



B.M. Bharti Model School

(A Senior Secondary School)
(Recognised and Affiliated to CBSE)
Majri, Delhi – 110081

**SUMMER
HOLIDAY'S
HOMEWORK
SESSION: 2025-26
CLASS: X**

NAME OF STUDENT:

FATHER'S NAME:

CLASS:

ROLL NO.:

ENGLISH

Read the chapter 'GLIMPSES OF INDIA' carefully and solve the given worksheet.

Coorg (Part I)

1. What is Coorg referred to as?

- A) Switzerland of India
- B) Scotland of India
- C) Kashmir of the South
- D) None of the Above

Which river flows through Coorg?

- A) Krishna
- B) Kaveri
- C) Godavari
- D) Narmada

What percentage of Kodagu district is covered by evergreen forests?

- A) 10%
- B) 20%
- C) 30%
- D) 40%

Which community in Coorg is known for their bravery?

- A) Tamilians
- B) Kannadigas
- C) Malayalis
- D) Kodavas

What is the staple food of the people in Assam?

- A) Wheat
 - B) Rice
 - C) Corn
 - D) Barley
-

Tea from Assam (Part II)

6. What was ordered by Pranjol?

- A) Two cups of Tea
- B) Two cups of Coffee
- C) Two Chapattis
- D) None of the Above

7. **Why was Rajvir excited?**
- A) Because he had spotted a coffee garden.
 - B) Because he had spotted a tea garden.
 - C) Because he had spotted a wheat garden.
 - D) None of the Above
8. **What have the tea plantations been compared to?**
- A) A sea of Tea Bushes
 - B) A house of Tea Bushes
 - C) A continent of Tea Bushes
 - D) None of the Above
9. **How many tea plants grew out of the eyelids?**
- A) Five tea plants
 - B) Ten tea plants
 - C) Twenty tea plants
 - D) Thirty tea plants
10. **In Europe, tea was drunk more as a _____ than a _____?**
- A) Medicine, beverage
 - B) Beverage, medicine
 - C) Sleep waver, medicine
 - D) Sleep banisher, medicine
-

The Baker from Goa (Part III)

11. **What is 'pader' in Goa?**
- A) Baker
 - B) Fisherman
 - C) Farmer
 - D) Teacher
12. **Which festival in Goa is incomplete without the sweet bread 'bol'?**
- A) Christmas
 - B) Diwali
 - C) Marriage
 - D) New Year
13. **What is 'Baker's dozen' in Goa?**
- A) 12
 - B) 13
 - C) 14
 - D) 15
14. **How did the bakers in Goa announce their arrival?**
- A) By ringing a bell
 - B) By banging their bamboo sticks

- C) By shouting
 - D) By knocking on doors
15. **What do the bakers wear while baking in Goa?**
- A) Apron
 - B) Kabai
 - C) Pajama
 - D) Lungi
-

General Knowledge Questions

16. **What is the capital of Assam?**
- A) Dispur
 - B) Guwahati
 - C) Shillong
 - D) Imphal
17. **What is Coorg known as?**
- A) Scotland of the East
 - B) Switzerland of India
 - C) Scotland of India
 - D) Kashmir of the South
18. **What is the traditional dress of the Kodavas?**
- A) Saree
 - B) Kupiya
 - C) Dhoti
 - D) Sherwani
19. **What is the main industry in Assam?**
- A) IT industry
 - B) Tourism
 - C) Tea industry
 - D) Fishing
20. **Which plant is commonly associated with the landscape of Assam?**
- A) Tea plant
 - B) Coffee plant
 - C) Rubber plant
 - D) Bamboo
-

Additional Questions

21. **What is the height range of the hills in Coorg?**
- A) 100-200 meters
 - B) 800-1000 meters
 - C) 1200-1500 meters
 - D) 2000-2500 meters
22. **What is the local name of the river Kaveri in Coorg?**

- A) Kaveramma
 - B) Cauvery
 - C) Kaveri Devi
 - D) Kaveri Mai
23. **What is the best time to visit Coorg?**
- A) Summer
 - B) September to March
 - C) April to June
 - D) Monsoon
24. **Which community in Coorg is known for their bravery?**
- A) Tamilians
 - B) Kannadigas
 - C) Malayalis
 - D) Kodavas
25. **What is the profession of Pranjol's father?**
- A) Teacher
 - B) Doctor
 - C) Manager of a tea garden
 - D) Shopkeeper

True /False

Coorg

1. Coorg is the smallest district in Karnataka.
2. The hills in Coorg are covered with deciduous forests.
3. The people of Coorg are known for their martial traditions.
4. The staple food of the people in Coorg is rice.
5. The main crop of Coorg is coffee.
6. The river Kaveri originates in Coorg.
7. The Kodavas are known for their hospitality.
8. The traditional dress of the Kodavas is the 'kupiya'.
9. Coorg is famous for its tea plantations.
10. The climate in Coorg is tropical.

