

**APEX PUBLIC SCHOOL**

**SANT NAGAR, BURARI, DELHI-110084**

**HOLIDAYS  
HOMEWORK  
(2021 - 22)  
CLASS – X**



## ENGLISH

1. Make a tense chart with one example of each tense.  
Do five exercises based on Tenses.(Grammar notebook)
2. Prepare a project (ppt) on the life of Robert Frost which includes about his childhood ,family, life , education , achievements , creations , awards etc. Use pictures to make it more attractive.
3. Complete **Unit 1 and Unit 2** in workbook “ **Words and Expressions 2**”(use pencil)
4. Revise the literature chapters which have been done in the Class.
5. Prepare a speech on ' Covid-19 precautionary measures and vaccine awareness' and shoot a video of 2mins in proper school uniform.

## ग्रीष्मकालीन अवकाश के लिए गृहकार्य (2021-22)

कक्षा- दसवीं

विषय-हिंदी

नोट

लिखित कार्य आकर्षक, सृजनात्मक और प्रस्तुति योग्य होना चाहिए।

इसमें अंक दिए जाएँगे।

- ★ ऑनलाइन कक्षा में पढ़ाए प्रत्येक पाठ के प्रश्नोत्तर लिखिए।
- ★ प्रचलित मुहावरों पर शब्दकोश बनाइए।
- ★ कबीर ने अपनी साखियों के माध्यम से क्या संदेश दिया है ? लिखिए।
- ★ अपने स्कूल की विशेषताओं को अंकित करते हुए चित्र सहित सुंदर रंगीन विज्ञापन बनाइए।
- ★ कोविड 19 से बचने के लिए सुरक्षा, सावधानी आवश्यक इस पर 80 से 100 शब्दों में अनुच्छेद लिखिए ।
- ★ मजदूर दिवस , 29 जुलाई स्कूल के स्थापना दिवस किसी एक विषय पर 80 से 100 शब्दों में स्कूल की वर्दी ( UNIFORM ) पहनकर कविता/भाषण देते हुए वीडियो बनाइए ।

HOLIDAY HOMEWORK :- CLASS X

MATHEMATICS ( 21-22)

## WORKSHEET :- 1

### REAL NUMBER

1. Show that the cube of any positive integer is of the form  $4m$ ,  $4m + 1$  or  $4m + 3$  for some integer  $m$ .
2. Prove that  $\sqrt{3}$  is an irrational number.
3. State fundamental theorem of Arithmetic and hence find the unique factorization of 120.
4. Prove that  $\sqrt{3} + \sqrt{5}$  is irrational
5. Prove that  $5 - \frac{3}{7}\sqrt{3}$  is an irrational number.
6. Prove that  $\frac{1}{2 - \sqrt{5}}$  is an irrational number.
7. Find HCF and LCM of 56 and 112 by prime factorization method.
8. Explain why:
  - (i)  $7 \times 11 \times 13 \times 15 + 15$  is a composite number
  - (ii)  $11 \times 13 \times 17 + 17$  is a composite number.
  - (iii)  $1 \times 2 \times 3 \times 5 \times 7 + 3 \times 7$  is a composite number.
9. 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 the same distance in complete steps? (NCERT Exemplar)
10. During a sale, colour pencils were being sold in the pack of 24 each and crayons in the pack of 32 each. If you want full packs of both and the same number of pencils and crayons, how many packets of each would you need to buy? (CBSE : 2017)
11. Find the largest number that divides 31 and 99 leaving remainder 5 and 8 respectively.
12. The HCF of 65 and 117 is expressible in the form  $65m - 117$ . Find the value of  $m$ . Also find the LCM of 65 and 117 using prime factorisation method.
13. Using Euclid's division algorithm, find the largest number that divides 1251, 9377 and 15628 leaving remainder 1, 2 and 3 respectively. (NCERT Exemplar)
14. Show that square of any odd integer is of the form  $4m + 1$ , for some integer  $m$ .
15. Find the HCF of 180, 252 and 324 by Euclid's Division algorithm.
16. Find the greatest number of six digits exactly divisible by 18, 24 and 36.
17. Three bells ring at intervals of 9, 12, 15 minutes respectively. If they start ringing together at a time, after what time will they next ring together?
18. Show that only one of the number of  $n$ ,  $n + 2$  and  $n + 4$  is divisible by 3.
19. Find HCF and LCM of 404 and 96 and verify that  $\text{HCF} \times \text{LCM} = \text{Product of two given number}$ . (CBSE : 2018)

