Summer Holiday Homework
(2023-24)
CLASS – X

Sun shines on your skin and mine
until it sets way after nine.
Memories made with a cold drink in hand.
Moments to cherish with feet in the sand.
Everyone laughing, smiles on every face.
Remember the moments, those were the days.
Turn up the music, sing it out loud.
Indigo skies, no sign of a cloud.
Mutter the words that no one will know.
Everlasting memories; where does time go?

ENJOY YOUR SUMMER VACATIONS!!

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HOLIDAY HOMEWORK (2024-25)
CLASS –X

"Genius is one percent inspiration and ninety-nine percent perspiration. As a result, a genius is often a talented person who has simply done all of his/her work on time".

Dear parent

As we all know that every year we have a summer break in our school, this is a time when every kid plans a holiday with their parents to visit their grandparents or a new city or country. Even though there are many good things about the holidays, it always comes with holiday homework. It is the task that is assigned to students to be completed during the holiday. This is intended to improve the skills of students and enhance their capabilities. Keeping this in mind, holiday home work has been prepared so that along with the fun, continuity with academics is also maintained.

Note: Kindly go through the instructions carefully and do the needful accordingly.

a) Entire Homework is to be done in the concerned subject notebook.
b) Entire holiday homework (Subject wise) would be **evaluated for Term-I Internal Assessment out of 10 marks**
b) PPTs (wherever applicable) to be mailed– on the mail ID (sonamyadav.90@gmail.com)
c) Well labelled Holiday homework to be submitted to the concerned Subject Teacher on **Wednesday July 05, 2024**

Wishing you all a very Happy Summer Break!!

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MATHEMATICS
REAL NUMBER

1. Can two numbers have 12 and 300 as their HCF and LCM respectively? Justify.
2. Show that 6^n cannot end with the digit 0 for any natural number n.
3. Given that $\sqrt{5}$ is an irrational number, prove that $2+\sqrt{5}$ is an irrational number.
4. Once a sports retailer organized a campaign "Run to remember" to spread awareness about benefits of running. In that Sonu and rakesh participated. There was a circular path around a sports field. Sonu took 20 minutes to complete one round of the field while rakesh took 18 minutes for the same. Suppose they started from the same point, at the same time and went in the same direction, after how many minutes have, they met again at the starting point?
5. The length, breadth and height of a room are 8 m 50 cm, 6m 25 cm and 4 m 75 cm respectively. Find the length of the longest rod that can measure the dimensions of the room exactly.

POLYNOMIAL

6. Let α and β are the zeroes of a quadratic polynomial $2x^2 – 5x -6$ then form a quadratic polynomial whose zeroes are $\alpha + \beta$ and $\alpha\beta$.
7. Find a quadratic polynomial sum of whose zeroes is 3/2 and their product is -2.
8. It is given that α and β are the zeroes of the quadratic polynomial $x^2 – 6x + a$. Find the value of 'a', if $3\alpha + 2\beta = 20$.
9. Form a quadratic polynomial whose zeroes are 3, and (-1).
10. If one zero of the Polynomial $(a^2+ 9) x^2+ 13x + 6a$ is reciprocal of the other. Find the value of a.
11. If α and β are the zeroes of the polynomial $6x^2+ x – 2$, find the value of $\alpha/\beta+ \beta/\alpha$.
12. If one zero of the polynomial $5z^2 + 13z – p$ is reciprocal of the other, then find p.

LINEAR EQUATIONS IN TWO VARIABLES

13. Two straight paths are represented by the equations $2x – 3y = 2$ and $x + 6y = 5$. Check whether the paths will cross each other or not.
14. If $2x + y = 23$ and $4x – y = 19$, find the value of $5y – 2x$.
15. Draw the graph of $2x+y=6$ and $2x-y+2=0$. Shade the region bounded by these lines and x axis. Find the area of the shaded region
16. Find the value of k for which the system of linear equations $kx + ky = 12$, $(k - 3)$ $x + 3y = k$ will have infinite number of solutions.
17. The larger of two supplementary angles exceeds thrice the smaller by 20 degrees. Find them.
18. If m and n are the zeros of the polynomial $3x^2+ 11x – 4$, find the value of $m/n + n/m$.

