<u>GREATER TRIVENI PUBLIC SCHOOL, LOHARDAGA</u> <u>Summer Vacation Holiday Homework</u> Session 2022-23 <u>Class-X</u>

Subject- Maths

1.) Use elimination method to find all possible solutions of the following pair of linear equation:

a.) 2x + 3y = 8

4x + 6y = 7

b.) 1/2x + 1/3y = 2

1/3x + 1/2y = 13/6

C.)6x+3y=6xy

2x + 4y = 5xy

- 2.) Solve the equations x + 2y 4 = 0 and 2x + 4y 12 = 0 graphically
- 3.) Find the value(s) of k so that the pair of equations x + 2y = 5 and 3x + ky + 15 = 0 has a unique solution.
- 4.) Determine graphically the coordinates of vertices of a triangle, the equation of whose sides are given by 2y x = 8, 5y x = 14 and y 2x = 1.
- 5.) Find the value of "p" from the polynomial $x^2 + 3x + p$, if one of the zeroes of the polynomial is 2.
- 6.) Compute the zeroes of the polynomial $4x^2 4x 8$. Also, establish a relationship between the zeroes and coefficients.
- 7.) : Find the quadratic polynomial if its zeroes are 0, $\sqrt{5}$.
- 8.) α and β are zeroes of the quadratic polynomial $x^2 6x + y$. Find the value of 'y' if $3\alpha + 2\beta = 20$.
- 9.) Find a quadratic polynomial each with the given numbers as the sum and product of its zeroes, respectively.

(i) 1/4, -1

(ii) 1, 1

iii) 4, 1

10.) Show that $\sqrt[3]{6}$ and $\sqrt[3]{3}$ are not rational numbers.

11.) : Show that $2 + \sqrt{2}$ is not a rational number.

12.) Give an example to show that the product of a rational number and an irrational number may be a rational number.

13.) Prove that $\sqrt{3} - \sqrt{2}$ and $\sqrt{3} + \sqrt{5}$ are irrational.

14.) Express 7/64, 12/125 and 451/13 in decimal form.

15.) Find two irrational numbers lying between $\sqrt{2}$ and $\sqrt{3}$.

16.) Mention whether the following numbers are rational or irrational:

(i) $(\sqrt{2} + 2)$ (ii) $(2 - \sqrt{2}) \ge (2 + \sqrt{2})$ (iii) $(\sqrt{2} + \sqrt{3})^2$

(iv) 6/3√2

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

18.) Write the smallest number which is divisible by both 360 and 657.

19. Show that the square of any positive integer cannot be of the form (5q + 2) or (5q + 3) for any integer q.

20.) Prove that one of every three consecutive positive integers is divisible by 3.

Subject - Information technology.

<u>Activity:-</u>

1. Assume that you have completed your studies/degree/diploma required for the job of your dream.

Make a resume in computer.

2. Anil's best friend's birthday is approaching and he has no time to go to the market and buy a gift for him. Suggest him a suitable way to get a gift for his birthday(with steps), without visiting a market.

<u>Subject -Geography</u>

1. Make a project showing consumption and conservation of resources in your locality.

2.Imagine if oil supplies get exhausted, how will this affect your lifestyle ?Prepare a short report.

<u> Subject – Political Science</u>

1.Watch a movie Madras Cafe to understand the civil War of Srilanka and write a summary of it in to 250 – 350 words.

Subject - Economics

Difference between WDR (World Development Report)& HDR (Human Development Report).

- A) Explain Kerala, with lower per capita income, has a better human development ranking than Punjab. Hence, per capita income is not a useful criterion at all and should not be used to compare States with the help of table 1.3 & Table 1.4 (Page no. 10).
- B) Make Bar Graph of table 1.3 & table 1.4 to compare different states.

Subject- HISTORY

Q1 -Write a DETAIL NOTE on NATO. Why Russia want Ukraine? (250 WORDS)

<u>Sub : Chemistry</u>

1.1.Addition of hydrogen in a substance in a reaction is known as______ reaction.

2.In a ______ reaction two or more substances combine to form a new single substance.

