HOLIDAY HOMEWORK
Science

Chemical reaction and equation

Q1. What happens chemically when quick lime is added to water?

Q2. How will you test for the gas which is liberated when HCL reacts with an active metal?

Q3. What is an oxidation reaction? Is it exothermic or endothermic? Give one example of oxidation Reaction.

Q4. Give an example of photochemical reaction.

Q5. Give an example of a decomposition reaction. Describe any activity to illustrate such a reaction by heating.

Q6. Why is respiration considered as exothermic process?

Q7. Balance the following chemical equation.

$Fe(s) + H_2O(g) = Fe_3O_4 + H_2(g)$

$MnO_2 + HCL = MnCl_2 + Cl_2 + H_2O$

$HNO_3 + Ca(OH)_2 = Ca(NO_3)_2 + H_2O$

Q8. On what basis is a chemical equation balanced?

Q9. State any two observations in an activity suggesting the occurrence of a chemical reaction.

Q10. Name a reducing agent which may be used to obtain manganese from manganese dioxide.

Q11. What change in colour is observed when silver chloride is left exposed to sunlight? Also mention the type of chemical reaction.

Q12. Define a combination reaction. Give one example of an exothermic combination reaction.

Q13. What is observed when a solution of potassium iodide is added to lead nitrate solution? What type of reaction is this? Write a balanced chemical equation for this reaction.

Q14. Distinguish between an exothermic and an endothermic reaction.

Q15. Distinguish between a displacement and a double displacement reaction.

Q16. Identify the type of reaction in the following:

$Fe + CuSO_4(aq) = FeSO_4(aq) + Cu(s)$.

Q17. What is a redox reaction?

Q18. What is corrosion? Explain its advantage and disadvantage.

Q19. Why is photosynthesis considered as an endothermic reaction?

Q20. In electrolysis of water, why is the volume of gas collected over one electrode double that of the other electrode?

Q 21. What happens when water is added to solid calcium oxide taken in a container? Write a chemical formula for the same.

Q 22. Give one use of quick lime.

Life Processes:

1. How is 'respiration' different from 'breathing'? Explain the process of aerobic and anaerobic respiration.

2. I)   Name the blood vessel that brings oxygenated blood to the human heart.

   II)   Which chamber of the heart received oxygenated blood?

   III) Explain how is the oxygenated blood from this particular chamber sent to all the body parts?

3. Explain the schematic representation of gaseous exchange in tissues.

4. Compare the functioning of alveoli in the lungs and nephrons in the kidneys with respect to their structures and functioning?

5. What is the significance of emulsification of fats?
6. Why is the small intestine in herbivores larger than in carnivores?
7. What is the advantage if a four chambered heart?
8. Explain the process by which inhalation occurs during breathing in human beings?
9. In human alimentary canal, name the site of complete digestion of various components of food. Explain the process of digestion.
10. List in tabular form, three differences between arteries and veins.
11. List the three kinds of blood vessels of human circulatory system and write their functions in tabular form.
12. (a) "The breathing cycle is rhythmic whereas exchange of gases is a continuous process". Justify this statement.
     (b) What happens if conducting tubes of circulatory system develops a leak? State in brief, how could this be avoided?
     (c) How opening and closing of stomata takes place?
13. Draw a diagram of the front view of human heart and label any six parts including at least two that are concerned with arterial blood supply to the heart muscles.
14. Describe in brief the function of kidneys, ureters, urinary bladder and urethra.
15. Explain the process of breakdown of glucose in a cell
     (i)   in the presence of oxygen,
     (ii) in the absence of oxygen.
16. What is double circulation in human beings? Why is it necessary?
17. (a) Name two different ways in which glucose is oxidised to provide energy in various organism.
      (b) Write any two differences between the two oxidation of glucose in organisms.
18. Write any three differences between aerobic and anaerobic respiration.
19. (a) Name the process by which autotrophs prepare town food.
      (b) List the three events which occur during this process.
      (c) State two sources from which plants obtain nitrogen for the synthesis of proteins and other compounds.