QUADRATIC EQUATION

19. Find the value of k for which both the quadratic equations $x^2 + kx + 64 = 0$ and
    $x^2 - 8x + k = 0$ will have equal roots.

20. Find the value o f p for which the quadratic equation $(2p + 1) x^2 - (7p + 2) x + (7p - 3) = 0$
    has equal root. Also find these roots.

21. A train, travelling at a uniform speed for 360 km, would have taken 48 minutes less to travel
    the same distance if its speed were 5 km/hr more. Find the original speed of the train.

22. Find roots of quadratic equation $2x^2 + 9x + 10 = 0$ using quadratic formula.

23. Find the nature of roots of equation $5x^2 - 3x - 4 = 0$

24. Find the values of k for which the quadratic equation $2x^2 + kx + 3 = 0$ have two equal roots.

ARITHMETIC PROGRESSION

25. How many terms of the series 54, 51, 48,…..be taken so that, their sum is 513?
    Explain the double answer.

26. If S_n denotes the sum of the first n terms of an AP Prove that $S_{30} = 3(S_{20} - S_{10})$

27. Find the sum of the integers between 100 and 200 that are-
    i) divisible by 9
    ii) not divisible by 9

28. Two APs have the same common difference. The first terms -1 and -8 respectively.
    Find the difference between the 4th terms.

29. The 24th term of an AP is twice its 10th term. Show that its 72th term is 4 times its 15th term.

30. If the sum of the first terms of an AP is $4n - n^2$, determine the AP.

TRIANGLE

31. State and prove B.P.T.

32. Prove that diagonals of a trapezium intersect proportionally.

33. Write the name of similarity criterion of two triangles.

34. In the figure, if $\triangle ABE \cong \triangle ACD$, show that $\triangle ADE \sim \triangle ABC$.

35. If one diagonal of a trapezium divides the other diagonal in the ratio 1:3. Prove that one
    of the parallel sides is three times the other.

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36. Case study-1

To enhance the reading skills of grade X student

s, the school nominates you and two of your friends to set up a class library. There are two sections- section A and section B of grade X. There are 32 students in section A and 36 students in section B.

1. What is the minimum number of books you will acquire for the class library, so that they can be distributed equally among students of Section A or Section B?
   (a) 144   (b) 128   (c) 288   (d) 272
2. If the product of two positive integers is equal to the product of their HCF and LCM is true then, the HCF (32, 36) is
   (a) 2   (b) 4   (c) 6   (d) 8
3. 36 can be expressed as a product of its prime factor
   (a) $2^2 \times 3^2$ (b) 2×3^3 (c) $2^0 \times 3^0$ (d) $2^3 \times 3$

ASSERTION-REASON

Direction: In the following questions, a statement of ASSERTION (A) is followed by a statement of REASON (R).

Choose the correct option as;

(a) Both Assertion (A) and Reason (R) are True and Reason (R) is the correct explanation of the Assertion (A).

(b) Both Assertion (A) and Reason (R) are True but Reason (R) is not the correct explanation of the Assertion (A).

(c) Assertion (A) is True but Reason (R) is False.

(d) Assertion (A) is False but Reason (R) is. True.

37. **Assertion** (A): The H.C.F. of two numbers is 16 and their product is 3072. Then their L.C.M. = 162.
    Reason (R): If a and b are two positive integers, then H.C.F. × L.C.M. = a × b.

38. **Assertion** (A): number n when divided by 15 gives the remainder 2. Then the remainder is same when n is divided by 5.
    Reason (R): √3 is an irrational number

39. **Assertion** (A): 2 is an example of a rational number.
    Reason (R): The square roots of all positive integers are irrational numbers.

40. **Assertion** (A): For any two positive integers p and q, HCF (p, q) × LCM (p, q) = p × q
    Reason (R): If the HCF of two numbers is 5 and their product is 150, then their LCM is 40.

