

**1. Do the following activities in your lab file:**

- (i) To verify the conditions for consistency of a system of linear equations in two variables by graphical representation.
- (ii) To set the idea of probability of an event through a double colour cards experiment.
- (iii) To compare the curved surface areas and total surface areas of two right circular cylinders which are formed from rectangular sheets of paper with same dimensions.
- (iv) To find the formula for the lateral surface area and total surface area of a right circular cone experimentally.

**2. Make a ppt. of 8-10 slides on any one of the following topics:**

- (i) Substitution Method
- (ii) Elimination Method
- (v) Cross- multiplication Method
- (vi) Conditions of consistency of a pair of linear Equations in two variables.
- (vii) Euclid's division lemma and division algorithm.
- (viii) Volume and surface area of solids : Cylinder, cone, sphere, hemisphere.
- (ix) Probability
- (x) Use of Mathematics in Daily Life
- (xi) Proof of Pythagoras theorem with the help of an activity.

**3. Solve the following in a separate notebook.**

1	Find the probability of getting a number greater than 2 in throwing a die.
2	Out of one- digit prime numbers, one number is selected at random. What is the probability of selecting an even number ?
3	A single letter is selected at random from the word "PROBABILITY". Find the probability that the selected letter is a vowel.
4	A three-digit number is to be formed using the digits 3, 4, 7, 8 and 2 without repetition. Find the probability that it is an odd number.
5	Two coins are tossed simultaneously. What is The probability of getting at most one head?
6	Find the probability that a two digit number selected at random will be a multiple of '3' and not a multiple of '5'.
7	A dice is thrown twice. Find the probability of getting 4, 5 or 6 in the first throw and 1, 2, 3 or 4 in the second Throw.
8	A card is selected from a deck of 52 cards. Find the probability of its being a red face card.
9	A cubical ice cream brick of edge 22 cm is to be distributed among some children by filling ice cream cones of radius 2 cm and height 7 cm upto its brim. How many children will get the ice cream cones?
10	Find the volume of the largest right circular cone that can be cut out from a cube of edge 4.2 cm.

11	Twelve solid spheres of the same size are made by melting a solid metallic cylinder of base diameter 2 cm and height 16 cm. Find the diameter of each sphere.
12	Three cubes of a metal whose edges are in the ratio 3:4:5 are melted and converted into a single cube whose diagonal is $12\sqrt{3}$ cm. Find the edges of the three cubes.
13	Find the number of metallic circular disc with 1.5 cm base diameter and of height 0.2 cm to be melted to form a right circular cylinder of height 10 cm and diameter 4.5 cm.
14	A solid toy is in the form of a hemisphere surmounted by a right circular cone. The height of the cone is 4 cm and the diameter of the base is 8 cm. Determine the volume of the toy. If a cube circumscribes the toy, then find the difference of the volumes of cube and the toy. Also, find the total surface area of the toy.
15	A rectangular water tank of base 11 m $\times$ 6 m contains water upto a height of 5 m. If the water in the tank is transferred to a cylindrical tank of radius 3.5 m, find the height of the water level in the tank.
16	Water flows through a cylindrical pipe, whose inner radius is 1 cm, at the rate of 80 cm/sec in an empty cylindrical tank, the radius of whose base is 40 cm. What is the rise of water level in tank in half an hour?
17	Show that the square of an odd positive integer can be of the form $6q + 1$ or $6q + 3$ for some integer $q$ .
18	Prove that one and only one out of $n$ , $n + 2$ and $n + 4$ is divisible by 3, where $n$ is any positive integer.
19	Write the denominator of the rational number $\frac{257}{5000}$ in the form $2^m 5^n$ , where $m$ , $n$ are non-negative integers. Hence, write its decimal expansion, without actual division.
20	Using Euclid's division algorithm, find which of the following pairs of numbers are co-prime: (i) 231, 396                      (ii) 847, 2160
21	The numbers 525 and 3000 are both divisible only by 3, 5, 15, 25 and 75. What is HCF (525, 3000)? Justify your answer.
22	A rational number in its decimal expansion is 327.7081. What can you say about the prime factors of $q$ , when this number is expressed in the form $\frac{p}{q}$ ? Give reasons.
23	Can two numbers have 18 as their HCF and 380 as their LCM? Give reasons.
24	If the HCF of 65 and 117 is expressible in the form $65m - 117$ , then find the value of $m$ .
25	Find the largest number which divides 70 and 125, leaving remainders 5 and 8 respectively.
26	Find the least number that is divisible by all the numbers from 1 to 10 (both inclusive).
27	Find the value of $c$ for which the pair of equations $cx - y = 2$ and $6x - 2y = 3$ will have infinitely many solutions.
28	Aruna has only Re 1 and Rs 2 coins with her. If the total number of coins that she has is 50 and the amount of money with her is Rs 75, then find the number of Re 1 and Rs 2 coins.
29	Do the equations $4x + 3y - 1 = 5$ and $12x + 9y = 15$ represent a pair of coincident lines? Justify your answer.
30	For all real values of $c$ , the pair of equations $x - 2y = 8$ and $5x - 10y = c$ have a unique solution. Justify whether it is true or false.
31	Solve the following pair of linear equations: $21x + 47y = 110$ $47x + 21y = 162$