*Complete all the in-text and exercise questions of chemical reaction and equation & life processes.

Control and coordination:

Question 1
Why is control and coordination system necessary in organisms?
Question 2
What is homeostasis?
Question 3
Give examples of some of the movements shown by plants.
Question 4
What are growth regulators?
Question 5
What are the stages of growth in plants?
Question 6
Name the different phytohormones.
Question 7
What are the control and coordination mechanisms developed in animals?

Question 8

How does the conduction of messages take place in?

(i) Nervous system

(ii) Endocrine system

Question 9

What are the functions carried out by the nervous system in human beings?

Question 10

What are the units of nervous system?

Question 11

What is an impulse?

Question 12

What are the two potentials that are generated while transmission of an impulse?

Complete the in-text and exercise questions of control and coordination.

ENGLISH

1. The students are directed to read newspapers and magazines daily and update themselves with the current affairs.

2. Maintain a personal diary and write two new words everyday along with current affairs.

3. All the students are required to revise the PT-1 Syllabus of all the subjects thoroughly.

Activity-

- Plan a get together party to be held at your place.
- Make a list of things you will require using **determiners.**
  - Ex. I called up **all** my friends for the party.
    - **Some** of them didn't come.
    - My mother bought **few** packets of chips for us.
- Click photographs and paste them. Now, write a **diary entry** in not more than 120 words describing the fun you had at the party.
- At the end of the party, when you were helping your mother clean up the house, you found a watch lying unclaimed in the living room. Draft a **notice** for the School Notice Board inviting the claimants for the same that you would put up in the school as soon as it reopens.

Q1. Satish is asked to write an article for the school magazine on 'Climate Change'.
Using your ideas and the hints given below, write an article on his behalf in 120 words.

> Human activities- burning fossil fuels – releases carbon dioxide-rise in Earth's temperature- causes sea level changes – adversely affects precipitation, seasons, flora and fauna.

1. Read the following lessons/ poetry from the textbooks:
   FIRST FLIGHT-
   - A Letter to God (G.L. Fuentes)
   - Dust of Snow
   - Fire and Ice
   - Nelson Mandela: Long Walk to Freedom (Nelson Rolihlahla Mandela)
   - A Tiger in a Zoo

   FOOTPRINTS WITHOUT FEET-
   - A Triumph of Surgery(James Herriot)
   - The Thief's Story (Ruskin Bond)
   - The Midnight Visitor (Robert Arthur)
   - A Question of Trust (Victor Canning)
   - Footprints without Feet (H.G. Wells)

2. Practice and learn the MEEP words and phrases done in the class.

3. Make a PPT (containing at 6-7 slides) on any of the following lessons:

   - The Midnight Visitor (Robert Arthur)
   - A Question of Trust (Victor Canning)
   - Footprints without Feet (H.G. Wells)

   The PPT will be presented in the class after the holidays and the activity will be marked.

4. **Watch English news daily in order to equip yourself with the information and facts to be used as content in the writing skills.**

5. Do the following Writing Skills worksheets.

6. Revise the syllabus done in the class for the Periodic Assessment.

9. Begin your story with the given line and give a suitable title in 150-200 words.

How foolish I was to have believed that young women.

10. Complete the following story.

A 15 years old boy was going on a deserted road feeling like a little scared and uneasy.

Hesitatingly, he stepped ahead. Suddenly......

Q1. Select three poems from the syllabus and highlight the presence of listed literary devices. Explain the literary devices and cite suitable examples from selected poems in a thin notebook. Given below is a list of literary devices that you can look for in your poem.