41. **Make a working model on similar figures**

Hindi

1. राम- लक्ष्मण - परशुराम संवाद पढ़कर, उनके मध्य हुए किन्ही संवाद को अपने शब्दों में लिखिए। (३०-४० शब्दों में)

2. नेता जी सुभाष चंद्र बोस के व्यक्तित्व एवं सचित्र पर परियोजना (प्रोजेक्ट) बनाइए। (A4 साइज पेपर पर)

3. पाठ – "सूरदास के पद " का भावार्थ अपने शब्दों में लिखिए। |

4. शहरों में प्रदूषण दिन प्रतिदिन बढ़ता चला जा रहा है। आप पर्यावरण विभाग की ओर से स्थानीय समाचार पत्र में विज्ञापन देना चाहते हैं। आप इसके लिए लगभग 40 शब्दों का आकर्षित विज्ञापन तैयार कीजिए।

5. हम सभी कैसे अपने दैनिक कार्य से किसी न किसी रूप में अपने देश प्रेम को प्रकट कर सकते हैं? विस्तार पूर्वक लिखिए।

6. "आत्मविश्वास और सफलता" और इंटरनेट क्रांति" पर अनुच्छेद लिखिए।

7. दसवीं बोर्ड परीक्षा में राज्य स्तर पर प्रथम स्थान प्राप्त करने वाले सहपाठी को बधाई संदेश लिखिए।

8. प्रतिदिन समाचार पत्र या किसी पुस्तक से 10 नए शब्दों का चयन कीजिए और उसे अपनी पुस्तिका में अर्थ के साथ लिखिए।

9. आपने अपनी गर्मियों की छुट्टियाँ कैसे बिताई इस पर डायरी एंट्री लिखिए।

10. परीक्षा के समय आपके घर के पास पूजा स्थल में दिन रात माइक का शोर रहता है इसकी शिकायत करते हुए अपने क्षेत्र के थानाध्यक्ष को पत्र लिखिए।

SOCIAL SCIENCE

1. Choosing Planet Over Plastic: Environmental and Improved Health Approaches Our dependence on plastic has emerged as a threat not only for human but also for marine life and beyond. Let us explore on this and present our findings using informative and relevant captions.

A. PLASTIC IN MARINE LIFE – (ROLL NO. 1-12)
Explore how is plastic a threat to marine life. Find names of different water bodies across the

globe getting affected due to plastic. As a result, a new food chain (link marine life and humans) has developed. Find out about different organizations which are fighting to save our oceans. Prepare a PPT of not more than 15-20 slides on effects of plastic while highlighting it's causes and preventive measures taken.

2. SAVING EVEREST FROM PLASTIC-(ROLL NO. 13-24)

Find out how plastic has affected Everest region and what steps have been taken to protect Everest from plastic abuse. Prepare a project on A4 size sheet on adverse effects of plastic in Everest region while highlighting it's causes; preventive measures and clean-up operations taken in this direction.

3. PLASTIC WASTE MANAGEMENT—-(ROLL NO. 25 ONWARDS)

Prepare project on this topic bringing out relevant information on the importance of proper disposal of plastic in India. Which city in India was awarded with plastic waste management award? Find out what they do in Plastic Waste Management and present important information while highlighting what can be done at the end of each individual. Also include, practices and movements to curb plastic pollution across the globe.