32	Draw the graphs of the pair of linear equations $x - y + 2 = 0$ and $4x - y - 4 = 0$ . Calculate the area of the triangle formed by the lines so drawn and the x-axis.
33	For which values of a and b, will the following pair of linear equations have infinitely many solutions? $x + 2y = 1$ and $(a - b)x + (a + b)y = a + b - 2$
34	Two straight paths are represented by the equations $x - 3y = 2$ and $-2x + 6y = 5$ . Check whether the paths cross each other or not.
35	Draw the graph of the pair of equations $2x + y = 4$ and $2x - y = 4$ . Write the vertices of the triangle formed by these lines and the y-axis. Also find the area of this triangle.
36	The angles of a triangle are x, y and $40^\circ$ . The difference between the two angles x and y is $30^\circ$ . Find x and y.
37	The age of the father is twice the sum of the ages of his two children. After 20 years, his age will be equal to the sum of the ages of his children. Find the age of the father.
38	There are some students in the two examination halls A and B. To make the number of students equal in each hall, 10 students are sent from A to B. But if 20 students are sent from B to A, the number of students in A becomes double the number of students in B. Find the number of students in the two halls.
39	Determine, algebraically, the vertices of the triangle formed by the lines $5x - y = 5$ , $x + 2y = 1$ and $6x + y = 17$ .
40	Jamila sold a table and a chair for Rs 1050, thereby making a profit of 10% on the table and 25% on the chair. If she had taken a profit of 25% on the table and 10% on the chair she would have got Rs 1065. Find the cost price of each.

कक्षा - दसवीं

विषय - हिन्दी , सत्र (2021-22 )

ग्रीष्म-अवकाश गृह कार्य

प्र०-1) 'रचना के आधार पर वाक्य भेद' विषय पर परियोजना बनाइए ए -4 शीट पर फाइल में (विषय सूची जरूर बनाइए ) ।

प्र०-2) निम्नलिखित विषयों पर आकर्षक विज्ञापन बनाइए (ए-4 शीट पर )

- 1 ) सरस्वती संगीत संस्थान के लिए विज्ञापन ।
- 2 ) डिलाइट आइसक्रीम के लिए विज्ञापन ।
- 3 ) एक कोचिंग संस्थान के प्रचार के लिए विज्ञापन ।
- 4 ) कान्हा दूध का विज्ञापन तैयार कीजिए ।

प्र०-3) पठित पाठों को पुनः पढ़कर उनका अभ्यास कार्य याद कीजिए ।

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## English Holiday Homework

### Class 10

The class is divided into three groups:

Group 1 - Roll numbers 1 to 12

Group 2 - Roll numbers 13 to 24

Group 3 - Roll numbers 14 till the end

#### Topics:

Group 1 - Black Americans and their fight against discrimination

Group 2 - Islamic women and their fight for equality

Group 3 - Vietnamese and their fight for independence

- Collect information on the following topics
- Include :
  - What is the problem?
  - How it started? Harsh and inhumane conditions faced.
  - Who are the important leaders who fought for it?
  - The course of fight. (Include some stories of struggle or sacrifice)
  - The result (Include year of achievement, equality or supremacy?)
  - Present scenario.
- Do the work in your language copy.
- Write short paragraphs under each heading.