Tea from Assam

11. Assam is known as the 'tea country' of India.
12. Rajvir and Pranjol are classmates from Delhi.
13. Tea was first discovered in India.
14. The second flush of tea occurs between May and July.
15. Tea was originally used as a medicinal beverage in Europe.
16. The word 'chai' is derived from the Chinese word for tea.
17. Assam has the largest concentration of tea plantations in the world.

18. Pranjol was born and brought up in Assam.
 19. Rajvir was not interested in tea before visiting Assam.
 20. The tea plantations in Assam are located in the Brahmaputra Valley.
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The Baker from Goa

21. The traditional baker in Goa is known as 'pader'.
22. The pader wears a single-piece long frock called 'kabai'.
23. Bread and cakes were an integral part of Goan life in the old days.
24. The pader went away with the Portuguese.
25. Bread and cakes are still an integral part of Goan life.

Answer the following questions in about 30-40 words:

1. **Describe the climate and vegetation of Coorg.**
2. **What is the significance of the river Kaveri in Coorg?**
3. **Explain the martial traditions of the Kodavas.**
4. **What makes Coorg a popular tourist destination?**
5. **Discuss the origin of the Kodava people.**

Tea from Assam

6. **Describe the journey of Rajvir and Pranjol to Assam.**
7. **What is the significance of the 'second flush' in tea production?**
8. **Explain the legends associated with the discovery of tea.**
9. **How does the tea cultivation in Assam contribute to the local economy?**
10. **What role do women play in Assam's tea gardens?**
11. **What is the significance of the Brahmagiri hills in Coorg?**
12. **How do the Kodavas celebrate their festivals?**
13. **What role does the coffee plantation play in Coorg's economy?**
14. **Describe the wildlife found in Coorg.**
15. **What makes Coorg a popular destination for adventure tourism?**

Tea from Assam

16. **What is the significance of Mariani Junction in Assam?**
17. **How does the second flush of tea differ from other flushes?**
18. **Describe the process of tea plucking in Assam.**
19. **What is the role of tea estates in Assam's economy?**
20. **How does the landscape of Assam contribute to tea cultivation?**

EK BHARAT SHRESHTA BHARAT (Art Integration Project)

Ek Bharat Shreshtha Bharat (EBSB), meaning "One India, Best India", is a program launched by the Government of India to promote cultural exchange and understanding between different states and union territories. Sikkim is paired with Delhi in the EBSB program, aiming to foster connections between the two regions through various activities.

Prepare a project on EBSB as per the subject wise instructions given below:

English: Being multi linguistic is something that not only helps in understanding the people around but it also develops a sense of Global Awareness, Empathy and cultural sensitivity.

- Find out the oldest two languages of Sikkim and it's culture from where it actually belongs to and prepare a report about it in about 80-100 words.
- Use the link given below to learn and write the 50 daily used words or phrases of Nepali Language that is most commonly used among people of Sikkim.

<https://talkpal.ai/learn-50-nepali-words-a-day/>

Hindi:

सिक्किम की भाषायी विविधता और दिल्ली में बोली जाने वाली भाषाओं से तुलना करें।

Maths: Collect the data of literacy rate of men and women of Sikkim and compare it to the literacy rate of Delhi. (Represent it in the form of Double Bar Graph)

Science: Analysis the climate of Sikkim as well as Delhi and find out their different environmental issues based on the following.

1. Soil Erosion
2. AQI
3. Deforestation
4. Over Tourism

Social Science: Compare & contrast the dynasty of Delhi and Sikkim. Prepare a pictorial report on the following:

1. Administration
2. Army
3. Taxes
4. Religion

How to do this:

Self Introduction (Main Sheet)

1. Topic
2. Certificate
3. Acknowledgement

4. Index
5. Subject-1 (2-3 sheets)
6. Subject-2 (2-3 sheets)
7. Subject-3 (2-3 sheets)
8. Subject-4 (2-3 sheets)
9. Subject-5 (2-3 sheets)
10. Bibliography
11. Teacher's Remarks

Compile the entire sheets of Art Integration Project in a beautiful Hand Made File.