History

Map work: on the political maps of India, mark the label the following
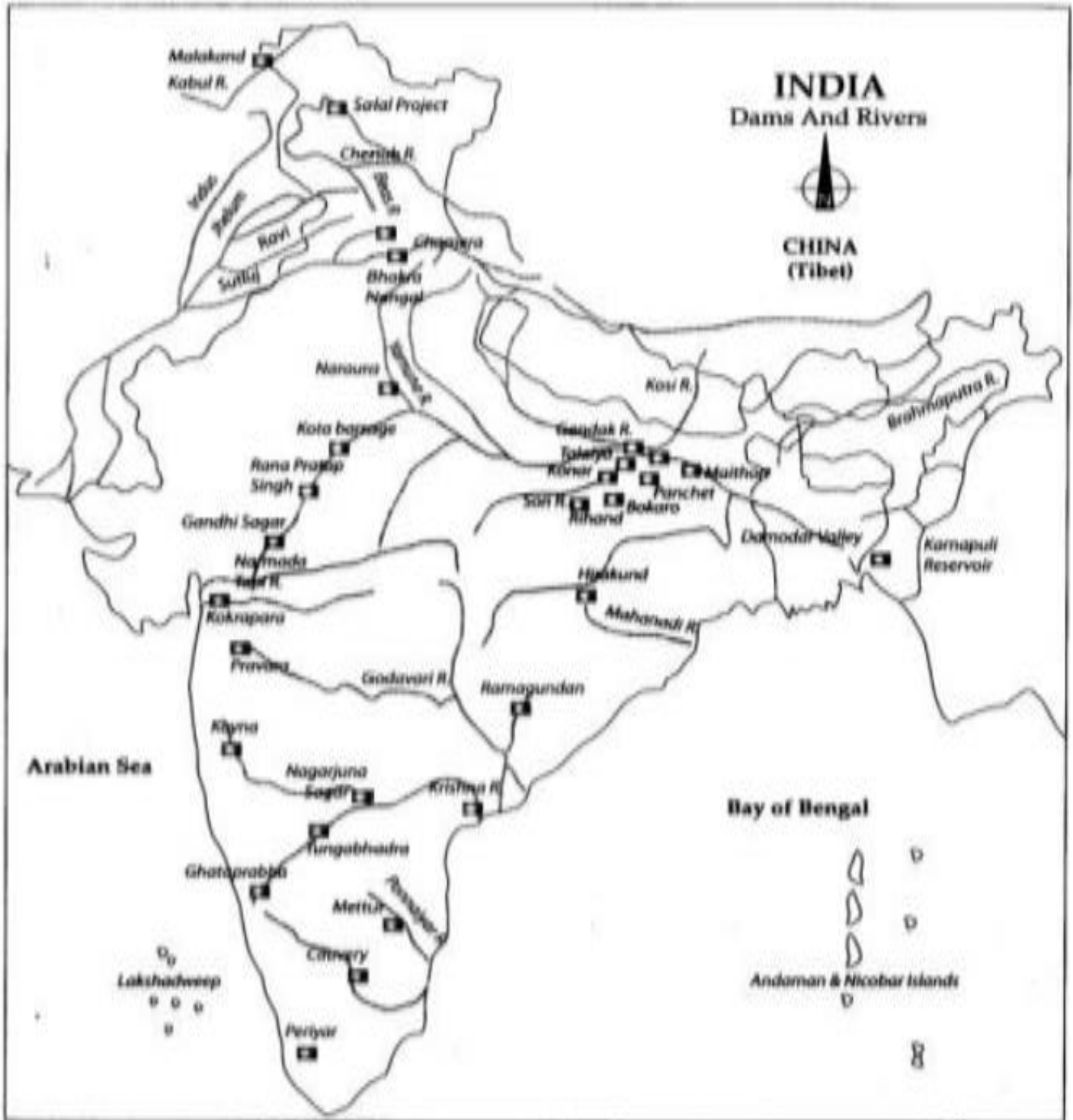
Indian National Congress Sessions

a. Calcutta (Sep.1920) b. Nagpur (Dec. 1920) c. Madras (1927)

