

MATHS  
CLASS - X

SUMMER VACATION HOME Assignment

- Q. (1) Find the LCM and HCF of the following numbers.
- 12, 21, 15.
  - 180, 288, 144
  - 84, 90, 120
  - 24, 15, 36.
- Q. (2) Given that  $HCF(306, 657) = 9$ , find  $LCM(306, 657)$ .
- Q. (3) Find the HCF of 96 and 404 by prime factorisation method. Hence find their LCM.
- Q. (4) The LCM and HCF of two numbers are 180 and 30 respectively. If one of the numbers is 30, find the other number.
- Q. (5) Find the smallest number that, when divided by 35, 56 and 91 leaves remainders 7 in each case.
- Q. (6) Find the greatest number of six digits which is exactly divisible by 24, 15, 36.
- Q. (7) Find the largest number that divides 2053 and 967 and leaves a remainder of 5 and 7 respectively.
- Q. (8) Prove that  $\sqrt{5}$  is irrational number.
- Q. (9) Determine the values of  $p$  and  $q$  so that the prime factorisation of 2520 is expressible as  $2^3 \times 3^p \times 5^q \times 7$ .
- Q. (10) Three numbers are in the ratio 2:5:7. Their LCM is 490. Find the square root of the largest number.
- Q. (11) Explain why  $7 \times 11 \times 13 + 13$  and  $7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 + 5$  are composite numbers.
- Q. (12) Check whether  $6^n$  can end with the digit 0 for any natural number  $n$ .



Q(13) Show that following numbers are irrationals.

(a)  $2 - \sqrt{3}$

(b)  $3 + \sqrt{2}$

(c)  $4 - 5\sqrt{2}$

(d)  $5 + 3\sqrt{2}$

(e)  $5 - 2\sqrt{3}$

(f)  $\sqrt{5} + \sqrt{3}$

Q(14) Write whether  $\frac{2\sqrt{45} + 3\sqrt{20}}{2\sqrt{5}}$  on simplification gives a rational or an irrational number.

Q(15) Find the zeroes of the following quadratic polynomials and verify the relationship between zeroes and coefficients.

(a)  $x^2 + 7x + 12$

(b)  $4x^2 + 8x$

(c)  $4\sqrt{3}x^2 + 5x - 2\sqrt{3}$

(d)  $x^2 + \frac{1}{6}x - 2$

(e)  $6x^2 - 3 - 7x$

(f)  $\sqrt{3}x^2 + 10x + 7\sqrt{3}$

Q(16) If  $\alpha$  and  $\beta$  are the zeroes of the quadratic polynomial  $p(x) = ax^2 + bx + c$  then evaluate:

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

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

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

Q(17) If  $\alpha$  and  $\beta$  are the zeroes of  $x^2 - x - 4$  find  $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$ .

Q(18) If  $\alpha$  and  $\beta$  are the zeroes of polynomial  $4x^2 - 5x - 1$ , find the value of  $\alpha^2\beta + \alpha\beta^2$ .



Q(19) Find a quadratic polynomial whose sum and product are given.

(a)  $\frac{21}{8}, \frac{5}{16}$

(b)  $-2\sqrt{3}, -9$

(c)  $\frac{1}{4}, -1$

Q(20) Solve the following system of equations graphically.

$$x + 3y = 6$$

$$2x - 3y = 12$$

Q(21) Solve the system of linear equations graphically

$$2x - y - 4 = 0 \text{ and } x + y + 1 = 0$$

Find the points where the lines meet y-axis.

Q(22) Draw the graphs of  $2x + y = 6$ ,  $2x - y + 2 = 0$  and shade the region bounded by these lines and x-axis. Find the area of shaded region.

Q(23) Solve graphically.

$$x + y = 4$$

$$2x - 3y = 3$$

Q(24) Solve the following system of equations.

