parallel

(d) mutually perpendicular

(ii) Which one of the following points lie on the line 2x - 3y = 5?

- (a) (-4,1)
- (b) (4,−1)
- (c) (4,1)
- (d) (-4, -1)

(iii) If the line -6x + 9y = 7 intersects the y-axis at a point, then its coordinates are (a)  $\left(0, \frac{7}{9}\right)$ 

- (b)  $\left(\frac{7}{9}, 0\right)$
- $(c)\left(-\frac{7}{6},0\right)$  $(d)\left(0,-\frac{7}{6}\right)$

(iv) If a pair of equations  $a_1x + b_1y + c_1 = 0$  and  $a_2x + b_2y + c_2 = 0$  has a unique solution, then (iv) if a pair of e (a)  $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ (b)  $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$ (c)  $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ (d)  $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ 

- (v) If  $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ , then the two lines  $a_1x + b_1y + c_1 = 0$  and  $a_2x + b_2y + c_2 = 0$  are (a) parallel
- (b) coincident
- (c) intersecting
- (d) perpendicular to each other

(2021 C)

## PM SHRI KENDRIYA VIDYALAYA CHITTARANJAN

### HOLIDAY HOMEWORK - CLASS X- ENGLISH

### 1. Complete the Class works of the chapters:

- Two stories about flying
- A Tiger in the Zoo
- The Midnight Visitor
- How to tell wild animals

### 2. Portfolio work

<u>Activity:</u> according to the given format, Start the work of the portfolio.

### 3. Art Integrated project

Topic: A.K Ramanujan

• Word limit: 120–150 words

NOTE :All works except portfolio and project are to be done in the notebook.

### 4. Worksheets with PYQ s and CBQs.

#### COMPETENCY BASED QUESTIONS

#### A LETTER TO GOD

1. When he finished, he went to the window to buy a stamp which he licked and then affixed to the envelope with a blow of his fist. The moment the letter fell into the mailbox the postmaster went to open it. It said: "God: Of the money that I asked for, only seventy pesos reached me. Send me the rest, since I need it very much. But don't send it to me through the mail because the post office employees are a bunch of crooks. Lencho."

...bunch of crooks.' Pick the option that DOES NOT collate with 'bunch of', correctly. (i) keys bunch of (ii) grapes (iv) islands (iii) flowers a) option (i) b) option (ii) C) option (iii)

d) option (iv)

#### II.What was the most likely response that the postmaster expected in Lencho's second letter?

i) sorrowful ii) gratitude iii) disappointment iv) elation v) shock

- a) ii and v b) i and iii
- c) ii and iv d) iii and v IÍI



#### **IV.** Lencho's letter included

a) details of his problems. b) description of the post office. c) belief of being looted .d) List of further demands.

#### V. Pick the most suitable quote for this extract.

a) "It is easier to fool people than to convince them that they have been

fooled." - Mark Twain

b) "Real knowledge is to know the extent of one's ignorance."- Confucius

c) "You see a person's true colours when you are no longer beneficial to their life."- anonymous

d) "True generosity means accepting ingratitude." - Coco Chanel

2. 'Lencho was an ox of a man, working like an animal in the fields, but still he knew how to write.' What does this line tell us about the norm amongst such farmers, then? Ans.

**3.** Lencho did not bother exploring any other means to resolve his situation but just turned to God. Do you feel that his approach was justified?Why/Why not? Ans.

#### FIRE AND ICE

Some say the world will end in fire,

Some say in ice.

From what I've tasted of desire

I hold with those who favor fire.

But if it had to perish twice,

I think I know enough of hate

To say that for destruction ice

Is also great

And would suffice.

#### I.Choose the CORRECT statement about the given poem.

a) Fire and ice are *images*—they help the readers visualise the power of nature over man.

b) Fire and ice are *symbols*—not of *natural* disasters, but of humanity's ability to create disasters of its own.

c) Fire and ice are *elements*—not of Nature but man-made and possess the ability to create havoc for mankind.

d) Fire and ice are *agents*—they change the thinking of mankind from negative to positive and bring harmony.