SOCIAL SCIENCE

NOTE:

- Do work sheet in fair copy.
- Read Ch-2 (history), Ch-3(Geography), Ch-4 (civics) carefully write main points.

1. Prepare project topic: (Any of one topic)

A) Consumer Rights

B) Social Issues

C) Sustainable Development

2. Introduction, Acknowledgments, Certificate, Index topic introduction, Details of the topic, bibliography, remarks. (30-35 pages)

3. Show your efforts in your work.

4. How India is more powerful as compared to war Armaments of our neighbour countries. Write short note on A4 size sheets

5. Draw a poster say to no use of plastic in our daily life.

WORKSHEET

Q. Multiple Choice Questions (MCQ)

1. Who launched the Non-Cooperation Movement?

- A. Subhas Chandra Bose
- B. Jawaharlal Nehru
- C. Mahatma Gandhi
- D. Bal Gangadhar Tilak

2. What was the main reason for launching the Non-Cooperation Movement?

- A. Partition of Bengal
- B. Simon Commission
- C. Jallianwala Bagh Massacre and Rowlatt Act
- D. Formation of Muslim League

3. Which Act gave the British government the power to suppress political activities in India?

- A. Government of India Act
- B. Rowlatt Act
- C. Vernacular Press Act
- D. Civil Disobedience Act

4. What was the purpose of the Salt March?

- A. To protest against the Partition
- B. To demand Swaraj
- C. To break the Salt Law
- D. To support the British

5. Who led the Civil Disobedience Movement in Peshawar?

- A. Abdul Ghaffar Khan
- B. Bhagat Singh
- C. Subhas Chandra Bose
- D. Motilal Nehru

6. When was the Jallianwala Bagh massacre carried out?

- A. 1917
- B. 1919
- C. 1920
- D. 1922

7. Who was the Viceroy of India during the Jallianwala Bagh massacre?

- A. Lord Irwin
- B. Lord Mountbatten
- C. Lord Lytton
- D. Lord Chelmsford

8. The Simon Commission was boycotted because:

- A. It supported Indian demands
- B. It had no Indian members
- C. It was welcomed by the Congress
- D. It recommended partition

9. What was the main demand of the Khilafat Movement?

- A. Restoration of Khalifa
- B. Home Rule
- C. Abolition of Salt Tax
- D. Civil Services Reform

10. What was the slogan raised during the Quit India Movement?

- A. Vande Mataram
- B. Inquilab Zindabad

- C. Jai Hind
- D. Do or Die

11. What percentage of the Earth's surface is covered with water?

- A. 71%
- B. 51%
- C. 61%
- D. 75%

12. What percentage of total freshwater is available on the Earth for human use?

- A. 1%
- B. 2.5%
- C. 0.3%
- D. 10%

13. Which river project is a joint venture of Maharashtra and Gujarat?

- A. Hirakud Dam
- B. Koyna Dam
- C. Narmada Bachao Andolan
- D. Sardar Sarovar Dam

14. Which dam is built on the Mahanadi river?

- A. Bhakra Nangal Dam
- B. Tehri Dam
- C. Hirakud Dam
- D. Nagarjuna Sagar Dam

15. Rainwater harvesting is a method to:

- A. Increase forest cover
- B. Save wetlands
- C. Conserve water by collecting and storing rainwater
- D. Prevent evaporation of rivers

16. Which of the following is an example of a multipurpose river valley project?

- A. Jhelum Project
- B. Bhakra Nangal
- C. Cauvery Dispute
- D. Siachen Glacier

17. Which technique is best for conserving water in semi-arid regions?

- A. Building canals
- B. Rainwater harvesting
- C. River linking

D. Desalination

18. The famous 'Narmada Bachao Andolan' is associated with which issue?

- A. Pollution in rivers
- B. Anti-dam movement
- C. Urban water supply
- D. Industrial waste

19. In which Indian state is the Tehri Dam located?

- A. Himachal Pradesh
- B. Uttarakhand
- C. Sikkim
- D. West Bengal

20. The term “hydraulic structures” refers to:

- A. Bridges
- B. Buildings with water tanks
- C. Structures like dams, canals, and tanks
- D. Irrigation tools