#### LONG ANSWER TYPE QUESTIONS

20. Find the HCF of 56, 96, 324 by Euclid's algorithm.
21. Show that any positive odd integer is of the form  $6q + 1$ ,  $6q + 3$  or  $6q + 5$ , where  $q$  is some integer.
22. Prove that the square of any positive integer is of the form  $5q$ ,  $5q + 1$ ,  $5q + 4$  for some integer,  $q$ .

## WORKSHEET :- 2

### Polynomial

### VERY SHORT ANSWER TYPE QUESTIONS

- If one root of the polynomial  $P(x) = 5x^2 + 13x + K$  is reciprocal of the other, then value of  $k$  is  
(a) 0                      (b) 5                      (c)  $\frac{1}{6}$                       (d) 6
- If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $p(x) = x^2 - p(x + 1) - c$  such that  $(\alpha + 1)(\beta + 1) = 0$ , the  $c =$  \_\_\_\_\_.
- If one zero of the quadratic polynomial  $x^2 + 3x + k$  is 2, then the value of  $k$  is  
(a) 10                      (b) -10                      (c) 5                      (d) -5
- If the zeroes of the quadratic polynomial  $x^2 + (a + 1)x + b$  are 2 and -3, then  
(a)  $a = -7, b = -1$                       (b)  $a = 5, b = -1$   
(c)  $a = 2, b = -6$                       (d)  $a = 0, b = -6$
- What should be added to the polynomial  $x^2 - 5x + 4$ , so that 3 is the zero of the resulting polynomial:  
(a) 1                      (b) 2                      (c) 4                      (d) 5
- If  $\alpha$  and  $\beta$  are the roots of the polynomial  
$$f(x) = x^2 + x + 1, \text{ then } \frac{1}{\alpha} + \frac{1}{\beta} =$$
- If a quadratic polynomial  $f(x)$  is not factorizable into linear factors, then it has no real zero. (True/False)
- If a quadratic polynomial  $f(x)$  is a square of a linear polynomial, then its two zeros are coincident. (True/False).

- The product of the zeros of  $x^3 + 4x^2 + x - 6$  is  
(a) -4                      (b) 4                      (c) 6                      (d) 6
- Given that two of the zeros of the cubic polynomial  $ax^3 + bx^2 + cx + d$  are 0, the third zero is  
(a)  $-\frac{b}{a}$                       (b)  $\frac{b}{a}$                       (c)  $\frac{c}{a}$                       (d)  $-\frac{d}{a}$
- What will be the number of zeros of a linear polynomial  $p(x)$  if its graph (i) passes through the origin. (ii) doesn't intersect or touch  $x$ -axis at any point?
- Find the quadratic polynomial whose zeros are  
 $(5 + 2\sqrt{3})$  and  $(5 - 2\sqrt{3})$

13. If one zero of  $p(x) = 4x^2 - (8k^2 - 40k)x - 9$  is negative of the other, find values of  $k$ .
14. What number should be added to the polynomial  $x^2 - 5x + 4$ , so that 3 is a zero of polynomial so obtained.
15. How many (i) maximum (ii) minimum number of zeroes can a quadratic polynomial have?
16. What will be the number of real zeros of the polynomial  $x^2 + 1$ ?
17. If  $\alpha$  and  $\beta$  are zeros of polynomial  $6x^2 - 7x - 3$ , then form a quadratic polynomial where zeros are  $2\alpha$  and  $2\beta$  (CBSE)
18. If  $\alpha$  and  $\frac{1}{\alpha}$  are zeros of  $4x^2 - 17x + k - 4$ , find the value of  $k$ .
19. What will be the number of zeros of the polynomials whose graphs are parallel to (i)  $y$ -axis (ii)  $x$ -axis?
20. What will be number of zeros of the polynomials whose graphs are either touching or intersecting the axis only at the points:  
(i)  $(-3, 0)$ ,  $(0, 2)$  &  $(3, 0)$  (ii)  $(0, 4)$ ,  $(0, 0)$  and  $(0, -4)$