### **II.** Select the option that correctly classifies the connotations for fire and ice, as suggested in the poem.

#### (1) rage (2) violence (3) indifference (4) hate (5) greed

a) Fire- 3,4; Ice- 1,2,5 b) Fire- 2, 5; Ice-1,3,4 c) Fire-1,3,5; Ice- 2, 4 d) Fire- 1,2,4; Ice- 3,5 III. The poem is a------, put across by the poet.

a) powerful warning b) heart-felt apology c) earnest appeal d) vengeful threat IV.

The poet uses the phrasal verb -hold with.

Choose the option that DOES NOT indicate a valid phrasal verb.



a) option 1 b) option 2 c) option 3 d) option 4

V. Pick the option that is NOT TRUE about the poet according to the extract. The poet

a) is inclined to believe that the world would most likely end with fire.b) has heard divided opinions about the way the world would end in all likelihood.

### c) preaches love and kindness to combat the spread of hate among all.d) declares the power of ice to be as destructive as that of fire.

#### VI. Identify the most likely tone of the poet in the lines-

'To say that for destruction ice/Is also great'.

a) sarcastic b) serious c) amused d) celebratory

#### A TRIUMPH OF SURGERY

1.He discovered the joys of being bowled over, tramped on and squashed every few minutes. He became an accepted member of the gang, an unlikely, silky little object among the shaggy crew, fighting like a tiger for his

share at mealtimes and hunting rats in the old henhouse at night. He had never had such a time in his life. All the while, Mrs Pumphrey hovered anxiously in the background, ringing a dozen times a day for the latest bulletins.

i.Read the following statements, each of which describes the gist of the given extract.

Select the option that captures the essence of the extract correctly.

Statement I – It highlights the kind of comforts and luxuries that Tricki was used to at home.

Statement II – It brings out a contrast between Tricki and Mrs. Pumphrey's state of being.

Statement III – It reflects that Tricki was happier at the surgery, and loved being with other dogs.

Statement IV – It shows Tricki's journey with his peers at the surgery, and documents his recovery.

a) Statements I and II b) Statements III and IV

c) Statements I and III d) Statements II and IV

ii. What does the reference to Tricki as a "silky little object" signify?

a) Tricki was a very small and rather pampered dog.

b) Tricki was comfortably attired in fine silks and warm coats.

c) Unlike the other dogs, Tricki had lived in the lap of luxury with care and grooming.

d) The narrator's mockery of Tricki's life and treatment with Mrs. Pumphrey.

#### iii. Why does the narrator describe being "tramped on and squashed" as joys?

a) To suggest the irony about the strange ways of dogs.

b) To mention the simple pleasures of canine life.

c) To compare it to Tricki's earlier play-time at thehouse.

d) To direct attention towards Tricki's successful recovery.

iv. "All the while, Mrs Pumphrey hovered anxiously in the background".

### Given below are different types of pet parenting styles described in Country Living, an e-magazine.

Choose the option that best reflects the kind of pet owner Mrs. Pumphrey was.

(i) Traffic Light pet owners have a healthy balance of rules and freedom and give clear and consistent signals for 'yes' and 'no'.

(ii) Entranced pet owners have the best intentions, but as soon as their pet locks eyes with them and gives their command, they are at their pet's beck and call.

(iii) The Goose pet owners go all-out in protecting their pet. They often limit their time away from their pet, especially puppies.

 $({\bf iv})$  The Baggage Handler pet owners love being close to their pets and going on adventures together. They are always mindful of the pet's comfort and security .

a) Option (i) b) Option (ii) c) Option (iii d) Option (iv)

v. Pick the option that reveals Tricki's characteristics in the context of 'fighting like a tiger for his share at mealtimes and hunting rats in the old henhouse at night.'

1.selfish

2) happy

3) greedy

4) confident

5) sturdy

6) cruel

a) 2,4 and 5 b) Only 2 c) 1 and 5 d) 3,4 and 6

2.Do you think the narrator's decision to not reveal the actual treatment toMrs. Pumphrey was unprofessional? Justify your stance. Ans:

**3.According to a popular quote**— Where there is no struggle, there is no strength.In what way is this quote relevant to the events of the story? Ans:

4. 'Privilege often confuses actual needs for perceived ones.' Evaluate this statement with reference to Mrs. Pumphrey. Ans:

#### PM SHRI K.V. CHITTARANJAN HOLIDAY HOMEWORK (SUMMER BREAK – 2025)

CLASS: (III – X) SUBJECT: A.I. / D.L.