21. Which of the following is NOT a national political party in India?

- A. Bharatiya Janata Party (BJP)
- B. Indian National Congress (INC)
- C. All India Trinamool Congress (AITC)
- D. Communist Party of India (Marxist) (CPI-M)

22. Who was the founder of the Indian National Congress (INC)?

- A. Jawaharlal Nehru
- B. Mahatma Gandhi
- C. Allan Octavian Hume
- D. Subhas Chandra Bose

23. A political party must secure at least how many seats in Lok Sabha elections to be recognized as a national party?

- A. 5%
- B. 10%
- C. 6%
- D. 12 seats

24. Which of the following parties is associated with the ideology of secularism and socialism?

- A. Bharatiya Janata Party
- B. Indian National Congress
- C. Bahujan Samaj Party
- D. Nationalist Congress Party

25. Which party does the symbol of "Bicycle" represent?

- A. Indian National Congress
- B. Communist Party of India (CPI)
- C. Samajwadi Party
- D. Bahujan Samaj Party

26. The political party that is the main opposition party in India in 2021 is:

- A. Indian National Congress (INC)
- B. Bharatiya Janata Party (BJP)
- C. Communist Party of India (CPI)
- D. Nationalist Congress Party (NCP)

27. Who among the following was the founder of the Bharatiya Janata Party (BJP)?

- A. L.K. Advani
- B. Atal Bihari Vajpayee
- C. Shyama Prasad Mukherjee
- D. None of the above

28. Which of the following is NOT a function of a political party?

- A. Formulating government policies
- B. Contesting elections
- C. Shaping public opinion
- D. Passing laws directly

29. The party which follows the ideology of "Hindutva" is:

- A. Indian National Congress (INC)
- B. Bharatiya Janata Party (BJP)
- C. Communist Party of India (CPI)
- D. All India Trinamool Congress (TMC)

30. The Indian National Congress split into two factions in 1907 at the:

- A. Surat Session
- B. Lucknow Session
- C. Bombay Session
- D. Lahore Session

B. ANSWER THE FOLLOWING QUESTIONS:

31. What was the main focus of the 'Kisan Andolan' led by the Indian National Congress?

32. What percentage of the total votes is required for a political party to be recognized as a national party in India?

33. Who was the founder of the Bharatiya Janata Party (BJP)?

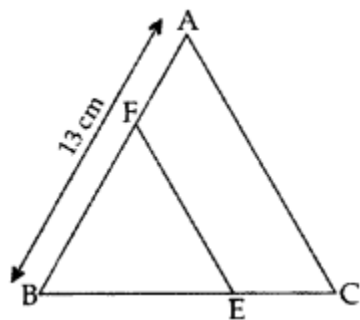
34. Where did the famous Salt March, also called the Dandi March, begin?
35. Which event marked the beginning of the Quit India Movement in 1942?
36. Which incident led to the withdrawal of the Non-Cooperation Movement by Mahatma Gandhi?
37. What is the name of the river on which the Tungabhadra Dam is located?
38. What is the main purpose of the Sardar Sarovar Dam?
39. Which river is associated with the Narmada Valley Project?
40. Which state in India has implemented the Water Conservation Act to preserve water resources?

MATHEMATICS

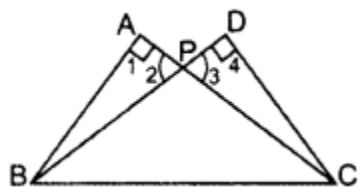
WORKSHEET: 1

1. If the HCF of 408 and 1032 is expressible in the form $1032 \times 2 + 408 \times p$, then find the value of p .
2. HCF and LCM of two numbers is 9 and 459 respectively. If one of the numbers is 27, find the other number.
3. Find the LCM of 96 and 360 by using fundamental theorem of arithmetic.
4. Prove that $2 + 3\sqrt{5}$ is an irrational number.
5. Explain why $(17 \times 5 \times 11 \times 3 \times 2 + 2 \times 11)$ is a composite number?
6. If α and β are the zeroes of the polynomial $ax^2 + bx + c$, find the value of $\alpha^2 + \beta^2$.
7. If the sum of zeroes of the quadratic polynomial $3x^2 - kx + 6$ is 3, then find the value of k .
8. If α and β are the zeroes of a polynomial such that $\alpha + \beta = -6$ and $\alpha\beta = 5$, then find the polynomial.
9. Find the zeroes of the quadratic polynomial $\sqrt{3}x^2 - 8x + 4\sqrt{3}$.
10. If the zeroes of the polynomial $x^2 + px + q$ are double in value to the zeroes of $2x^2 - 5x - 3$, find the value of p and q .
11. How many solutions does the pair of equations $y = 0$ and $y = -5$ have?
12. For what value of k , the pair of equations $4x - 3y = 9$, $2x + ky = 11$ has no solution?
13. Find the value of a and p for which the following pair of linear equations has infinite number of solutions:
 $2x + 3y = 7$.
 $ax + (a + p)y = 28$.
14. Solve the following pair of linear equations for x and y :
 $141x + 93y = 189$
 $93x + 141y = 45$
15. The sum of the digits of a two digit number is 8 and the difference between the number and that formed by reversing the digits is 18. Find the number.
16. The owner of a taxi company decides to run all the taxis on CNG fuel instead of petrol/diesel. The taxi charges in city comprises of fixed charges together with the charge for the distance covered. For a journey of 12 km, the charge paid is 789 and for journey of 20 km, the charge paid is ₹145. What will a person have to pay for travelling a distance of 30 km?