- Simile
- Metaphor
- Personification
- Alliteration
- Repetition
- Oxymoron
- Refrain
- Hyperbole
- Allusion
- Apostrophe
- Irony
- Paradox
- Onomatopoeia

1. Write an article on Right to Education Art and suggest ways implement it.
2. These days stress has become a part of life. Matronly adults, but children also fall vacation to stress their days. Write an article expressing your views.
3. Working Women have to multitask to maintain an equilibrium bit been there home and profession. Write an article saluting appreciating search everyday heroes.
4. The number of tourists going to the hill stations is increasing. Time has led to their commercialization and it's ill effects. More & more hotels, garbage effects on the life of th locals etc. Write a letter to the editor of a national daily expressing your concern over the situation.
5. You are Rohit Verma of Class X in DMA, Anand Nagar Makroniya Sagar. Write a letter to the editor of a local newspaper expressing your views on the importance of English.
6. You are Rizwan Ali, Resident of 456, Rajoti Garden, New Delhi. Write a letter to the editor of a national daily. Drawing the attention of the concerned authorities to the deteriorating law & order situation in the city.
7. Complete the story using the given out

HINDI

ग्रीष्मकालीन अवकाश
गृहकार्य - 2020-21

कक्षा- दसवीं (10th class)

① अपने मान लें कि आप कानपुर के स्थायी
निवासी है और किसी व्यापारिक
कार्य हेतु आपको दिल्ली जाना है। अब
लॉकडाउन (तालाबन्दी) की स्थिति बनी हुई है।
तो अपने जिलाधिकारी को एक पत्र लिखें
जिसमें बाहर पास बनाने का जिक्र हो।

② के कोरोना वायरस (कोविड-19) के ऊपर निम्न-
लिखित बिन्दुओं के आधार पर लगभग
250 शब्दों में एक निबंध लिखें।

कोविड-19
(क) भूमिका (ख) वायरस का भारत में कैसे प्रभाव
(ज) वायरस का प्रभाव कम करने के लिए
सरकार द्वारा उठाये जाने वाले कदम
(घ) उपसंहार

③ 30 जून ** तक हिन्दी में जितने अध्याय पढ़ने है,
उन सबका अलग-अलग लगभग 150 शब्दों में
सारांश लिखें।

SOCIAL SCIENCE

THE CHAPTERS COVERED

1. RISE OF NATIONALISM IN EUROPE(H)
2. NATIONALISM IN INDIA(H)
3. RESOURCES AND DEVELOPMENT(G)
4. WATER RESOURCES(G)
5. POWER SHARING(P)
6. DEVELOPMENT(E)

INDIA AND THE CONTEMPORARY WORLD

I. Write short note on the given topics.

1. Frederic Sorrieu
2. Ernst Renan and his theory of Nation
3. Various measures and practices that could create a sense of collective identity amongst the French People.
4. The Civil Code of 1804
5. Liberal Nationalism
6. Zollverein
7. Conservatism
8. The treaty of Vienna
9. Giuseppe Mazzini
10. The Greek War of Independence
11. Romanticism
12. Frankfurt Parliament
13. Role of Bismarck in Unification of Germany
14. Role of Cavour and Garibaldi in Unification of Italy
15. The making of United Kingdom of Britain
16. Marianne
17. Germania
18. The Balkan became the scene of big power rivalry.
19. Impact of First World War on India
20. The idea of Satyagraha
21. The Rowlatt Act
22. Jallianwala Bagh Massacre
23. Non-Cooperation in Hind Swaraj by Gandhiji
24. Programmes under the Non-Cooperation
25. Civil-Disobedience Movement
26. Mahatma Gandhi- from 1915 to 1933.

II. Map work

1. Locate and label the following and write brief information of the same in the outline map of India

    A. Champaran
    B. Chauri-chaura
    C. Jallianwala-Bagh
    D. Kheda
    E. Dandi
    F. Sabarmati Ashram
    G. Poona

CONTEMPORARY INDIA

I. Write Short Note on the given topics.

1. Classification of Resources
2. Sustainable Development
3. Resource Planning in India
4. Land use pattern in India
5. Land degradation and Conservation measures
6. Classification of Soils
7. Features of Black and Alluvial Soils
8. Factors of Soil Erosion
9. Measures required for Soil Conservation
10. Water scarcity
11. Need for water conservation and management
12. Merits and limitations of Multi-Purpose River Projects/ DAM
13. Rainwater Harvesting in different parts of India