| CLASS | DETAILS OF HOME WORK   |  |  |
|-------|--|--|--|
|       | Answer the following:  |  |  |
|       | <ol> <li>What is IPO Cycle (Understanding how a computer operates)?</li> </ol>                                   |  |  |
|       | <ol><li>Describe the Types of Computers according to their sizes.</li></ol>                                      |  |  |
|       | 3. Draw the parts of a Computer, label them and describe about them.   |  |  |
| IV    | Answer the following:  |  |  |
|       | 1. What is ABACUS? Make a diagram of it.   |  |  |
|       | 2. Describe the Classification of Computers.   |  |  |
|       | 3. Describe the parts of a Computer. (Input Devices, Output Devices, Storage Devices)                            |  |  |
|       | (* Make diagrams wherever required)  |  |  |
| V     | Describe the Evolution of Computers:   |  |  |
|       | (1 <sup>st</sup> Generation Computers to 5 <sup>th</sup> Generation Computers)                                   |  |  |
|       | (* Make diagrams wherever required)  |  |  |
| VI    | 1. Explain the Generations of Computers: (Make a Table and explain them in details.)                             |  |  |
|       | 2. Describe the Computer Programming languages.  |  |  |
|       | 3. Mention about the Applications of Computers. (Any six)  |  |  |
| VII   | <ol> <li>Describe the "Types of Computers" (Make diagrams wherever needed)</li> </ol>                            |  |  |
|       | 2. Explain the Data Representation and Number System (Binary, Decimal, Octal & Hexadecimal)                      |  |  |
|       | (Give some examples of conversion from Decimal to Binary Numbers :)  |  |  |
| VIII  | 1. Explain the following Early Computing Devices:  |  |  |
|       | a) ABACUS b) Jacquard Loom c) Analytical Engine d) ENIAC   |  |  |
|       | 2. Write a short note about Artificial Intelligence.   |  |  |
|       | 3. Multiple Choice Questions (Q. No 1 to Q. No 10 of Chapter: "Basics of ICT" – Page 21 of Text Book.            |  |  |
| IX    | 1. Unit 1. Communication Skills  |  |  |
|       | <ul> <li>Do the Assertion &amp; reasoning Questions</li> </ul>   |  |  |
|       | Do the Competency Based Question   |  |  |
|       | 2. Unit 2. Self-Management Skills  |  |  |
|       | <ul> <li>Do the Assertion &amp; Reasoning Questions</li> </ul>   |  |  |
|       | Do the Competency Based Questions  |  |  |
| Х     | 1. Unit 1. Communication Skills  |  |  |
|       | <ul> <li>Do the Assertion &amp; reasoning Questions</li> </ul>   |  |  |
|       | Do the Competency Based Question   |  |  |
|       | 2 Unit 2 Self-Management Skills  |  |  |
|       | Do the Assertion & Reasoning Questions   |  |  |
|       | Do the Assertion & Reasoning Questions     Do the Competency Pased Questions                                     |  |  |
|       | Do the completency based Questions     Do the completency based Questions     Do the completency based Questions |  |  |
|       | 5. Utill 5. DdSIL ICT SKIIIS   |  |  |
|       | <ul> <li>Knowing About Operating System (Do the Check Points &amp; Assignments)</li> </ul>                       |  |  |

#### HOLIDAY HOMEWORK

#### SUB: SOCIAL SCIENCE

#### CLASS: IX

PROJECT ON DISASTER MANAGEMENT:- Prepare a project on Disaster
 Management, taking any one Disaster Natural or Man Made
 INSTRUCTIONS:

1.The project must be completed in Project File

2. The project must contain Index, Certificate, Acknowledgement, Bibliography and Conclusion.

3. The project must be hand written and original

4. The project should contain government datas, charts , flow charts , diagrams etc.

5.The project file should be well decorated

6.It should also contain a questionnaire .

