

ARMY PUBLIC SCHOOL RANCHI
HOLIDAY HOMEWORK
SESSION: 2022-23

CLASS X

SUBJECT: ENGLISH

1. Given below is a newspaper report on the state of cancer prevailing in India. You intend to write a letter to the Director, PGI, Chandigarh on the topic 'Cancer- a silent Killer'. Taking information from the clipping given below together with your own ideas, write a letter to the Director PGI in not more Than 120 words.

In India, cities are more cancer-prone than rural areas. In the early '90s we expected one out of 10-15 urban Indians to get cancer in their life-time, that is every second or third family would have to face this disease. This is partly due to high levels of benzene in the air and also that the metros are exposed to high levels of pesticides in their foods. In order to check the steady growth of cancer in the country, the government shall have to give priority to preventive actions.

2. Read the conversation carefully and complete the passage given below:

(a) Mrs. Sharma: Will you come with me for shopping?

Gunjan: Sorry, I am going to see my ailing sister.

Mrs. Sharma: I can wait till you return.

Mr. Sharma asked Gunjan (a)_____. Gunjan replied apologetically that (b) _____ . To this Mrs. Sharma replied (c) _____ .

(b) Dilip: I have been watching the sea and there hasn't been any trace of a ship.

Ralph: I told you yesterday too that we'll be rescued, so have patience.

Dilip: Why do you ask me to keep quiet whenever I say something?

Ralph: Have you ever said anything sensible?

Dilip said (a) _____ and there had been any trace of a ship. Ralph replied

(b) _____ and so asks him to have patience. Dilip angrily asked

Ralph (c)_____. To this Ralph asked (d) _____ .

3. Complete the following with an appropriate word or phrase:

(a) The caves of Ajanta and Ellora (a) _____ the magnificent works of a sculpture.

They (b) _____ situated near Jalgaon in Maharashtra. Whoever

(c)_____ there (d) _____ spellbound. Thousands of tourists (e)

_____ these places every year. One can (f) _____ in guest houses.

(b) Tomorrow I (a) _____ for an entrance test at BB Public School. If I (b)

_____ the test, I (c)_____ get a job in an MNC called Satian. There are

five thousand candidates for that job. I (d) _____ very hard for the test.

Let's see what (e) _____ .

4. Answer the following questions briefly: (30-40 words)

(a) Who is the poet of the poem 'Dust of snow'? What is the poet's state of mind?

(b) What do 'Fire' and 'Ice' symbolise in the poem 'Fire and Ice'?

(c) What was Mrs. Pumphrey's reaction when the surgeon said that Tricki must be taken to the hospital for a fortnight?

(d) What is Mandela's opinion about a man who takes away another man's freedom?

(e) Why was it not easy for the thief to rob Anil?

(f) What is the moral of the story 'A Letter to God'?

5. Answer any one of the following in 100-120 words:

(a) Describe the value of freedom for the human beings and how it is important for the growth of civilization and humanism as described in the lesson 'Nelson Mandela: Long Walk to Freedom'

(b) 'Money cannot make a man as much educated as education'

Elucidate this statement with reference to 'A Thief's Story'.

SUBJECT: HINDI

1. 'बड़े भाई साहब' पाठ के आधार पर परिवार की संरचना का एक वर्ग चित्र बनाएं तथा आज के समय में विभिन्न परिवारों की संरचना के लाभ-हानि को लिखें तथा चित्रों के माध्यम से परिवार के महत्व को दर्शाए।

2. हिंदी साहित्य के भक्ति काल में 'कबीर' तथा 'मीरा' प्रमुख कवियों में से हैं। इस काल के प्रमुख कवियों में से किन्हीं दो और कवियों का परिचय (चित्र सहित) देते हुए उनकी मुख्य कृतियों के नाम लिखें ?