#### SHORT ANSWER TYPE (I) QUESTIONS

21. If  $-3$  is one of the zeros of the polynomial  $(k - 1)x^2 + kx + 1$ , find the value of  $k$ .
22. If the product of zeros of  $ax^2 - 6x - 6$  is 4, find the value of  $a$ . Hence find the sum of its zeros.
23. If zeros of  $x^2 - kx + 6$  are in the ratio 3 : 2, find  $k$ .
24. If one zero of the quadratic polynomial  $(k^2 + k)x^2 + 68x + 6k$  is reciprocal of the other, find  $k$ .

### Activity of Lab Manual

- **Activity 1**

To give an Experimental demonstration of use of Euclid's lemma for computing the HCF of two numbers , say 35 and 20.

## **SOCIAL SCIENCE**

### **HOLIDAY HOMEWORK (ECONOMICS AND GEOGRAPHY)**

Prepare a project file with the following details:

1. The total length of the project report should not be more than 10-12 written pages of A-4 size sheet.
2. The project report should be handwritten and credit will be awarded to original drawings, illustrations and creative use of eco-friendly material.
3. The project report should be developed and presented in this order :
  - a) Cover page showing project title, student information, school and year.
  - b) List of contents with page numbers.
  - c) Certificate page
  - d) Chapters with relevant headings.
  - e) Summary and conclusions based on findings.
  - f) Bibliography: should have the Title, author, publisher and if a website the name of the website with the specific website link which has been used.

Every student has to compulsorily undertake any one project on the following—

#### **TOPIC 1 - Consumer Awareness**

The students must write about following key matter:

- a. Enactment of COPRA 1986 and its benefits
- b. Various Consumer Rights
- c. Role of WTO in protection of Consumers

OR

#### **TOPIC 2 - Sustainable Development**

The students must write about following key matter:

- a. Need of development.
- b. Importance of development
- c. Policies initiated to adopt measures for Sustainable Growth.

### **Holidays HW -History & Civics class10**

1. Read chp1 of History & do questions from topics Taught till Napoleon code.
2. collect information & pictures for a project on the topic- Social issues .  
You can take any social issue.
3. Revise the topics taught.

#### **Art**

Draw any one colorful picture in your drawing copy.

1. School girl is teaching alphabets to the parents.
2. Save forests, save the earth
3. Boys playing football.

#### **Work Experience**

Make collage painting on half sheet white chart / card board using old magazine, News paper and old materials.

Topic – Landscape/still life.

## PHYSICS & CHEMISTRY

1. Complete notes and intext questions of Ch-1 (till types of chemical reactions) and Ch-12 ( till factors on which the resistance of conductor depends) in your notebooks.
2. Make a power point presentation (minimum 12 slides) on any one of the following topics:
  - Sources of Energy
  - Electricity Production, Transmission and Distribution in India
3. Revise all the topics taught in class.
4. Learn and write formulae of Common Cations and Common Anions.