(II) MAP POINTING: LOCATING AND LABELLING

It should be prepared in a stick file. INSTRUCTIONS:

1.On the outline map of India ,Locate and label the features mentioned in the following chapters:

Geography: India :size and location, Physical features of India, Drainage,Climate ,Natural Vegetation and wildlife, Population

History: Socialism in Europe and the Russian Revolution, Nazism and the Rise of Hitler

2. Map pointing should be neat and clean

#### CLASS: X

 PROJECT ON Consumer Rights ,Sustainable Developmenmt OR Any one Social Issue:- Prepare a project on any one of the above topic.
 INSTRUCTIONS:

1. The project must be completed in Project File

2. The project must contain Index, Certificate, Acknowledgement, Bibliography and Conclusion.

3. The project must be hand written and original

4.The project should contain government datas, charts ,flow charts ,diagrams etc.5.The project file should be well decorated

6.It should also contain a questionnaire

#### (II) MAP POINTING : LOCATING AND LABELLING

It should be prepared in a stick file. INSTRUCTIONS: 1.On the outline map of India ,Locate and label the features mentioned in the following chapters: Geography: Water Resources,Agriculture,Minerals and Energy Resources, Manufacturing Industries, Lifelines of National Economy History: Nationalism In India

2. Map pointing should be neat and clean

# PM SHRI KENDRIYA VIDYALAYA CHITTARANJAN



| NAME OF STUDENTS   |  |
|--------------------|--|
| ROLL NO.           |  |
| CLASS WITH SECTION |  |
| SESSION            |  |



### PORTFOLIO

### 1: Myself

| Name                            |       |
|---------------------------------|-------|
| Class and Section               | PΔSTF |
| Admission No                    | РНОТО |
| Date of Birth                   | HERE  |
| House                           |       |
| Father`s Name                   |       |
| Mother`s Name                   |       |
| Residential Address             |       |
| Telephone No                    |       |
| Email ID                        |       |
| Details of brothers<br>/sisters |       |
| Any other details               |       |

### **<u>2: MY HEALTH</u>**

| My height                                 |  |
|---|--|
| My weight                                 |  |
| My blood group                            |  |
| Vision                                    |  |
| Teeth                                     |  |
| Oral hygiene                              |  |
| Specific ailments if any                  |  |
| Steps I should take to<br>be more healthy |  |

### 3: Self awareness sheet

| Interest a | d hobbies:-   | <br> |  |
|------------|---------------|------|--|
|            |               |      |  |
| My likes a | nd dislikes:- |      |  |
|            |               |      |  |
| My good    | ualities:-    |      |  |
|            |               |      |  |

Appreciation of Beauty, Gratitude, Humour.....etc]

Areas where I feel I require improvement Egs [Oversensitivity. short tempered, judgmental, Negativity, lack of concentration, lack of confidence Lack of time management, stubborn.....etc]

**Responsibilities discharged** 

Achievements

Three physical qualities I like about myself [egs: hair, height, smile etc]

### 4:.Thinking skills

Answer briefly based on the areas you mentioned you require improvement

Did you ever feel this problem can be solved? Give reasons

Do you take help from others to solve this problem? if you did ,how did they guide you ?

Were you able to find a solution for this problem finally?

Were you able to find more than one alternative to solve this problem?

When you worked on a solution did you think on improving on the solution?

While making a decision, do you tell others why you decided so?

While working and deciding in groups do you support your friend's decision and try to make them work?

### 5:.Social skills

Ways in which you help your friends

How do you show your feelings to your friends and teachers? Do you find it easy to show?

How do you show your respect to your teachers, parents &elders?

If somebody asks you to change the channel to watch their favourite program on TV or ask you to leave the window seat for them while travelling, what will be your reaction?

Do you actively take part in group conversation?

Do you listen carefully when others talk to you even if you don't agree with them completely?

Do you agree with whatever your friends say in order to avoid conflict?

Which among these do you think you use the most in order to express your ideas while talking Facial expression, gestures, eye contact, or a combination of all these?

What are some of the social problems you are concerned about?

As a student what are the ways in which you can think of saving the environment?

### 6:Emotional skills

Do you confide your feelings to your teachers and friends?

What are some of the positive [good] emotions you feel?

What are some of the negative emotions you feel?

Do you feel stressed in your daily life?[like about your performance at school , about your relationship with your friends, about your relationship with your family members etc]

Have you lost control/felt lonely/have gained or lost weight/slept more or less than normal during these stressful times?

Do you talk about your stresses to your friends / teachers?

What creative things do you do in order to cope up with stress?

### 7:Socially Useful ProductiveTask

Has working in groups helped you in innovativeness and meeting deadlines? If yes how?

How far are you motivated and involved with socially useful task? Are you able to guide and help other friends who require help in finishing their task?