3. 'रूस और यूक्रेन का युद्ध' विषय पर एक अनुच्छेद अपने शब्दों में लिखें।

4. आपको प्रेमचंद की कहानियां पढ़ना बहुत पसंद है। प्रेमचंद की कहानियों की पुस्तकें मंगवाने हेतु किसी प्रकाशक को 100 से 120 शब्दों में पत्र लिखें।

5. प्रेमचंद की किसी एक कहानी को पढ़कर उसे अपने शब्दों में लघु कथा के रूप में लिखें।

Note:- इस सारे कार्य को A4 साइज पेपर में करके फाइल में लगाएं तथा फाइल को लोक कला की चित्रकारी करते हुए उसे अच्छे से सजाएं।

SUBJECT: MATHEMATICS

Real Numbers

1. Find the HCF of 65 and 117 and express it in the form $65m + 117n$.
2. If the HCF of 210 and 55 is expressible in the form of $210x + 55y$, find y .
3. Find the least number which when divided by 12, 16, 24 and 36 leaves a remainder 7 in each case.
4. The length, breadth and height of a room are 825 cm, 675 cm and 450 cm respectively. Find the longest tape which can measure the three dimensions of the room exactly.
5. Determine the smallest 3-digit number which is exactly divisible by 6, 8 and 12.
6. Determine the greatest 3-digit number exactly divisible by 8, 10 and 12.
7. Renu purchases two bags of fertiliser of weights 75 kg and 69 kg. Find the maximum value of weight which can measure the weight of the fertiliser exact number of times.
8. In a seminar, the number of participants in Hindi, English and Mathematics are 60, 84 and 108, respectively. Find the minimum number of rooms required if in each room the same number of participants are to be seated and all of them being in the same subject.
9. Prove that $\sqrt{5} + \sqrt{3}$ is irrational.
10. Prove that $5 + 2\sqrt{3}$ is irrational.
11. Prove that $\sqrt{3} + \sqrt{2}$ is irrational.
12. The HCF of the two numbers is 29 & their sum is 174. What are the numbers?
13. The product of co-primes is 117. Find their LCM?
14. The LCM of two numbers is 495 and their HCF is 5. If sum of the numbers is 100, then find their difference.
15. The HCF and LCM of two numbers are 21 and 84 respectively. If the ratio of the two numbers is 1:4. Then find the numbers.

Polynomials

1. If the product of zeroes of the polynomial $ax^2 - 6x - 6$ is 4, find the value of 'a'.
2. If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is reciprocal of the other. Find the value of a .
3. Find a polynomial whose zeroes are 2 and -3.
4. If 2 and -3 are the zeroes of the polynomial $x^2 + (a + 1)x + b$, then find the value of a and b .
5. Find the sum and product of zeroes of $p(x) = 2(x^2 - 3) + x$.
6. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then find the value of k .

7. Find the zeroes of a quadratic polynomial given as $3x^2 - x - 4$ and also verify the relationship between the zeroes and the coefficients.
8. The difference of two numbers is 4. If the difference of their reciprocals is $\frac{4}{21}$, then find the two numbers.
9. If α, β are the zeroes of the polynomial $2x^2 - 4x + 5$. find the value of
(i) $\alpha^2 + \beta^2$ (ii) $(\alpha - \beta)^2$.
10. For what value of k , (-4) is a zero of the polynomial $x^2 - x - (2k + 2)$?
11. Find the zeroes of the quadratic polynomial $5x^2 - 4 - 8x$ and verify the relationship between the zeroes and the coefficient of the polynomial.
12. Find all the zeroes of the polynomial $x^3 + 3x^2 - 2x - 6$, if two of its zeroes are $-\sqrt{2}$ and $-\sqrt{2}$.
13. α and β are zeroes of the quadratic polynomial $x^2 - 6x + y$. Find the value of 'y' if $3\alpha + 2\beta = 20$
14. Find all the zeroes of the polynomial $2x^3 + x^2 - 6x - 3$, if two of its zeroes are $-\sqrt{3}$ and $\sqrt{3}$.
15. Find the quadratic polynomial if its zeroes are $0, \sqrt{5}$