3.Unbalanced reactions are also known as _____

4.Reactions in which heat is given out along with the products are called _____-- reactions.

5.Reactions in which energy is absorbed are known as _____ reactions.

6.When as element displaces another element from its compound, a _____ reaction occurs.

7.Those reactions, in which two compounds react by an exchange of ions to form two new compounds, are called ______ reactions

Question 1. Write a chemical equation when magnesium metal reacts with aqueous hydrochloric acid to produce a solution of magnesium chloride and hydrogen gas.

Question 2. Can a combination reaction be redox reaction.

Question 3. Why do we apply paint on iron articles?

Question 4. What are the different types of reactions?

Question 5. What is a decomposition reaction ? Give example.

Question 6. Define displacement reaction.

Question 7. What happens when sodium reacts with water?

Question 8. Write the chemical equation and name the reaction when a solution of sodium chloride is mixed with a solution of silver nitrate and a white precipitate of silver chloride is formed.

Subject- BIOLOGY

Answer the following questions-

1.Why doea absorption of digested food occur mainly in small intestine?

2.what are the methods used by yhe plants to grt rid of excreatory products?

3.Which organ secretez a hormone when blood sugar rises?Name a digestive enzyme released by this organ and write its function?

4.what is villi ?what are its functions?

5.meat is easier to digest as compared to grass .why?

B.Complete the notes of respiration upto the topics discussed in the class.

Subject- Physics

1. A square of side 3 cm is placed 25 cm away from a concave mirror with its two sides normal to the Principal axis. If focal lenght of concave mirror is 10 cm, then what is the area enclosed by the image of the square.

2.An object is at a distance of 30 cm from a convex mirror, the magnification produced is 1/2. Where should the object be placed to get the magnification 1/3.

3. An object is kept in front of a concave mirror of focal length 20 cm. The image is three times the size of object. Calculate two possible distance of the object from the mirror.

4. The linear magnification produced by spherical mirror is --1/5. Analysing this value state the (a) type of spherical mirror.

(b) the position of object with respect to the pole of the mirror.

Draw the ray diagram also.

5. A spherical mirror produces an image of magnification --1 on a screen placed at a distance of 50 cm from the mirror.

- a) write the type of the mirror.
- b) Find the distance of image from the object.
- c) What is the focal length of mirror?
- d) Draw the ray diagram to show the image formation in this case.

6) The image of an object formed by a mirror is real, inverted and is of magnification --1. If the image is at a distance of 40 cm from the mirror, where is the object plaxed? Where would the image be if the object moved 20 cm towards the mirror? State the reason and also draw the ray diagram for the new position of the object to justify your answer. *Subject-English*

- 1. Design a poster for your area on how to save water during summer and when it is available in excess.
- 2. Write a speech on the topic-
 - 'True Liberty is freedom from poverty, deprivation and all forms of discrimination'.
- 3. Write the summary of Ruskin Bond's story- 'He said it with Arsenic'.
- 4. What is Apartheid System? Why was South Africa outlawed?
- 5. Give a picturesque representation with analysis of the poem 'A Tiger in the Zoo'.

<u>Subject-Hindi</u>

- 1.पाठ सूरदास के सभी प्रश्नों के उत्तर लिखकर याद करें |
- 2. पाठ पद- परिचय पढ़कर अभ्यास कार्य बनावें |
- 3. पाठ राम- लक्ष्मण- परश्राम संवाद पढ़ें एवं सस्वर वाचन हेतु अभ्यास करें |

<u>Subject-Sanskrit</u>

1 Project –

- 1. शुचि पर्या यावणस्य विषये चित सहितं वर्णितः स्मर त च
- 2. युक्रेन् रुसयो % विषये चित्र सहितं लिखत, वणितः च।
- 2. अनुचेदं लिखन
- १. मम प्रियं पुस्तकं
- २. संस्कृत भाषायाः महत्त्वं
- ३. श्रीं रामस्य विषये लेखन
- 3. गीतायाः उपदेशः (श्लोकाः) काश्चित् षट् श्लोकान् लिखत स्मरत् च
- 4. पच तंत्र पुस्तकस्य काश्चित् एका कथा लिखत स्मर त च।