b. Important centers of Indian National Movement

a. Champaran (Bihar)- Movement of Indigo Planters

b. Keda (Gujarat)- Peasant Satyagrah

c. Ahmedabad (Gujarat)- Cotton Mill Workers Satyagraha

d. Amritsar (Punjab)- Jallianwala Bagh Incident

e. Chauri Chaura (U.P) Calling off the Non-Coroperation Movement

f. Dandi (Gujarat)- Civil Disobedience Movement

Agriculture On the Political Map of India, the following

a. Major areas of Rice and Wheat

b. Largest / Major producer states of Sugarcane, Tea, Coffee, Rubber, Cotton and Jute
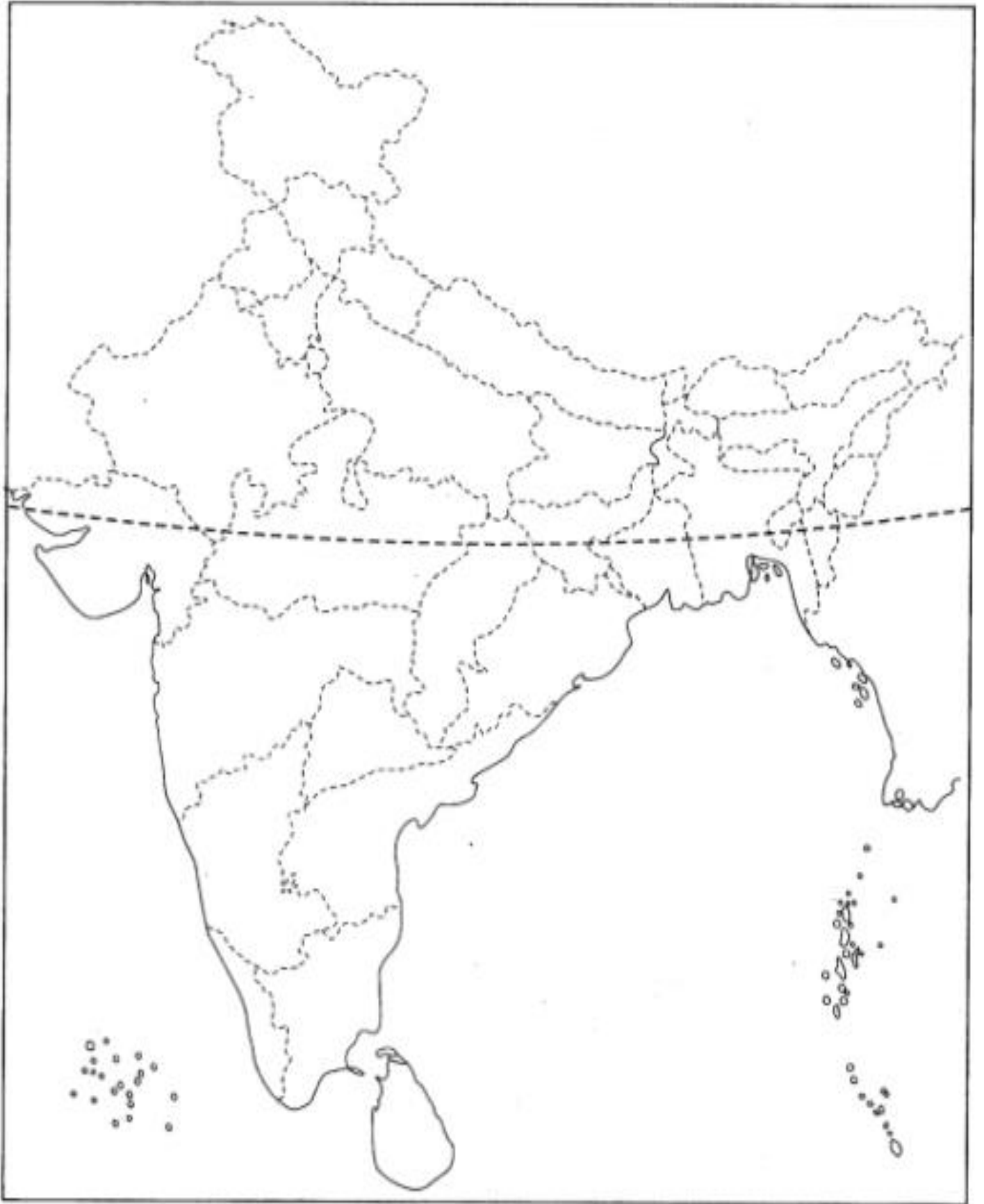
India: Major Dams and Rivers of India

This map shows the major dams and rivers of India. A dam is a structure, designed to hold back water in a lake, river, stream or other water bodies.

Locate and label the following items on the given map with appropriate symbols.

1. Tehri dam

2. Bhakra Nangal Dam

3. Rana Pratap Sagar dam

4. Salal dam

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1. How did culture play an important role in creating the idea of the 'nation' in Europe? Explain with examples.

2. Explain any five economic hardships that Europe faced in the 1830s.

3. Describe the process of unification of Germany

4. Why did Gandhiji decide to launch a nationwide Satyagraha against the proposed Rowlatt Act, 1919? How was it organized. Explain.