How far your involvement in socially useful task helped you in solving real life problems? Egs [solving problems related to electrical gadgets, managing PSA system, making gift items and decorative show pieces etc]

If you have created anything innovative describe the way in which you made it? [You may even paste a photo of the object you made]

| 8:. <u>Visual art/performing art</u>   |                         |  |  |  |
|--|-------------------------|--|--|--|
| My participation in art activities / co-curricular activities /drama music and club activities |                         |  |  |  |
|  | Participation           |  |  |  |
| I EKW-I  | Achievements,<br>if any |  |  |  |
|  | Participation           |  |  |  |
|  | Achievements,<br>if any |  |  |  |

### 9: physical and health education

My participation in sports /NCC/NSS/scouting and guiding/Swimming/ Gymnastics/ Yoga /FirstAid/Gardening/Shramdaan

|           | Participation           |  |
|-----------|-------------------------|--|
| I E.KWI-I | Achievements,<br>if any |  |
| TERM-II   | Participation           |  |
|           | Achievements,<br>if any |  |

| 10. NCSC / SCIENCE EXHIBITION / OLYMPIAD ACTIVITIES |                         |  |
|---|-------------------------|--|
| INFORMATION OF                                      | Participation           |  |
| OTHER SUBJECT                                       | Achievements,<br>if any |  |

### **11:ATTITUDE AND VALUES**

| My attitude towards<br>my teacher  |  |
|--|--|
| My attitude towards<br>my friends  |  |
| My attitude towards<br>school programmes<br>and environment                        |  |
| My participation in<br>morning assembly<br>/National festivals                     |  |
| My experience as a club member   |  |
| Participation in<br>exhibition / Olympiad  |  |
| My contribution in<br>improving<br>/beautification/<br>discipline of my class      |  |
| My contribution to<br>school magazine/e-<br>magazine/newsletter/<br>class magazine |  |
| My achievements in<br>CCA competition  |  |
| My achievements in<br>inter school<br>competition                                  |  |
| My achievements in<br>regional level<br>competitions                               |  |
| My achievements in<br>national level<br>competition                                |  |
| Any other outstanding<br>achievements  |  |

### PASTE THE PHOTOGRAPH OF ACTIVITY DONE BY YOU

### PASTE THE PHOTOGRAPH OF CERTIFICATE RECEIVED BY YOU



#### PM SHRI KENDRIYA VIDYALAYA CHITTARANJAN

#### **Class 10 Science HHW**

#### **Short Answer Type Questions**

- 1. In the process of digestion of food in human beings 2 protein digestive enzymes are secreted. Name the enzymes along with the glands that secrete them.
- 2. Give the names of the enzymes present in the fluid in our mouth and the gland which produces it. What would happen to the digestion process if this gland stops secreting this enzyme?
- 3. Differentiate between alveoli and nephron on the basis of following points:
- a. structure and location (B) function
- 4. We need to water the soil in plants on a regular basis but it ultimately reaches the leaves of the plant. Explain how does it take place.
- 5. Name and explain the type of nutrition exhibited by ammonia including the food taken and digestion within the Organism.
- 6. Sometimes while running why do the athletes suffer from muscle cramps? How does the respiration in this case differ from aerobic respiration?
- 7. Explain in brief two ways by which leaves of a plant held in excretion.
- 8. Write one specific function of each of the following organisms in relation with excretion in human beings:
- a. Tubular part of nephron. (b) Glomerulus. (c) Urethra
- 9. (a) Why is it important to prevent oxygenated and deoxygenated blood from mixing in birds and mammals.
- b. Which animal can tolerate some mixing of the oxygenated and deoxygenated blood streams on which factor does the body temperature of these animals depend?
- 10. With the help of a schematic flow chart show the breakdown of glucose in a cell to provide energy in case of presence of oxygen and lack of oxygen.
- 11. Name the organ that stores and release the urine and the purpose for making urine?
- 12. How desert plants perform photosynthesis if their stomata remains closed during the day?
- 13. give reasons for the following:
- a. Rings of cartilage are present the throat
- b. .Lungs always contain a residual volume of air.
- c. Walls of alveoli contain an extensive network of blood vessels.

#### CASE BASED QUESTIONS

CASE 1. Study the given figure and answer the given questions 1 to 4 on the basis of your understanding of the given figure and the related studied concepts.