Trigonometry

1. The value of $\cos 0^\circ \cdot \cos 1^\circ \cdot \cos 2^\circ \cdot \cos 3^\circ \dots \cos 89^\circ \cos 90^\circ$ is
(a) 1 (b) -1 (c) 0 (d) $\frac{1}{\sqrt{2}}$
2. If $x \tan 45^\circ \sin 30^\circ = \cos 30^\circ \tan 30^\circ$, then x is equal to
(a) $\sqrt{3}$ (b) $\frac{1}{2}$ (c) $\frac{1}{\sqrt{2}}$ (d) 1
3. If x and y are complementary angles, then
(a) $\sin x = \sin y$ (b) $\tan x = \tan y$ (c) $\cos x = \cos y$ (d) $\sec x = \operatorname{cosec} y$
4. $\sin 2B = 2 \sin B$ is true when B is equal to
(a) 90° (b) 60° (c) 30° (d) 0°
5. If A, B and C are interior angles of a ΔABC then $\cos \left(\frac{B+C}{2}\right)$ is equal to
(a) $\sin \frac{A}{2}$ (b) $-\sin \frac{A}{2}$
(c) $\cos \frac{A}{2}$ (d) $-\cos \frac{A}{2}$
6. If A and $(2A - 45^\circ)$ are acute angles such that $\sin A = \cos (2A - 45^\circ)$, then $\tan A$ is equal to
(a) 0 (b) $\frac{1}{\sqrt{3}}$ (c) 1 (d) $\sqrt{3}$
7. If $\sin \theta + \sin^2 \theta = 1$, then $\cos^2 \theta + \cos^4 \theta = \dots$
(a) -1 (b) 0 (c) 1 (d) 2

8. $(5 \tan^2 A - 5 \sec^2 A + 1)$ is equal to
(a) 6 (b) -5 (c) 1 (d) -4

9. If $\sec A + \tan A = x$, then $\sec A =$

(a) $\frac{x^2 - 1}{x}$ (b) $\frac{x^2 - 1}{2x}$

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

10. If $\sec A + \tan A = x$, then $\tan A =$

(a) $\frac{x^2 - 1}{x}$ (b) $\frac{x^2 - 1}{2x}$

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

11. If $x = a \cos \alpha$ and $y = b \sin \alpha$, then $b^2 x^2 + a^2 y^2 =$
(a) ab (b) $b^2 + a^2$ (c) $a^2 b^2$ (d) $a^4 b^4$

12. $\frac{1 - \cos A}{\sin A}$ is equal to

(a) $\frac{\sin A}{1 - \cos A}$ (b) $\frac{\sin A}{1 + \cos A}$

(c) $\frac{\cos A}{1 - \cos A}$ (d) $\frac{\cos A}{1 + \cos A}$

13. Given that $\sin \theta = \frac{a}{b}$, then $\tan \theta =$

(a) $\frac{b}{\sqrt{b^2 - a^2}}$ (b) $\frac{\sqrt{b^2 - a^2}}{b}$

(c) $\frac{a}{\sqrt{b^2 - a^2}}$ (d) $\frac{\sqrt{b^2 - a^2}}{a}$

14. If in ΔABC , $\angle C = 90^\circ$, then $\sin (A$

$+ B) =$ (a) 0 (b) $\frac{1}{2}$ (c) $\frac{1}{\sqrt{2}}$

(d) 1

15. If $\sin A - \cos A = 0$, then the value of $\sin^4 A +$

$\cos^4 A$ is (a) 2 (b) 1 (c) $\frac{3}{4}$ (d) $\frac{1}{2}$

SUBJECT: SCIENCE

PHYSICS

1. Draw the image formation by a concave mirror and convex mirror for different positions of the objects.
2. Write and learn The New Cartesian Sign Convention for reflection of light by spherical mirrors.
3. State mirror formula and give the relationship between image distance, object distance and focal length of a spherical mirror.

CHEMISTRY

- 1.State Characteristics of a chemical reaction by giving two examples of each.
- 2.Write one chemical equation each for decomposition reactions where energy is supplied in the form of heat, light or electricity.
- 3.Write and learn The Reactivity Series of Metals.
- 4.Define Redox Reaction. Give five examples of redox reactions and name the substance oxidized, reduced, oxidizing agent, reducing agent in each example.

BIOLOGY

1. Draw a flow chart of mode of nutrition in organisms with two examples of each.
2. Name the digestive glands associated with Human Digestive System and write its secretion and functions in a tabular form.
3. With the help of labelled diagram show the steps of Nutrition in Amoeba.
- 4.Draw and practice the following diagram:
 - a. Human Digestive System
 - b. Human Respiratory System
 - c. Open and closed Stomatal Pore

NOTE- Complete the Science Holiday Homework in the respective parts of the Science Notebook (Physics, Chemistry and Biology) only.