II. Map work

1. Locate and label the regions of following soil in an outline map of India.

   A. Forest and
      Mountainous Soil
   B. Alluvial Soil
   C. Red and Yellow Soil
   D. Black Soil
   E. Laterite Soil
   F. Arid Soil

2. Locate and label the following rivers and dams in an outline map of India.

   A. Ganga
   B. Yamuna
   C. Indus
   D. Brahmaputra
   E. Narmada
   F. Tapi
   G. Mahanadi
   H. Godavari
   I. Krishna
   J. Kaveri
   K. Salal Project
   L. Bhakra Nangal Dam
   M. Sardar Sarovar Dam
   N. Nagarjuna Sagar
   O. Hirakud Dam

DEMOCRATIC POLITICS

I. Write short note on the given topics.

1. Power sharing arrangement in Belgium
2. Power Sharing arrangement in Sri Lanka
3. Forms of Power sharing
4. Why power sharing is Desirable?

ECONOMICS

I. Write short note on the given topics.

1. Different people, different goals
2. Give some examples where factors other than income are important aspects of our lives.
3. Per Capita income- Average income
4. Does availability of good health and educational facilities depend only on amount of money spent by the government on these facilities? What other factors could be relevant?
5. BMI (BODY MASS INDEX)
6. In what respects is the criterion used by the UNDP for measuring development different from the one used by the World Bank?
7. Why is the issue of sustainability important for development?
8. "The Earth has enough resources to meet the needs of all but not enough to satisfy the greed of even one person". How is this statement relevant to the disscusion of development? Discuss.

MATHS

Pair of Linear Equations in Two Variables

(Key Points)

- An equation of the form $ax+by+c=0$, where a,b,c are real nos. and $a^2+b^2 \neq 0$ is called a linear equation in two variables x and y.

  Ex: (i) $x+5y+2=0$ (ii) $\frac{3}{2}x - y = 1$

- The general form for a pair of linear equations in two variables x and y is

  $a_1x+b_1y+c_1=0$
  $a_2x + b_2y + c_2 = 0$

  Where a_1,b_1,c_1,a_2,b_2,c_2 are all real numbers and $a_1 \neq 0, b_1 \neq 0, a_2 \neq 0, b_2 \neq 0$. Example

  $x + 3y - 6 = 0$
  $2x - 3y - 12 = 0$

- Graphical representation of a pair of linear equations in two variables:
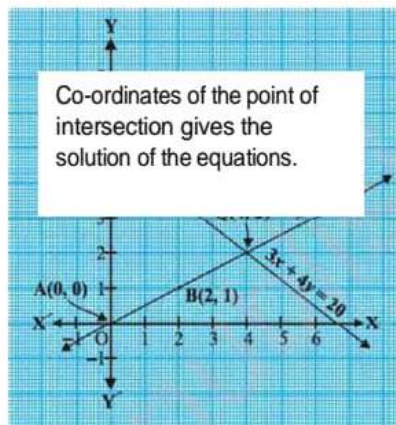
  $a_1x+b_1y+c_1=0$
  $a_2x + b_2y + c_2 = 0$

  (i) Will represent intersecting lines if

  $$\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$$

  I.e. unique solution. And these types of equations are called consistent pair of linear equations.
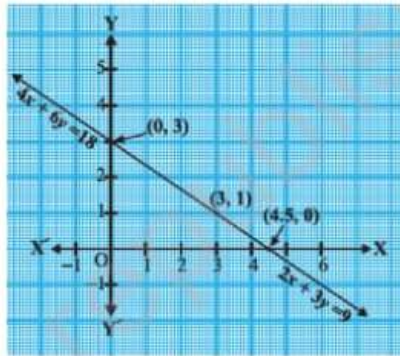
  Ex: $x - 2y = 0$
  $3x + 4y - 20 = 0$

  Co-ordinates of the point of intersection gives the solution of the equations.