17. In the figure, $EF \parallel AC$, $BC = 10$ cm, $AB = 13$ cm and $EC = 2$ cm, find AF . (2014)



18. In the figure ABC and DBC are two right triangles. Prove that $AP \times PC = BP \times PD$.

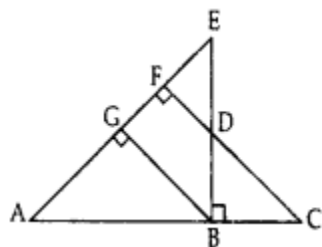


19. In given figure, $EB \perp AC$, $BG \perp AE$ and $CF \perp AE$ (2015)

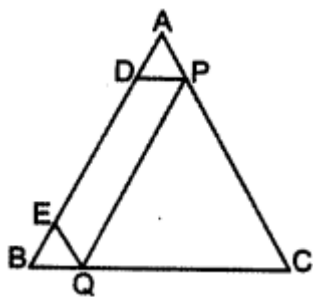
Prove that:

(a) $\triangle ABG \sim \triangle DCB$

(b) $BC/BD = BE/BA$



20. Let ABC be a triangle and D and E be two points on side AB such that $AD = BE$. If $DP \parallel BC$ and $EQ \parallel AC$, then prove that $PQ \parallel AB$.



WORKSHEET: 2

CASE STUDY QUESTIONS

1. Teaching Mathematics through activities is a powerful approach that enhances students' understanding and engagement. Keeping this in mind, Ms. Mukta planned a prime number game for class 5 students. She announces the number 2 in her class and asked the first student to multiply it by a prime number and then pass it to second student. Second student also multiplied it by a prime number and passed it to third student. In this way by multiplying to a prime number, the last student got 173250.

Based on the above information, solve the following questions:

Q 1. What is the least prime number used by students?

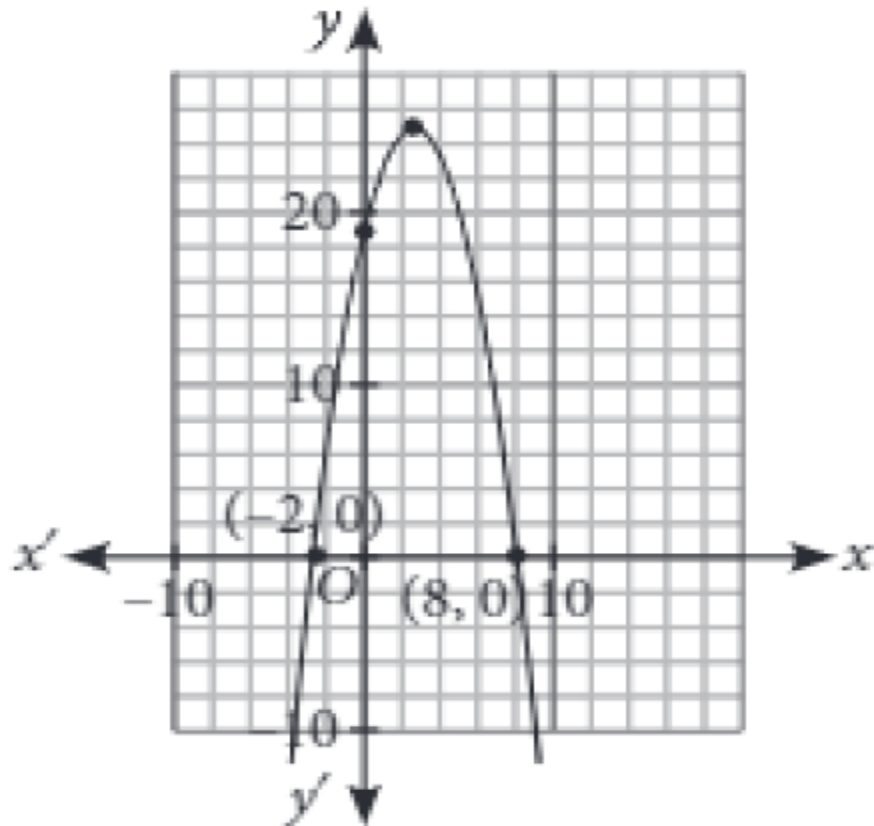
Q 2. How many students are in the class?