SUBJECT: SOCIAL SCIENCE

1. Draw and learn the political symbols of eight national political parties.
2. On the political map of India, mark the different types of soil found in India.
3. Learn and write: Preamble to the constitution of India.
4. Draw the map of Belgium and Sri Lanka showing their ethnic composition.
5. Complete the question and answer of Geography and Economics Chapter 1(NCERT BOOK)

SUBJECT: IT

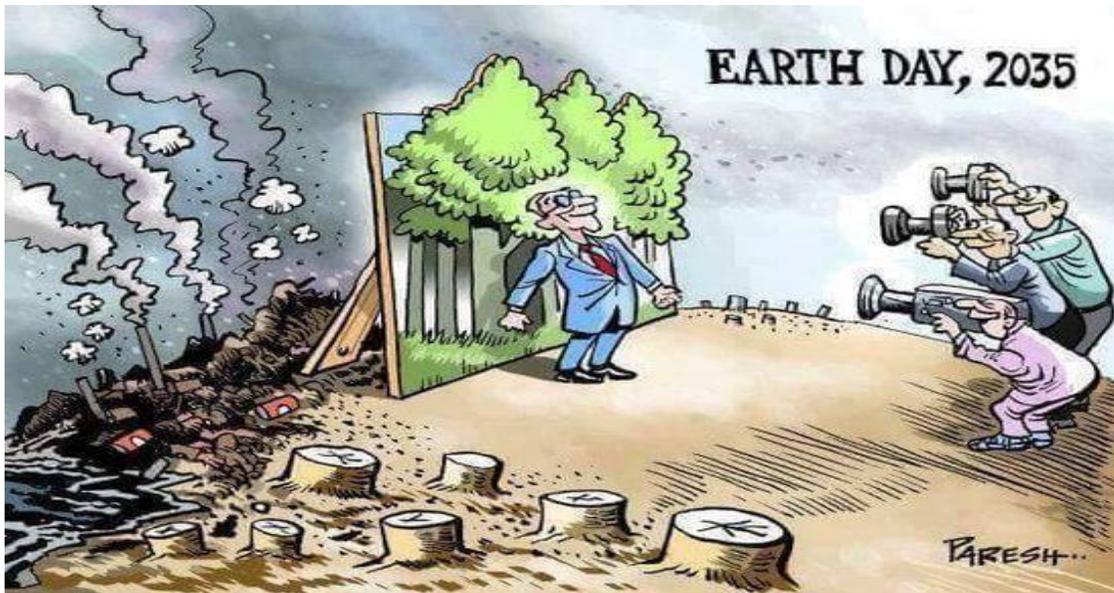
1. Make a chart highlighting all the methods of communication. Use markers and colours to highlight differences amongst all.
2. Draw any five common signs used for Visual Communication. Explain what each conveys and where did you see it?
3. Write down the common communication barriers you may come across when you move to a new city or country.
4. Write two sentences of each type of sentence—statement, question, exclamatory and order.
5. List your favorite stress management technique and elaborate why you find it the most effective.
6. Identify your own two strengths and two weaknesses.
 - explain how to build on your strengths and overcome your weaknesses.
 - identify your interests.
7. What is time management and how can you manage your time?
8. Write any five use of MS Word application in brief.

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CLASS IX

SUBJECT: ENGLISH

1. Study the following images and try to interpret/explain in your own words by 80-100 words.(Write Any 1)



2. Suppose you're Tommy from 'The Fun they Had', write a diary entry from your perspective after you find an old book from your attic and come to know about the schooling system which existed in past, in not more than 120 words.

3. Grammar Task

A. Fill in the blanks with the correct form of the verbs given in brackets.

- i. He(go) to his office with a friend.
- ii. Did you (prefer) comics?
- iii. Rohit (visit) his grandmother every day.

B. Fill in the blanks with appropriate modals:

- i. The villagers use kerosene lamps a few years ago. (Must, had to)
- ii. The old man..... take a bath every day before taking meals, (ought to, should)
- iii. Rohit finish this work before I go. (has to, must)

Note: Complete the tasks in A4 size pages and submit accordingly after the school reopens.