5. How did the Salt March become an effective tool of resistance against colonialism? Explain

6. Describe the main features of 'Poona Pact'

7. "Gender division is not based on Biology but on social expectations and stereotypes. Support the statement.

8. What problems were faced by the Indian cotton weavers in the 19th century?

9. "India has enormous diversity in the availability of resources." Name four varied regions to justify this statement.

10. The future generation may not have sufficient resources as compared to the present generation". Justify the statement by giving suitable examples.

11. Agriculture has been the backbone of the Indian Economy' Explain the statement by giving reasons.

12. a. What is India's position in the world regarding sugarcane production?
    b. Write the geographical conditions required for its growth.
    c. Write the major states that produce sugarcane.
    d. Name four products obtained from sugarcane.

13. Which five provisions of the Constitutional Amendment of 1992 really strengthened the third tier of democracy in India? Explain.

14. Power Sharing is the very spirit of democracy". Justify the statement.

15. State how are caste inequalities still continuing in India
    Watch the following on the Television and Prepare the report on the same
    a. parliament series on Lok Sabha TV
    b. Pradhan Mantri series on ABP

16. Read the biography of Vivekanand and A.P.J. Abdul Kalam and write a brief summary of minimum 200 words based on your learning from the biography.

English

1. WEB CHART MAKING
(To be done in English classwork Notebook)
Make the web charts on the following characters of the book 'First Flight' –
a) Nelson Mandela
b) Lencho
c) Amanda
d) Postman
e) Valli
f) Anne Frank

2. Poster Making:
Make a poster portraying your thoughts and points of view on:
"Love for freedom is the natural instinct of every living being."
Note -Read Leslie Norris's "A Tiger in the Zoo" for your reference.

3. TRAVEL BROCHURE (To be written in English Classwork Notebook)
 Do research on Famous Architectural Structures you have visited or planning to visit during your vacations. Based on your travel prepare a travel broacher stating your experience.
Note:- You can use the following guidelines to make your brochure informative and attractive (with pictures).
a) Name of the temple
b) Location
c) How to get there
d) Architectural details
e) Historical background
f) Best time to visit

4. Movie Review: - (To be done in the form of PPT, in the scrap book, A-4 size sheet etc).
Guidelines-
Watch any one of the following motivational movies- I am kalam, Super-30, A Beautiful Mind, The Pursuit of Happiness, Forrest Gump and Prepare the report based upon the following guidelines-
   a. Characters of the movie
   b. Your famous character and why?
   c. Describe the emotions shown in the movie.
   d. Based on the movie create your own story of about 200 words with different characters.
   e. Write the synopsis of the movie.

5. You have read two of the poems of Robert Frost. Make a detailed project in your notebook on this American poet highlighting the following topics –

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a) Biography
b) Work
c) Awards and recognition
d) Legacy and Cultural Influence

6. Explain the following literally devices and sites suitable examples- simile, metaphor, personification, alliteration, repetition, allusion

BIOLOGY

Task -1 (Test your writing skills)

Research on The Global Impact of Heart Diseases.

Based on your research from multiple resources, you have to write a Report paper (500 words max.) on heart diseases and present it in the classroom.

This is to raise awareness among the people about to protect their Heart by being physically active and having Healthy diet.

Task- 2

'Heart diseases impose an immense worldwide health burden".

•Find out the five most common heart diseases which are the causes of severe illness and death worldwide. Collect and paste pictures.

Format is given below:

Note: Source of Information for the Assignment:

It can be a Newspaper clipping, an article from a magazine or an Internet.

You have to write the reference of source of information you will use for your assignment.

Note: - prepare this work in a file (Plain and line paper file).

•Draw a colored Heart Diagram and write about its structure on A4 size sheet. (Prepare this work in a File for submission.)

Task- 3

Prepare 3 MCQ questions everyday (from the syllabus of April and May and mention date with questions in a separate notebook of science Homework)

Task- 4

Prepare a working model of Biology as per your creativity,

Prepare chart on A4 size sheet about excretory system, Movement in plants, Human Brain (Any Two)

Task- 5

Environment project- Plant a sapling in your surrounding and click a picture with that and paste that in you project work.