  (ii) Will re present overlapping or coincident lines if $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$

  i.e. infinitely many solutions, consistent or dependent pair of linear equations

  Ex: $2x+3y-9=0$
  $4x+6y-18=0$

The graph is Coincident lines,
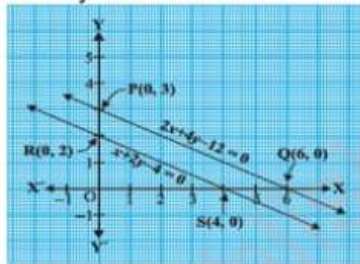
(iii) will represent parallel lines if $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$

i.e.no solution and called inconsistent pair of linear equations. Ex:

$x + 2y - 4 = 0$

$2x + 4y - 12 = 0$

Parallel lines, no solution.

- Algebraic methods of solving a pair of linear equations:

(i)   Substitution method
(ii)   Elimination Method
(iii)   Cross multiplication method

Level -I

1. Find the value of 'a' so that the point (2,9) lies on the line represented by ax-3y=5

2. Find the value of k so that the lines 2x–3y = 9 and kx - 9y = 18 will be parallel.

3. Find the value of k for which x + 2y = 5,3x + ky+15 = 0 is inconsistent

4. Check whether given pair of lines is consistent or not $5x-1=2y, y=\dfrac{-1}{2} + \dfrac{5}{2}x$

5. Determine the value of 'a' if the system of linear equations 3x+2y-4=0 and ax-y-3=0 will represent intersecting lines.

6. Write any one equation of the line which is parallel to √2x–√3y=5

7. Find the point of intersection of line -3x+7y=3 with x-axis

8. For what value of k the following pair has infinite number of solutions.

   (k-3)x+3y=k

   K (x + y) =12

9. Write the condition so that $a_1x + b_1y = c_1$ and $a_2x + b_2y = c_2$ have unique solution.

Level -II

1. 5 pencils and 7 pens together cost Rs.50 whereas 7 pencils and 5 pens together cost Rs.46.Find the cost of one pencil and that of one pen.

2. Solve the pair of linear equation:
   $3x - y = 3$
   $7x + 2y = 20$

3. Find the fraction which becomes to 2/3 when the numerator is increased by 2 and equal to 4/7 when the denominator is increased by 4.

4. Solve the pair of linear equation:

   $px + qy = p - q$

   $qx - py = p + q$

5. Solve the equation using the method of substitution:

   $3x - 5y = -1$
   $x - y = -1$

6. Solve the equations:

   $$\frac{1}{2x} - \frac{1}{y} = -1$$

   $$\frac{1}{x} + \frac{1}{2y} = 8 ; \qquad \text{Where, } x \neq 0, y \neq 0$$

7. Solve the equations by using the method of cross multiplication:

   $x - y = 7$

   $5x + 12y = 7$

Level -III

1. Draw the graph of the equations

   $4x - y = 4$

   $4x + y = 12$
   Determine the vertices of the triangle formed by the lines representing these equations and the x-axis.

   Shade the triangular region so formed

2. Solve Graphically
   $x - y = -1$
   $3x + 2y = 12.$
   Calculate the area bounded by these lines and the x- axis.

3.Solve for u& v.

   $4u - v = 14uv$
   $3u + 2v = 16uv$ where $u \neq 0, v \neq 0$

1. What types of lines do the pair of equations x=c and y=c represent graphically?

2. A boat is moving at the rate of 5km/h in still water, takes thrice as much as time in going 40 km upstream as in going 40 km downstream. Find the speed of the stream.

3. Find the value of m, when (m+1)x=3ky+15=0 and 5x+ky+5=0 are coincident.

4. Write the pair of linear equations which have solutions x=2, y=-2.

5. Solve it on a graph 4x-3y+4=0, 4x+3y-24=0.

6. If we have two variables x and y when x=a and y=b is the solution of equations x-y=2 and x+y=4, then what will be the value of a and b.