(a)  $11x + 15y + 23 = 0$ ,  $7x - 2y - 20 = 0$

(b)  $0.4x + 0.3y = 1.7$

$$0.7x - 0.2y = 0.8$$

(c)  $\sqrt{2}x - \sqrt{3}y = 0$

$$\sqrt{3}x - \sqrt{8}y = 0$$

(d)  $0.5x + 0.7y = 0.74$

$$0.3x + 0.5y = 0.5$$

(e)  $99x + 101y = 499$

$$101x + 99y = 501$$



Q (25) If we add 1 to the numerator and subtract 1 from the denominator, a fraction reduces to 1. It becomes  $\frac{1}{2}$  if we only add 1 to the denominator, what is the fraction?

Q (26) Five years ago, Nuri was thrice as old as Sonu. Ten years later, Nuri will be twice as old as Sonu. How old are Nuri and Sonu?

Q (27) The sum of the digits of a two-digit number is 9. Also, nine times this number is twice the number obtained by reversing the order of digits. Find the number.

Q (28) Meena went to a bank to withdraw ₹ 2000. She asked the cashier to give her ₹ 50 and ₹ 100 notes only. Meena got 25 notes in all. Find how many notes of ₹ 50 and ₹ 100 she received.

Q (29) The father's age is six times of his son's age. Four years hence the age of the father will be four times of his son's age. Find the present ages of son and father.

(30) A and B are two points 150 km apart on a highway. Two cars start from A and B at the same time. If they move in the same direction they meet in 15 hours. But if they move in the opposite directions, they meet in one hour. Find their speeds.





# Class - 10      Biology

## Summer Vacation Home Assignment

- Q.1) What is common for Cuscuta, ticks and leech?
- Q.2) Plants have low energy needs as compared to animals. Explain.
- Q.3) Why is small intestine in herbivores longer than that in carnivores?
- Q.4) What is saliva? State its role in digestion.
- Q.5) What is the role of HCl and mucus in stomach?
- Q.6) List the role of the following in the digestive system of human beings -
- |                             |             |             |            |
|-----------------------------|-------------|-------------|------------|
| i) Trypsin                  | ii) Amylase | iii) Pepsin | iv) Lipase |
| v) Muscular wall of stomach | vi) Villi   |             |            |
- Q.7) How does Paramecium obtain its food?
- Q.8) Why is the rate of breathing in aquatic organisms much faster than in terrestrial organisms.
- Q.9) Draw and label -
- |                              |                             |
|------------------------------|-----------------------------|
| i) Human respiratory system. |                             |
| ii) Human Heart system       | iii) Human Excretory system |
- Q.10) Draw and label a schematic representation of transport and exchange of oxygen and  $\text{CO}_2$  in human beings.



1. On the A-4 sheets draw the clean ray diagrams of the image formed by <sup>(i)</sup> a concave and convex mirror and <sup>(ii)</sup> convex and concave lenses. Prepare a file.
2. Where should an object be placed in front of a convex lens to get the image on the screen placed at the distance of 60 cm with magnification -2. Also find the focal length of the lens.
3. Write the sign conventions on the A-4 sheet and attach it to a file.
4. The refractive index of the water is  $\frac{4}{3}$  and glass is  $\frac{3}{2}$  what is the speed of light in water and in glass? If the speed of light in vacuum is  $3 \times 10^8 \text{ m/s}$ ?
5. The refractive index of diamond is 2.42 what is the speed of light in the diamond, if the speed of light in air is  $3 \times 10^8 \text{ m/s}$ ?
6. A lens produces the magnification +2 and -2 respectively. Which type of the lens is possible for this case?
7. Write the uses of (a) concave and convex mirrors, (b) convex and concave lenses.
8. An object of size 10 cm is placed at 40 cm away from a concave mirror of focal length 16 cm. Find the nature, size and position of image by using mirror formula and magnification formula.
9. Define - Principal focus of a convex lens and concave lens.
10. State the Laws of refraction of light.