- Which chamber of the heart (6, 7, 8 or 9) pumps blood to the lungs for oxygenation, name it ? Identify and name the blood vessels that carry blood to the lungs. (1)
- 2. Identify the structure at number 12 and state its function.
- 3. Why do chambers 6 and 7 have thicker muscular walls than chambers 8 and 9 ? Name each of these chambers.
- (i) Identify and name the chamber that receives oxygen rich blood and name the blood vessels which bring it.
   (ii) State the significance of separation of right and left side of heart as seen in the above figure.

CASE 3. The blood is an important liquid connective tissue that flows in the blood vessels and helps in transportation of gases, food etc. It exerts a force against the walls of vessels. This force is called blood pressure and is measured by a an instrument.

#### Answer questions 9 to 12 based on your understanding of above paragraph and related studied concepts.

- 9. Which scientific instrument is used to measure blood pressure ?(1)10. Mention normal systolic and normal diastolic pressure in human beings.(1)11. Why is blood pressure inside the arteries is much more as compared to inside the veins ?(2)
- 12. What happens during ventricular systole? (2)

CASE 4. Human digestive system is a tube running from mouth to anus. Its main function is to breakdown complex molecules present in the food which can not be absorbed as such into smaller molecules. These molecules are absorbed across the walls of the tube and the absorbed food reaches each and every cell of the body where it is utilised for obtaining energy.

| Answer questions 15 to 10 based on your understanding of above data and related studied col           | ncepts.           |
|---|-------------------|
| 13. Name the glands present in the buccal cavity and write the components of food on which the secu   | retion of these   |
| glands act upon.  | (1)               |
| 14. Two organs have a sphincter muscle at their exit. Name them.                                      | (1)               |
| 15. What will happen if :   |                   |
| (i) mucus is not secreted by the gastric glands. (ii) Villi are absent in the small intestine.        | (2)               |
| 16. "Bile juice does not contain any enzyme, yet it has important roles in digestion." Justify the st | atement (2)       |
|   | (CRSF 2024)       |
| МСQ   |                   |
| Assertion. Hydrochloric acid helps in the digestion of food in the stomach.                           |                   |
| Reason. Hydrochloric acid creates an acidic medium to activate protein digesting enzymes.             | (CBSE 2022)       |
| . Assertion. Blood clotting prevents excessive loss of blood.   |                   |
| Reason. Blood clotting is due to blood plasma and white blood cells present in the blood.             | (CBSE 2023)       |
| 2. Assertion. The inner walls of the small intestine have finger like projections called villi which  | are rich in blood |
| Reason. These villi have a large surface area to help the small intestine in completing the dige      | stion of food.    |
|   | (CBSE 2023        |
| 3. Assertion. The walls of atria are thicker than those of the ventricles.                            |                   |
| Reason. Ventricles have to pump blood into various organs at high pressure.                           | (CBSE 2023        |
| 4. Assertion. Amoeba takes in food using finger like extensions of the cell surface.                  |                   |
| Reason. In all unicellular organisms, the food is taken in by the entire cell surface.                | (CBSE 2023        |
| 5. Assertion. The rate of breathing in aquatic organisms is much faster than in terrestrial animals   |                   |
| Reason. The amount of oxygen dissolved in water is very high as compared to the amount of             | oxygen in air.    |

(CBSE 2024

(1)

(2)



(a) I (c) III

- (d) II (CBSE 2023) 92. During vigorous exercise, the occurrence of cramps in the outer muscles of an athelete is due to the conversion of pyruvate to : (b) Ethanol
  - (a) Glucose (c) Lactic acid
    - (d) Lactose (CBSE 2023)

(b) IV

93. Observe the following diagram and identify the process and its significance from the following options :



- (a) Evaporation : maintains water contents in leaf cells.
- (b) Transpiration : creates a suction force which pulls water inside the plant.
- (c) Excretion : helps in excreting out waste water from the plant.
- (d) Translocation : helps in transporting materials (CBSE 2023) from one cell to another.
- 94. Opening and closing of stomata is due to :
  - (a) High pressure of gases inside the cells.
  - (b) Movement of water in and out of the guard cells.
  - (c) Stimulus of light in the guard cells.
  - (d) Diffusion of CO<sub>2</sub> in and out of the guard cells.