SUBJECT: HINDI

i) आप ग्रीष्म ऋतु में पशु पक्षियों के संरक्षण के लिए क्या-क्या उपाय करना चाहते हैं और उसे किस प्रकार से अपने

दैनिक जीवन में क्रियान्वित करना चाहते हैं, उसे विस्तार पूर्वक लिखें ?

ii) महादेवी वर्मा की पशु पक्षियों के प्रति प्रेम और संरक्षण की कथा से आपको क्या प्रेरणा मिलती है और उसे अपने

जीवन में किस प्रकार उतारना चाहते हैं, उसे विस्तार पूर्वक लिखें ?

iii) हिंदी साहित्य के भक्ति काल के कवियों की एक सारिणी बनाएँ | इसके साथ ही इस काल के प्रमुख कवियों में

से किन्हीं दो कवियों का परिचय (चित्र सहित) देते हुए उनकी प्रमुख कृतियों के नाम लिखें ?

iv) विलोम और पर्यायवाची शब्दों पर आधारित वर्ग पहेली को सुलझाएँ |

v) अपनी पसंद की किसी एक प्रसिद्ध कहानी को पढ़ें ।

1. Use A4 size paper for writing

2. Draw any folk art / painting on cover file.

SUBJECT: MATHEMATICS

Complete all the questions:

1. Find Six rational numbers between 3 and 4.
2. Let X & Y be rational and irrational numbers respectively. Is $X + Y$ necessarily be an irrational number? Give an example in support of your answer.
3. Express the following in the $\frac{p}{q}$ form where P & q are integers and $q \neq 0$.
form
(i) $0.\overline{6}$
(ii) $0.4\overline{7}$
4. Simplify:
(i) $(3 + \sqrt{3})(2 + \sqrt{2})$ (ii) $(\sqrt{5} - \sqrt{2})(\sqrt{5} + \sqrt{2})$
5. Find: (i) $2^{2/3} \cdot 2^{1/5}$ (ii) $16^{3/4}$
6. Visualize $4.2\overline{6}$ on the number line, upto 4 decimal places.
7. Classify the following as linear quadratic and cubic polynomials: -
(i) $X^2 + X$ (ii) $X - X^3$ (iii) $Y + Y^2 + 4$.
8. Check whether -2 and 2 are the zeros of the polynomial $X + 2$.
9. Find P (0), p(1) and p(2) for the polynomials:-
(i) $P(y) = Y^2 - Y + 1$.
(ii) $P(X) = (X - 1)(X + 1)$.
10. Find the zero of the following polynomials: -
(i) $P(X) = cx + d, c \neq 0 \text{ \& } c, d \text{ are real number}$.
(ii) $P(x) = ax, a \neq 0$.
11. Find the remainder when $x^4 + x^3 - 2x^2 + x + 1$ is divided by $(x-1)$.
12. Factories:
(i) $X^3 + 13X^2 + 32X + 20$.
(ii) $2Y^3 + Y^2 - 2Y - 1$.
(iii) $2X^2 + Y^2 + 8Z^2 - 2\sqrt{2}XY + 4\sqrt{2}YZ - 8XZ$.

(iii) $2X^2 + Y^2 + 8Z^2 - 2\sqrt{2}XY + 4\sqrt{2}YZ - 8XZ$.

13. Verify: $(X^3 + Y^3) = (X + Y)(X^2 - XY + Y^2)$.

14. In which quadrant or on which axis do each of the following points (-2,4), (3,-1), (-1,0), and (1,2) lie? Verify your answer by locating them on the Cartesian plane.