## Summer Vacation H.W

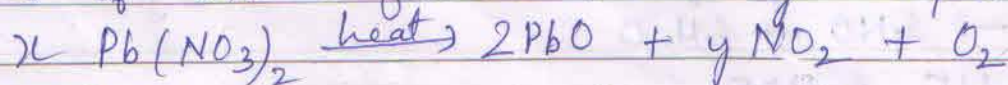
Class X

Sub: Chemistry

Q1. When Barium chloride solution reacts with Aluminium sulphate solution identify the product in solid state

- (a). Barium chloride
- (b). Barium sulphate
- (c). Aluminium chloride
- (d). Aluminium sulphate

Q2. In order to balance the following chemical equation, the values of the coefficients  $x$  and  $y$  respectively are:



(a). 2, 4

(b). 2, 2

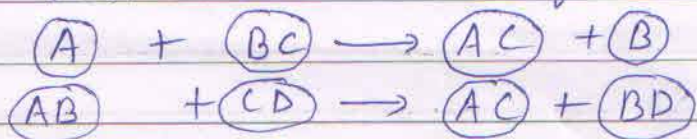
(c). 2, 3

(d). 4, 2

Q3. Assertion - The colour of aqueous solution of copper sulphate ~~colours~~ when a piece of lead is added to it.

Reason - Lead is more reactive than copper and hence displaces copper from its salt solution

Q4. Identify the type of reaction mentioned <sup>below</sup> ~~above~~ in (i) and (ii). Give one example for each type in the form of balanced chemical equation.



Q5. Silver chloride kept in a china dish turns grey in sunlight.

(a). Write the colour of silver chloride when it was kept in the dish



(b). Name the type of chemical reaction taking place and write chemical equation for the reaction.

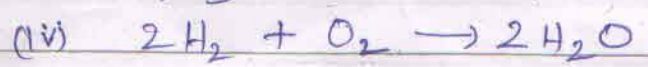
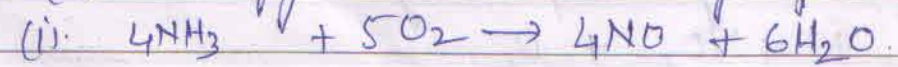
(c). State one use of the reaction. Name one more chemical which can be used for the same purpose.

Q6. When Copper powder is ~~heated~~<sup>heated</sup> in a watch glass, a black substance is formed.

(i). Why is this black substance formed? Name it.

(ii). How can this black substance be reversed to its original form?

Q7(a). Identify the reducing agent in the following reactions



(b). Define a redox reaction in terms of gain or loss of oxygen.



DAV Sr. Sec. Public School  
Thingurda project.  
Vacation Homework  
class 8 Subject English.

- ① Write an interview with Nicola and Jacopo you are the narrator.
- ② War destroys life and property. Write an article on War destroys but strengthens human values is needed.
- ③ Create 3D visual representation of key scenes or images from the ch-1 and the poem.
- ④ Write the poem ~~with~~ <sup>showing</sup> the Nightingale is strong and confident and she snubs the frog.
- ⑤ Write a diary entry on daily basis, How you spend gadget free time for self-development? Also write about a new skill you have learnt during vacation.



कक्षा दसवीं ग्रीष्मावकाश हेतु गृह कार्य

प्रश्न-1 रचना के आधार पर वाक्य के भेद लिखिए।

प्रश्न-2 निम्नलिखित वाक्यों का रचनान्तरण कीजिए।

क. हम आपको जानने वाले सब लोगों से मिले। (मिश्रवाक्य में)

ख. तुम जाते हो या मैं तुम्हारी शिकायत करूँ। (सरल वाक्य में)

ग. बसंत की एक सुबह एक कोयल ने कुहू-कुहू का स्वर दिया था।

(संयुक्त वाक्य में)

प्रश्न-3 वाक्य किसे कहते हैं? वाक्य के कितने भेद होते हैं? उदाहरण सहित लिखिए।

प्रश्न-4 निम्नलिखित का वाक्य परिवर्तन कीजिए।

क. मोहन बाजार जाता है। (कर्मवाच्य में)

ख. तारे आसमान में चमक रहे हैं। (भाववाच्य में)