7. Use cross multiplication method to solve ax+bx=a-b, bx-ay=a+b.

8. Whether this pair of linear equations is consistent. Find x-2y=6, 3x-6y=0.

9. A number is a two digit number which is three times more than 4 times the sum of the digits. If 18 is added to the number, the digits gets opposite. Represent geometrically.

10. The addition of numerator and denominator of a fraction is three less than twice the denominator. If the numerator and denominator are decreased by 1, the numerator becomes half the denominator. Find the fraction.

Q01 :} Find the smallest number which when divided by 30, 40 and 60 leaves the remainder 7 in each case.

Q02 :} The dimensions of a room are 6 m 75 cm, 4 m 50 cm and 2 m 25 cm. Find the length of the largest measuring rod which can measure the dimensions in exact number of times.

Q03 :} The HCF of 2 numbers is 75 and their LCM is 1500. If one of the numbers is 300, find the other.

Q04 :} Prove that $\sqrt{6}+\sqrt{5}$ is irrational.

Q05 :} Can 72 and 20 respectively be the LCM and HCF of two numbers. Write down the reason.

Q06 :} If a and b are two prime numbers, write their HCF and LCM.

Q07 :} If p and q are two coprime numbers, write their HCF and LCM.

Q08 :} Without actual division, state whether the decimal form of $\frac{539}{5^3 x 2^2 x 7^2}$ is terminating OR recurring.
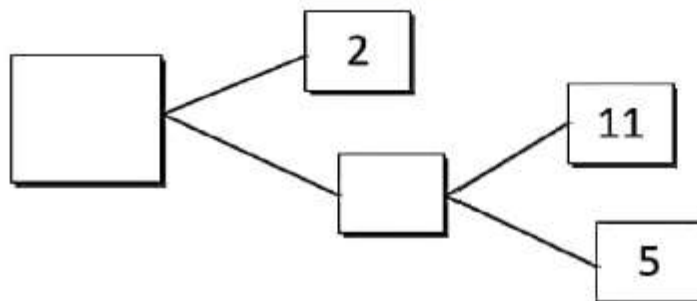
Q09 :} Find the HCF and LCM of 350 and 400 and verify that HCFxLCM=Product of the numbers.

Q10 :} Simplify: $\frac{2\sqrt{45}+3\sqrt{20}+10\sqrt{125}}{2\sqrt{5}}$

Q11 :} Write down 5 irrational numbers in radical form which are lying between 4 and 5.

Q12 :} Write down 2 rational numbers lying between $\sqrt{2}$ and $\sqrt{3}$.

Q13 :} Complete the missing entries in the following factor tree.

Q14 :} Prove that $\sqrt{p}+\sqrt{q}$ is irrational if p and q are prime numbers.

Q15 :} Find the largest number which divides 245 and 1205 leaving the remainder 5 in each case.

Q16 :} Find the largest number which divides 303, 455 and 757 leaving the remainder 3, 5 and 7 respectively.

Q17 :} Prove that $\sqrt{5}$ is irrational.

Q18 :} Prove that $6 - 2\sqrt{5}$ is irrational.

Q19 :} Find the HCF and the LCM of the following by prime factorization.

   a) 360 , 756
   b) $2x^4y^3z$, $32x^3y^4p^2$

Q20 :} Find the HCF by Euclid's Division Algorithm.

   a) 256 , 352
   b) 450 , 500 , 625

Q21 :} Explain why 7x11x13+13 is a composite number.

Q22 :} Show that any positive odd number is of the form $6q + 1$, $6q + 3$ or $6q + 5$, where q is an integer.

Q23 :} Show that the square of any positive integer is of the form $3m$ or $3m + 1$, where m is an integer.

Q24 :} Use Euclid's division lemma to show that the cube of any positive integer is of the form $9m$, $9m + 1$, $9m + 8$, where m is an integer.

Q25 :} There are 3 consecutive traffic lights which turn "green" after every 36, 42 and 72 seconds. They all were at "green" at 9:00 AM. At what time will they all turn "green" simultaneously?