Stay home, Stay safe.

**ST Thomas School**  
**Subject: Science**  
**Holiday Homework – Class X**

## CHEMISTRY

- 1) Make a Power Point Presentation on “**Types of Chemical Reactions**”. The PPT should contain 10-15 slides. Submit the hard copy as well on MST. Presentation of PPT will be given in class after holidays.
- 2) Balance the following chemical reactions:
  - a)  $\text{Na} + \text{O}_2 \rightarrow \text{Na}_2\text{O}$
  - b)  $\text{H}_2\text{O}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2$
  - c)  $\text{Mg}(\text{OH})_2 + \text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2\text{O}$
  - d)  $\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$
  - e)  $\text{Al}(\text{OH})_3 \rightarrow \text{Al}_2\text{O}_3 + \text{H}_2\text{O}$
  - f)  $\text{NH}_3 + \text{CuO} \rightarrow \text{Cu} + \text{N}_2 + \text{H}_2\text{O}$
  - g)  $\text{Al}_2(\text{SO}_4)_3 + \text{NaOH} \rightarrow \text{Al}(\text{OH})_3 + \text{Na}_2\text{SO}_4$
  - h)  $\text{HNO}_3 + \text{Ca}(\text{OH})_2 \rightarrow \text{Ca}(\text{NO}_3)_2 + \text{H}_2\text{O}$
  - i)  $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$
  - j)  $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + \text{HCl}$
- 3) Write chemical equations for the following:
  - a) Barium chloride reacts with zinc sulphate to give zinc chloride and a precipitate of barium sulphate.
  - b) Methyl alcohol burns in air it react with oxygen from air to form carbon dioxide and water.
  - c) Solution of silver nitrate is mixed with a solution of sodium chloride, a white precipitate of silver chloride is formed and sodium nitrate is also formed during the reaction.
  - d) Aqueous solution of lead nitrate and sodium sulphate are mixed, a white precipitate of lead sulphate is formed along with sodium nitrate.
  - e) Iron(III) sulphate (Ferric sulphate) on reaction with sodium hydroxide solutions, gives brown precipitate of iron(III) hydroxide and sodium sulphate.

**NOTE:** Write your answers in Chemistry Home Work Copy and upload on MST in Chemistry Holiday assignment.

## PHYSICS

As the demand for energy has increased, so has the number of alternatives for its production. One such alternative is a biogas plant. Find at least two more alternate sources of energy which are unique and innovative.

What to do :

1. Explore and find out these sources and their harnessing plants located in different parts of India.
2. Research out the various raw materials used, and the components used in setting up these plants.
3. Study the cost of setting up the plant.
4. List down the benefits of using your chosen alternate sources of energy.

Where to do : prepare a PPT (20-30 slides only)

Parameters for evaluation :1. Accuracy 2. Relevance 3. Presentation

5. Practice for ray diagrams, rules, sign conventions and numericals based on mirror formula.

Note: Upload your work on Physics Channel.

## BIOLOGY

1. Diagrammatically explain the opening and closing of stomata.
2. Draw the well labeled diagram of the following:-
  - a) Human digestive system
  - b) Human respiratory system.
3. Differentiate in a tabular form between autotrophic and heterotrophic nutrition.(3 points)

## Worksheet

Answer question numbers (a-d) on the basis of your understanding of the topic Digestion.

When a person puts food in his mouth, then teeth cut it into small pieces, chew and grind it. The gland A in the mouth secretes a substance B which is mixed with the food by the tongue. The substance B contains an enzyme C which starts the digestion of food in the mouth. The slightly digested food from the mouth goes down a tube D. The special type of movement E in the walls of the tube D pushes food into stomach for further digestion. The stomach wall secretes gastric juice containing three substances F, G and H. One of the functions of F is to kill bacteria which may enter the stomach with food. The substance G protects the inside layer of stomach from the damaging effect of substance F whereas substance H is an enzyme for digestion. The partially digested food then enters into small intestine for further digestion.