15. Plot the points (X,Y) given in the following table on the plane, choosing suitable units of distance on the axes.

X	-2	-1	1	3	0	8	0	8
Y	8	7	3	-1	0	0	8	8

ACTIVITY WORK

1. Show that following can be represented on the number line:

(i) $\sqrt{2}$

(ii) $\sqrt{5}$

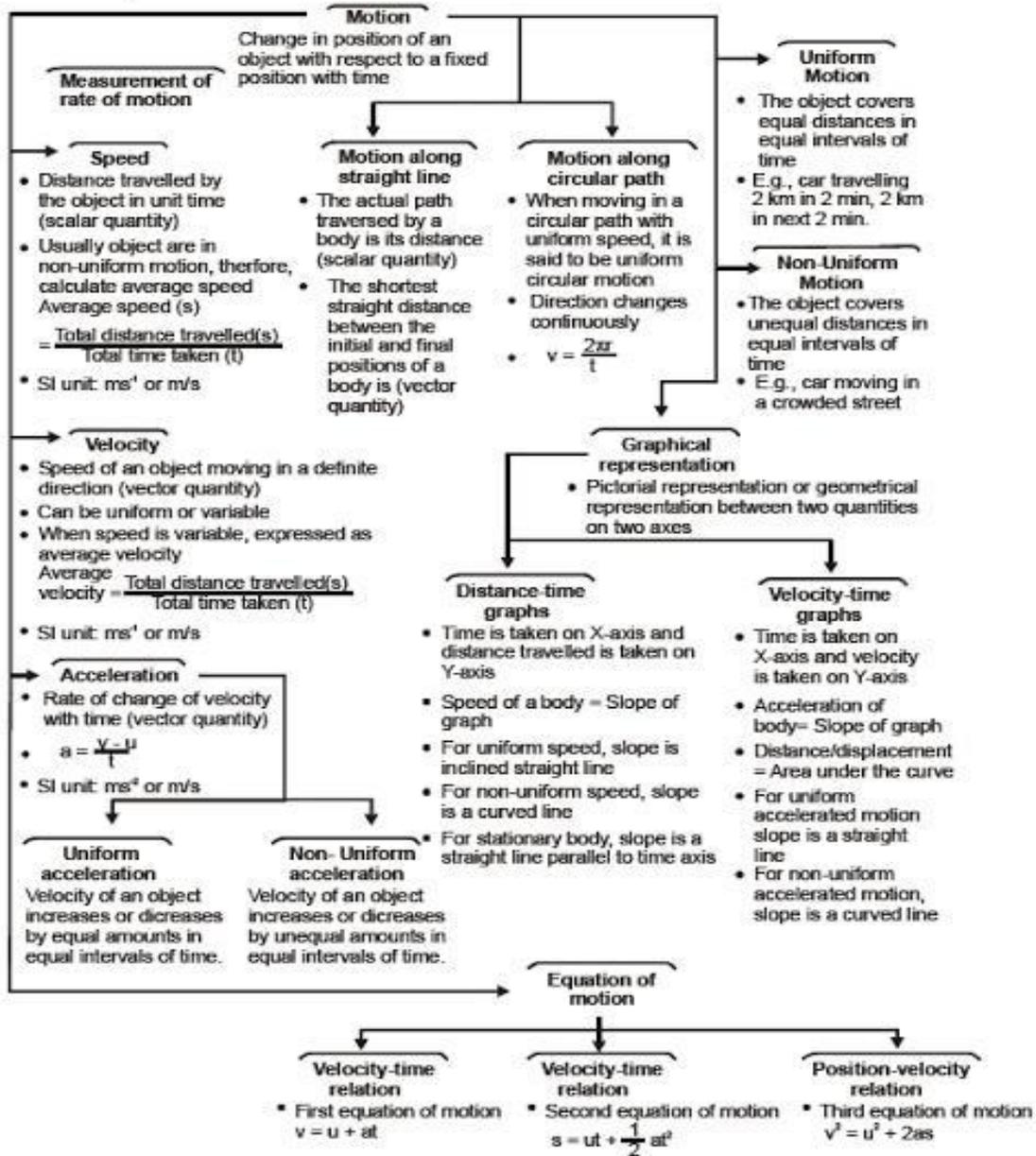
Also mention Steps of Construction.

SUBJECT: SCIENCE

Physics

1. Make the motion table in a chart paper.

Basic Concepts — A Flow Chart



Biology :

Draw the structure of Plant and Animal cell.

Chemistry :

Draw the molecular arrangement of three states of matter and tabulate the difference between them.

In a chart paper

SUBJECT: SOCIAL SCIENCE

Answer the following questions in brief:

HISTORY

1. Explain the “Reign of Terror” in brief.
2. Explain the features of the constitution of France drafted in 1791.
3. Describe the incidents that led to the storming of the Bastille.
4. Describe how the new political system of constitutional monarchy worked in France.
5. What were the causes for the empty treasure of France under Louis XIV?
Assess any three causes.

GEOGRAPHY

1. The central location of India at the head of the Indian ocean is considered of great significance. Why?
2. What is BHUVAN? Write major features of BHUVAN. Specify the significance of BHUVAN.
3. Find out the latitudinal and longitudinal extent of your state.
4. Why $82^{\circ}30'$ E has been selected as the standard meridian of India.
5. Identify the following and Mark on the political map of India
 - The states through which the Tropic of cancer passes.
 - The Union territories of India.
 - The place situated on the three seas.
 - The strait separating Sri Lanka from India.
 - The countries constituting Indian subcontinent.