### **COMMON CATIONS :**

| <u>Name</u>    | <u>Formula</u>         | <u>Other name(s)</u> |
|----------------|------------------------|----------------------|
| Aluminum       | $\text{Al}^{+3}$       |                      |
| Ammonium       | $\text{NH}_4^+$        |                      |
| Barium         | $\text{Ba}^{+2}$       |                      |
| Calcium        | $\text{Ca}^{+2}$       |                      |
| Chromium(II)   | $\text{Cr}^{+2}$       | Chromous             |
| Chromium(III)  | $\text{Cr}^{+3}$       | Chromic              |
| Copper(I)      | $\text{Cu}^+$          | Cuprous              |
| Copper(II)     | $\text{Cu}^{+2}$       | Cupric               |
| Iron(II)       | $\text{Fe}^{+2}$       | Ferrous              |
| Iron(III)      | $\text{Fe}^{+3}$       | Ferric               |
| Hydrogen       | $\text{H}^+$           |                      |
| Hydronium      | $\text{H}_3\text{O}^+$ |                      |
| Lead(II)       | $\text{Pb}^{+2}$       |                      |
| Lithium        | $\text{Li}^+$          |                      |
| Magnesium      | $\text{Mg}^{+2}$       |                      |
| Manganese(II)  | $\text{Mn}^{+2}$       | Manganous            |
| Manganese(III) | $\text{Mn}^{+3}$       | Manganic             |
| Mercury(I)     | $\text{Hg}_2^{+2}$     | Mercurous            |
| Mercury(II)    | $\text{Hg}^{+2}$       | Mercuric             |
| Nitronium      | $\text{NO}_2^+$        |                      |
| Potassium      | $\text{K}^+$           |                      |
| Silver         | $\text{Ag}^+$          |                      |
| Sodium         | $\text{Na}^+$          |                      |
| Strontium      | $\text{Sr}^{+2}$       |                      |
| Tin(II)        | $\text{Sn}^{+2}$       | Stannous             |
| Tin(IV)        | $\text{Sn}^{+4}$       | Stannic              |
| Zinc           | $\text{Zn}^{+2}$       |                      |

## COMMON ANIONS:

### *Simple ions:*

|          |                 |         |                 |
|----------|-----------------|---------|-----------------|
| Hydride  | H <sup>-</sup>  | Oxide   | O <sup>2-</sup> |
| Fluoride | F <sup>-</sup>  | Sulfide | S <sup>2-</sup> |
| Chloride | Cl <sup>-</sup> | Nitride | N <sup>3-</sup> |
| Bromide  | Br <sup>-</sup> |         |                 |
| Iodide   | I <sup>-</sup>  |         |                 |

### *Oxoanions:*

|                                      |   |                      |  |
|--------------------------------------|---|----------------------|--|
| Arsenate                             | AsO <sub>4</sub> <sup>3-</sup>              | Phosphate            | PO <sub>4</sub> <sup>3-</sup>                |
| Arsenite                             | AsO <sub>3</sub> <sup>3-</sup>              | Hydrogen phosphate   | HPO <sub>4</sub> <sup>2-</sup>               |
|                                      |   | Dihydrogen phosphate | H <sub>2</sub> PO <sub>4</sub> <sup>-</sup>  |
| Sulfate                              | SO <sub>4</sub> <sup>2-</sup>               | Nitrate              | NO <sub>3</sub> <sup>-</sup>                 |
| Hydrogen sulfate                     | HSO <sub>4</sub> <sup>-</sup>               | Nitrite              | NO <sub>2</sub> <sup>-</sup>                 |
| Thiosulfate                          | S <sub>2</sub> O <sub>3</sub> <sup>2-</sup> |                      |  |
| Sulfite                              | SO <sub>3</sub> <sup>2-</sup>               |                      |  |
| Perchlorate                          | ClO <sub>4</sub> <sup>-</sup>               | Iodate               | IO <sub>3</sub> <sup>-</sup>                 |
| Chlorate                             | ClO <sub>3</sub> <sup>-</sup>               | Bromate              | BrO <sub>3</sub> <sup>-</sup>                |
| Chlorite                             | ClO <sub>2</sub> <sup>-</sup>               |                      |  |
| Hypochlorite                         | OCl <sup>-</sup>                            | Hypobromite          | OBr <sup>-</sup>                             |
| Carbonate                            | CO <sub>3</sub> <sup>2-</sup>               | Chromate             | CrO <sub>4</sub> <sup>2-</sup>               |
| Hydrogen carbonate<br>or Bicarbonate | HCO <sub>3</sub> <sup>-</sup>               | Dichromate           | Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup> |