- a) Name the gland A and its secretion B.
- b) Write the name of enzyme C and its function.
- c) What is the movement E known as?
- d) What are (i) D (ii) F (iii) G and (iv) H?

## Social Science Holiday Homework

### Class 10

The class is divided into TWO groups:

Group 1	Roll numbers	1 to 16	Consumer Rights
Group 2	Roll numbers	17 till end	Sustainable Development

Collect information about :

- Definition of the topic
  - List the main points
  - Discuss how to bring them into effect
  - Discuss the protection measures
- 
- Organize the collected matter into a PPT
  - Collect pictures and paste them appropriately
  - Write a paragraph under each heading
  - Draw graphs showing the data where appropriate

Complete the questions and answers in your copy.

Revise the lessons already done.



**St. Thomas School**

**Sahibabad**

**Information Technology**

**Holiday Homework**

**PRACTICAL FILE**

*Design the front page*

# ST.THOMAS SCHOOL, SAHIBABAD



## PRACTICAL FILE

## INFORMATION TECHNOLOGY

**CODE : 402**

**SESSION : 2021-22**

**CLASS - X**

**SUBMITTED BY:**

**STUDENT NAME :**

**ROLL NO. :**

**CLASS & SECTION :**

**SUBMITTED TO:**

**TEACHER'S NAME**

# St. Thomas School

## Sahibabad

### CERTIFICATE

*This is to certify that \_\_\_\_\_, a student of class X has successfully completed this practical work in Information Technology (Subject Code-402) under the guidance of Anupam Chaturvedi/Poli Mandal during the session 2021-22 in partial fulfilment of subject Information Technology [402] practical examination conducted BY CBSE*

*Teacher In charge*

*PRINCIPAL*



**PRACTICAL -1**  
**DESIGNING POSTER**

**Students ,you all are supposed to design a poster on the topic given below.**

**1. Share with Care(online sharing)[Roll No-1 to 17]**

**2. School 2.0- (virtual school)[Roll No-18 to LAST]**

**Instructions-**

**1. Designing and saving the poster (paste the printout on the Left hand side of Practical file**

**2. Right Hand side of practical file**

**Topic- Mention the topic**

## PRACTICAL -2

### Balanced Diet Chart[Tables]

Students ,you all are supposed to design a table on the topic given below.

1. Even roll no-Balanced Diet – Giving information about the essential nutrients ,their function and their sources

Eg

Food Type	Function	Sources
Carbohydrates	Provides quick energy	Pasta, cereals and potatoes

- Give details of all seven food groups.
- Use different colours for rows

2. Odd Roll No-Calorie count of India Meals-Design a table to display the calorie count of the items preferred for breakfast,lunch/dinner, snacks and Beverages

Eg

Item	Quantity	Calorie Value
BreakFast		
Bread slice with Butter	1	90

- Use different colours for rows
- At least five items to be covered for each

Instructions-

1. Designing and saving the table(paste printout on Left hand side of Practical file
2. Right Hand side of practical file

Topic-Mention the topic and briefly explain the steps for creating table and applying different formatting features.

## **PRACTICAL -3**

### **Implementing Mail Merge**

Design an appreciation letter to be sent to the employees of Company for their outstanding performance. Create a recipient list/data source of 10 employee and merge the fields in the letter

#### **Instructions**

- 1. Design the letter and format it.**
- 2. Print out of the data Source**
- 3. Print out of the letter with insert merge field.**
- 4. Paste the printout on left side of practical file  
and**
- 5. Briefly explain the steps of mail merge**

**ST. THOMAS SCHOOL, SAHIBABAD (2021-2022)**

**HOLIDAY HOMEWORK**

**Physical Education**

Class X

The Indian Premier League (IPL) is a professional Twenty20 cricket league.

Collect information about the league and prepare a file.

The Content of the File as follows: -

1. Discuss in detail the History of IPL.
2. Explain the Fundamental Skills of the game.
3. Describe the Rules and Regulations of the game.
4. Write down the Sports Personalities of the game (One player per page)
  - a. International Player (5 players)
  - b. National Player (5 players)
5. Sports Awards.
6. Sports Injuries.
  - a. 5 major injuries of the game