CHEMISTRY

1. **Direction**: In each of the following questions, a statement is given by the corresponding statement of reason. Of the statements, mark the correct answer as.

   a. Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

   b. Both the Assertion and Reason are true, but Reason is not the correct explanation of Assertion.

   c. Assertion is true, but Reason is false.

   d. Assertion is false, but Reason is true.

   a. **Assertion**: The colour of aqueous solution of copper sulphate turns colourless when a piece of lead is added to it.

   Reason: Lead is more reactive than copper, and hence displaces copper from its salt solution.

   b. **Assertion**: Decomposition of vegetable matter into compost is an endothermic reaction.

   Reason: Decomposition reaction involves breakdown of a single reactant into simpler products.

   c. **Assertion**: Photosynthesis is considered as an endothermic reaction.

   Reason: Energy gets released in the process of photosynthesis.

2. What are amphoteric oxides? Explain the reactions with mechanisms of three amphoteric oxides.

3. While electrolyzing water before passing the current some drops of an acid are added.

   a. Why?

   b. Name the gas liberated at cathode and anode.

   c. Write the relationship between the volume of gas liberated at cathode and anode respectively.

   d. Write the chemical reactions at the electrodes and overall chemical reaction.

4. Write the balanced chemical reactions for the following conditions:

   a. Aluminium metal is added to dilute hydrochloric acid

   b. Formation of white wash from the carbonate of calcium.

   c. Zinc granules when treated with dilute sulphuric acid.

5. You are provided with two containers made up of copper and aluminium.
   You are also provided with solutions of dil. HCl, dil. HNO3, ZnCl2 and H2O.
   In which of the above containers, these solutions can be kept? Explain with Chemical reactions.

6. A metal X which generally turns black when kept in open or several days.

The metal when rubbed with toothpaste again starts shining.

a. Identify the metal 'X'.

b. Why does the metal 'X' turn black? Name the phenomenon involved in this process.

c. Write the chemical reaction for the above phenomenon.

7. Samuel has a silver coin that turned black. He kept the coin in the bowl
   lined with aluminium foil. Then he filled the bowl with water and boiled
   it. After sometime, he found that the coin has become new.

   a. The blackness of the silver coin is due to which compound?
   b. What is the chemical formula of the black compound deposited on the silver?
   c. Does vaccum accelerate in the corrosion phenomena?
   d. Which compound makes the coin shiny again?

8. Two gases 'Z' having suffocating odour is obtained when a green solid 'X' is heated
   along with a residue 'Y'. These gases are major air pollutants. When the vapors of
   the gases are collected and dissolved in water, the solution turns blue litmus to red.
   The colour of the residue becomes red.

9. A yellowish colored compound 'X' is a photosensitive material. On exposure to sunlight,
   it gives a greyish substance 'Y' and brown fumes of a gas 'Z'. Identify X, Y and Z.
   How will you obtain X from the nitrate salt of Y?

10. Prepare A4 size Charts on any topic of your choice from the chapter (1-5) NCERT.

11. Prepare any small working model on the topic- Acid base and salts or from metal and non-
    metal.

Physics

1. What type of image is formed on a cinema screen?
2. What is the significance of positive sign of magnification?
3. List 4 characteristics of the images formed by plane mirror.
4. Write the difference between myopia and hypermetropia eye defect.
5. Draw a ray diagram of rainbow formation and also explain the phenomena involved in it.
6. Define the following terms 1. pole 2. centre of curvature 3. radius of curvature of aspherical mirror.
7. An object 4 cm in Hight it is placed at 15 cm in front of a concave mirror of focal length 10 cm. At what distance from the mirror should a screen be placed to obtain a sharp image of the object and also calculate the height of the image.
8. Define power of accommodation of human eye.

Project work -

9. Explain the laws of reflection of light with the help of a ray diagram.
10. Draw ray diagram for the image formation by a convex lens and concave lens for all the position of the object.
11. Define scattering of light with the help of different types of its application.

12. Make a model based on

1. Refection of light (For roll no -1 to 10)
2. Refraction of light (For roll no -11 to 20).
3. Human eye (For roll no -21 to last roll no.).