- 95. The process in which loss of water in the form of vapours from the aerial parts of plants takes place is X, which helps in Y. Here X and Y respectively are :
  - (a) transpiration and photosynthesis
  - (b) transpiration and temperature regulation
  - (c) transpiration and movement of soluble products of photosynthesis in phloem
  - (d) transpiration and absorption of water and minerals (CBSE 2023) from soil by roots
- 96. As compared to terrestrial organisms, the rate of breathing in aquatic organisms is :
  - (a) faster because they need more oxygen for their survival
  - (b) faster because the amount of dissolved oxygen in water is fairly low
  - (c) slower because the amount of dissolved oxygen in water is fairly low
  - (d) slower because the capacity of water of dissolving atmospheric air is limited (CBSE 2023)
- 97. In the given diagram of a closed stomata : (1), (2), (3) and (4) respectively are



- (a) nucleus, chloroplast, guard cell, vacuole (b) nucleus, chloroplast, vacuole, guard cell (c) chloroplast, nucleus, vacuole, guard cell
- (d) vacuole, guard cell, nucleus, chloroplast

(CBSE 2023)

- 98. During which of the following stages of the circulation of blood in a normal human being, the oxygenated blood is pumped to all parts of the body?
  - (a) Contraction of left atrium
  - (b) Contraction of left ventricle
  - (c) relaxation of the right atrium
  - (d) relaxation of the right ventricle
  - (CBSE Sample Paper 2024-25)
- 99. Which of the following adaptations in herbivores helps in digestion of cellulose ? (a) Longer large intestine
  - (b) Smaller large intestine

- 50. The function of the lining of mucus in the nasal passage of human beings is to
  - (a) Increase the temperature of inhaled air
  - (b) Move the air in and out
  - (c) Filter the air that we breathe in
  - (d) Absorb oxygen from the air (CBSE 2022)
- 51. In the following flow chart showing autotrophic nutrition in green plants, A and B respectively are



(a) Oxygen and energy(c) Energy and starch

(b) Starch and oxygen (d) Oxygen and water (CBSE 2022)

52. Consider the following statements in connection with the functions of the blood vessels marked A and B in the diagram of a human heart as shown.



#### FIGURE 1.31

(i) Blood vessel A – It carries carbon dioxide rich blood to the lungs.

(*ii*) Blood vessel B – It carries oxygen rich blood from the lungs.

(*iii*) Blood vessel B – Left atrium relaxes as it receives blood from this blood vessel.

(*iv*) Blood vessel A – Right atrium has thick muscular wall as it has to pump blood to this blood vessel.

The correct statements are

- (a) (i) and (ii) only (b) (ii) and (iii) only
- (c) (ii), (iii) and (iv) (d) (i), (ii) and (iii)

(CBSE 2022)

- 53. In living organisms during respiration which of the following products are not formed if oxygen is not available ?
  - (a) Carbon dioxide + Water
  - (b) Carbon dioxide + Alcohol
  - (c) Lactic acid + Alcohol
  - (d) Carbon dioxide + Lactic acid (CBSE 2022)
- 54. The correct statements with reference to single celled organisms are

(i) Complex substances are not broken down into simpler substances.

(*ii*) Simple diffusion is sufficient to meet the requirement of exchange of gases.

(*iii*) Specialised tissues perform different functions in the organism.

(*iv*) Entire surface of the organism is in contact with the environment for taking in food.

 (a) (i) and (iii)
 (b) (ii) and (iii)

 (c) (ii) and (iv)
 (d) (i) and (iv)

(CBSE 2022)

- 55. Which one among the following is not removed as a waste product from the body of a plant ?
  - (a) Resins and Gums
    (b) Urea
    (c) Dry Leaves
    (d) Excess Water

(CBSE 2022)

56. Which of the following statements are correct in reference to the rule of A (shown in the given diagram) during a breathing cycle in human beings ?



#### FIGURE 1.32

(i) It helps to decrease the residual volume of air in lungs.

(ii) It flattens as we inhale.

(iii) It gets raised as we inhale.