### *Anions from Organic Acids:*

|         |                                  |         |                   |
|---------|----------------------------------|---------|-------------------|
| Acetate | CH <sub>3</sub> COO <sup>-</sup> | formate | HCOO <sup>-</sup> |
|---------|----------------------------------|---------|-------------------|

### *Others:*

|             |                  |              |   |
|-------------|------------------|--------------|---|
| Cyanide     | CN <sup>-</sup>  | Amide        | NH <sub>2</sub> <sup>-</sup>                |
| Cyanate     | OCN <sup>-</sup> | Peroxide     | O <sub>2</sub> <sup>2-</sup>                |
| Thiocyanate | SCN <sup>-</sup> | Oxalate      | C <sub>2</sub> O <sub>4</sub> <sup>2-</sup> |
| Hydroxide   | OH <sup>-</sup>  | Permanganate | MnO <sub>4</sub> <sup>-</sup>               |

## **BIOLOGY:**

- 1) Learn and write question and answer from the chapter Life-Processes till Respiratory System in a separate notebook.**
- 2) Make any useful item from a non biodegradable waste product in your house , click a photo and send it to me.**
- 3) Complete the lab assignments concerned with leaf peel experiment and types of asexual reproduction in your lab manual .**

# Holiday Home Work Class X

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## Activity 1

Role Play on Communication

### Procedure

- Form groups with four family members in each group.
- The situation is that a member (Father or Mother) is Sales Executive at a toy store and he or she is supposed to communicate to customers about the various types of toys available with the store for different age group.
- He/She has to describe about different toys
- The other members will reach the Sales Executive one by one and ask different types of questions related to toys.
- Develop a script for the role play and act on the same.
- Discuss what you all learned from this activity.

## Activity 2

Identifying Elements of the Communication Cycle in Activity 1

Material required

Paper and pencil

Procedure

## Holiday Home Work Class X

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- Each student will draw a communication cycle.

### Activity 3:

Make a chart highlighting all the methods of communication. Use markers and colours to highlight differences amongst all.

### Activity 4

Group-Practice: Role Play of a Telephonic Conversation

#### Material required

Notebook, pen

#### Procedure

- Form groups with three family members in each group.
- Write a phone conversation based on a given scenario of a member calling a Apex Public School academic coordinator to know about study courses and admission procedure.
- One member acts as caller and the other as receiver.
- Read out the conversation by enacting the roles.

### Activity 5

Group-Practice on Public Speaking

#### Material required

Notebook, pen

#### Procedure

- Form groups with three family members in each group.
- Within the group, choose a topic for a short speech. For example, Importance of Punctuality, Healthy Food Habits, covid19 precaution, herbal medicine for covid19 etc.

## Holiday Home Work Class X

- Each person should make a speech to the others in the group; who then give feedback based on whether the person was able to communicate properly.

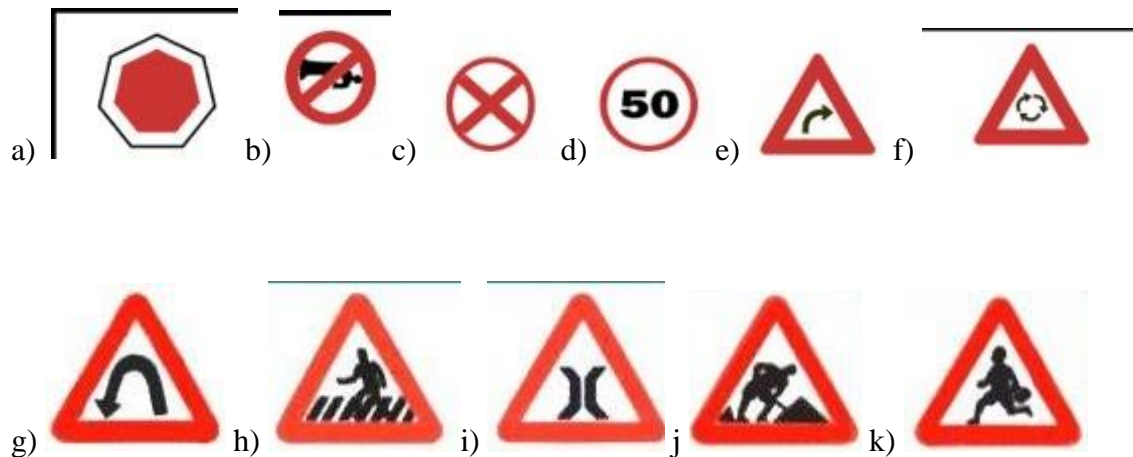
### Activity 6:

1. Identify the meaning of the following facial expression



### Activity 7:

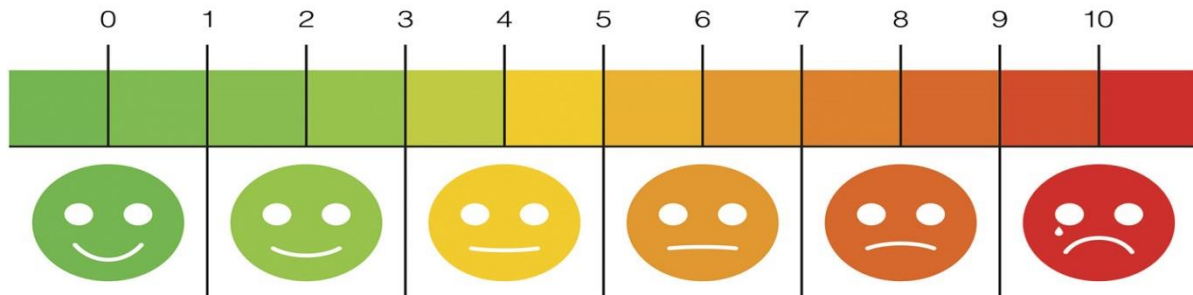
Identify the meaning of the following sign



### Activity 8:

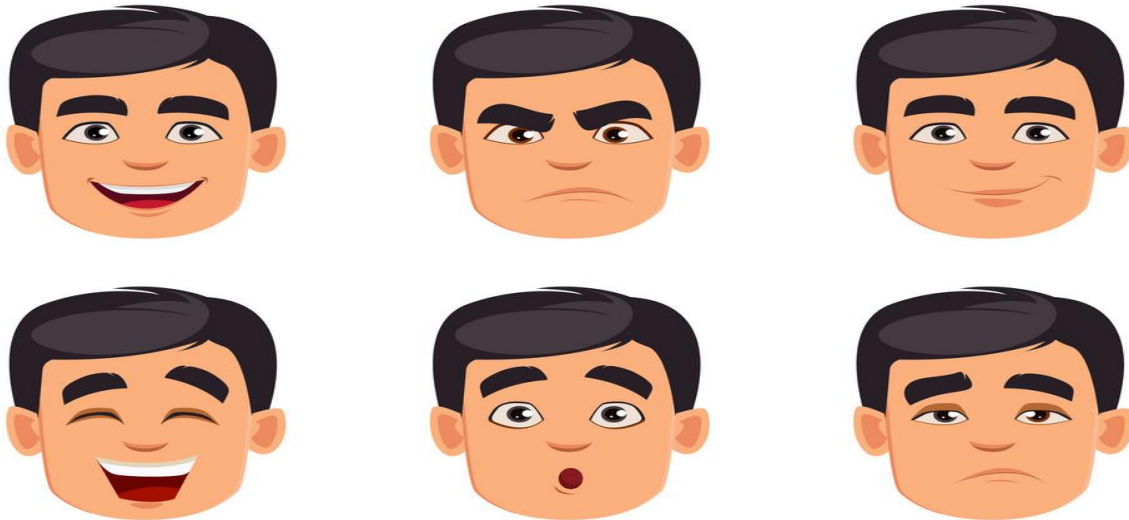
Identify the meaning of the following pain scale

# PAIN SCALE



Activity 9:

Identify the meaning of the following pain scale



Activity 10:

Prepare the poster of covid19 awareness in MS word with page boarder, header footer, colors and page design