ग. गीतकारों द्वारा गीतों को सुर दिया जाता है। (कर्तृवाच्य में)

घ. फुरसत में मैं खूब रियाज करता हूँ। (कर्मवाच्य में)

ड०-उसने खाना खाया। (वाक्य भेद बताइए)

प्रश्न-5 संज्ञा, सर्वनाम, विशेषण, क्रिया, क्रियाविशेषण, समुच्चय बोधक अव्यय, संबंध बोधक अव्यय, विस्मयादि बोधक अव्यय का भेद एवं परिभाषा लिखिए।

प्रश्न-6 निम्नलिखित वाक्यों में रेखांकित पदों का पद परिचय कीजिए।

क. वह अपने घर गया।

ख. फागुन मास में बसंत ऋतु होती है।

ग. दोड़ा तेज भागता है।

प्रश्न-7 उपमा, रूपक, उत्प्रेक्षा, अतिशयोक्ति, मानवीकरण, अलंकार की परिभाषा एवं उदाहरण लिखिए।

प्रश्न-8 निम्नलिखित पर अनुच्छेद लिखिए।

(क) जनसंख्या विस्फोट

(ख) साहित्य समाज का दर्पण

(ग) गुरु-शिष्य संबंध

प्रश्न-9 बिजली संकट से उत्पन्न समस्या की ओर ध्यान आकृष्ट करते हुए अधिशासी अभियन्ता को पत्र लिखिए।

प्रश्न-10 सहायक अध्यापक पद के लिए स्ववृत्त तैयार कीजिए।

प्रश्न-11 मित्र को जन्मदिन पर बधाई संदेश लिखिए।



**DAV Sr.Secondary Public School, Jhingurdah, Singrauli( MP)**  
**Holiday Homework**

**Class: X Subject: Social Science**

**Section-A( Short Answer type questions)**

- I-                      What led to the ethnic tension in Belgium                      ?Why was it more acute in Brussels ?**
- II-      Describe any Three majoritarian measures taken by the Sri Lankan government to establish Sinhala supremacy .**
- III-      Explain any two sets of reasons as why power sharing is desirable.**
- IV-      Differentiate between vertical and horizontal power sharing in modern democracies.**
- V-      Explain any three features of the ‘ Nation States’ that emerged in Europe in the twentieth Century.**
- VI-      How did the ideas of French Revolution spread in other parts of Europe?**
- VII-      State any three provisions of the civil code of 1804.**
- VIII-      ‘ Nationalism no longer retained it’s idealistic,liberal, democratic sentiments by the lastquarter of the 19 th century in Europe ‘ . Analyse the statement with examples.**
- IX-      ‘Development for one may be the destruction for other.Do you agree with the statement? Justify your answer.**
- X-      Consequences of environmental degradation do not respect national or state boundaries ‘ . Justify the given statement.**
- XI-      ‘While average income is useful for comparison, but it may hide disparities.’ Discuss.**
- XII-      Differentiate between Human Development Report and World Development Report.**
- XIII-      Why is Sustainable development essential for economic growth?**
- XIV-      Describe the different steps of ‘resource planning ‘ .**
- XV-      ‘Indiscriminate use of resources has led to numerous problems ‘.Justify the statement.**
- XVI-      Explain any three characteristics of black soil.                      ---**
- XVII-      Distinguish between ‘ Bangar and Khadar‘ .**

**Long Answer type questions.**

- I-      Distinguish between red and laterite soils stating five points of distinction.**
- II-      What are resources? Explain any four factors for resource development in India.**



- III- How did female figures become an allegory of the nation during the 19 th century in Europe.?
- IV- Describe the process of Unification of Italy.
- V- Describe any Three demands of the Sri Lankan Tamils .How did they struggle for their Demands.
- VI- Why power sharing is desirable?
- VII- Describe any five conditions or aspects that you would consider before accepting a job.
- VIII- Differentiate between Human Development Report and World Development Report.

Map activity based questions.

1-identify the types of soil in the given political outline map of India.