- (iv) It helps the chest cavity to become larger.
- (a) (ii) and (iv) (b) (iii) and (iv)

(c) (i) and (ii)

(CBSE 2022)

(d) (i), (ii) and (iv)

41. In human alimentary canal, the specific enzyme/ juice secreted in locations (i), (ii) and (iii) are



#### FIGURE 1.29

| (a) (i) Amylase | (ii) Pepsin  | (iii) Bile    |  |
|-----------------|--------------|---------------|--|
| (b) (i) Amylase | (ii) Bile    | (iii) Trypsin |  |
| (c) (i) Lipase  | (ii) Amylase | (iii) Pepsin  |  |
| (d) (i) Trypsin | (ii) Bile    | (iii) Amylase |  |
|                 |              |               |  |

(CBSE 2022) 42. The sequence of anaerobic respiration in our

muscle cells during heavy exercise is

(a) Glucose 
$$\xrightarrow{\text{Cytoplasm}}$$
 Pyruvate  $\xrightarrow{\text{Muscle cells}}$ 

Lactic acid + Energy

(b) Glucose  $\xrightarrow{\text{Mitochondria}}$  Pyruvate  $\xrightarrow{\text{Muscle cells}}$ Carbon dioxide + Water

(c) Glucose  $\xrightarrow{\text{Cytoplasm}}$  Pyruvate  $\xrightarrow{\text{Musclecells}}$ Ethanol + Carbon dioxide

(d) Glucose  $\xrightarrow{\text{Mitochondria}}$  Pyruvate  $\xrightarrow{\text{Muscle cells}}$ 

Ethanol + Lactic acid

(CBSE 2022)

- 43. The separation of the right side and the left side of human heart is useful to
  - (a) keep oxygenated blood from mixing with deoxygenated blood
  - (b) allow a slow supply of oxygen in the body
  - (c) supply energy to animals with low energy needs
  - (d) often change their body temperature

(CBSE 2022)

- 44. In spring, sugar stored in root or stem tissue of plants is transported to the buds for
  - (a) The energy needs of the buds to grow
  - (b) Temperature regulation
  - (c) Balancing the storage in different organs
  - (d) Diffusion process (CBSE 2022)
- 45. The energy released during cellular respiration is used to synthesize
  (a) Ribosomes
  (b) RBC
  - (c) ATP (d) Mitochondria

(CBSE 2022)

(CBSE 2022)

- 46. Upward movement of water in tall trees is due to
  (a) Translocation
  (b) Excretion
  (c) Photosynthesis
  (d) Transpiration
  - (CBSE 2022)
- 47. The function not performed by villi is
  - (a) To increase the surface area for absorption
  - (b) To ensure rich supply of blood vessels
  - (c) Absorption of food
  - (d) Egestion of food
- 48. In the given diagram, A, B, C and D respectively are



#### FIGURE 1.30

- (a) A Left kidney ; B Aorta ; C Vena cava ; D - Urethra
- (b) A Left kidney ; B Vena cava ; C Aorta ; D - Urinary bladder
- (c) A Right kidney ; B Aorta ; C Ureter ; D - Urethra
- (d) A Right kidney; B Vena cava; C Aorta; D - Urinary bladder (CBSE 2022)
- 49. Thin walled blood vessels are called
  - (a) Aorta (b) Capillaries
  - (c) Arteries (d) Vena cava

(CBSE 2022)

### पीएम श्री केंद्रीय विद्यालय चित्तरंजन

#### अवकाश गृह कार्य 2025-26

#### कक्षा-दसवीं

#### विषय-हिंदी

- 1. सूरदास के प्रथम दो पदों की अपने शब्दों में व्याख्या कीजिए।
- संज्ञा, सर्वनाम, विशेषण, कारक, क्रिया, कर्म, लिंग, वचन का अध्ययन कर वर्णन की जिए।
- आपका मित्र दादाजी का देहांत होने के कारण शोक संतृप्त है, उसे सांत्वना देते हुए पत्र लिखिए।
- 4. आप सरस्वती विद्या मंदिर के विद्यार्थी राधा/मोहन है। आगामी बोर्ड परीक्षाओं की तैयारी हेतु अपने प्राचार्य महोदय को हिंदी विषय की अतिरिक्त कक्षाएं लगवाने हेत् प्रार्थना पत्र लिखिए।
- ग्रीष्म अवकाश के दौरान आपके द्वारा सहपरिवार की गई किसी यात्रा का सचित्र वर्णन कीजिए।
- नोट . यह गृहकार्य A4 साइज पेपर पर कीजिए।