Q 3. What is the highest prime number used by students?

Q 4. Which prime number has been used maximum times?

2. Priya and her husband Aman who is an architect by profession, visited France. They went to see Mont Blanc Tunnel which is a highway tunnel between France and Italy, under the Mont Blanc Mountain in the Alps, and has a parabolic cross-section. The mathematical representation of the tunnel is shown in the graph.





(1) The zeroes of the polynomial whose graph is given, are

- (a) -2, 8. (b) -2, -8. (c) 2, 8. (d) -2, 0

(2) What will be the expression of the polynomial given in diagram?

- (a) $x^2 - 6x + 16$
 (b) $-x^2 + 6x + 16$
 (c) $x^2 + 6x + 16$
 (d) $-x^2 - 6x - 16$

(3) What is the value of the polynomial. Represented by the graph, when $x = 4$?

- (a) 22
 (b) 23
 (c) 24
 (d) 25

(4) If the tunnel is represented by $-x^2 + 3x - 2$, then its zeroes are

- (a) -1, -2
 (b) 1, -2
 (c) -1, 2
 (d) 1, 2

(5) If one of the zero is 4 and sum of zeroes is -3, then representation of tunnel as a polynomial is

- (a) $x^2 - x + 24$
- (b) $-x^2 - 3x + 28$
- (c) $x^2 + x + 28$
- (d) $x^2 - x + 28$

3. A coaching institute of Mathematics conducts classes in two batches I and II and fees for rich and poor children are different. In batch I, there are 20 poor and 5 rich children, whereas in batch II, there are 5 poor and 25 rich children. The total monthly collection of fees from batch I is ₹ 9000 and from batch II is ₹ 26000. Assume that each poor child pays ₹ x per month and each rich child pays ₹ y per month.

Based on the given information, solve the following questions:

1. Represent the information given above in terms of x and y .
 2. Find the monthly fee paid by a poor child.
 3. Find the difference in the monthly fee paid by a poor child and a rich child.
 4. If there are 10 poor and 20 rich children in batch II, what is the total monthly collection of fees from batch II?
-

4. A farmer divides a triangular field ABC by drawing a line DE parallel to side BC, where D and E are points on sides AB and AC respectively. He wants to ensure the land is divided proportionally for growing two different crops.

Questions:

1. Name the theorem used when $DE \parallel BC$.
 2. If $AD = 3$ m, $DB = 6$ m, and $AE = 4$ m, find EC.
 3. Verify if $DE \parallel BC$ using the Basic Proportionality Theorem.
 4. If the area of triangle ADE is 20 m^2 , and $DE \parallel BC$, find the area of triangle ABC.
 5. What would happen if DE is not parallel to BC? Will the ratio still hold?
-

5. An engineer is constructing a wheelchair ramp. The ramp is placed inside a triangular frame such that the line dividing two sides is parallel to the base. This helps ensure equal slope throughout.

Questions:

1. Why is it necessary to keep the ramp line parallel to the base?
2. In triangle XYZ, a line DE is drawn parallel to YZ intersecting sides XY and XZ at D and E. If $XD = 2$ m, $DY = 3$ m, and $XE = 4$ m, find the length of EZ.
3. Which theorem is applicable here?
4. If the ramp was extended but not parallel to the base, will the sides remain proportional?
5. Write the condition for $DE \parallel YZ$ using BPT.

LAB MANUAL ACTIVITY

ACTIVITY 2: TO VERIFY THE BASIC PROPORTIONALITY THEOREM USING PARALLEL LINE BOARD AND TRIANGLE PASTING

ACTIVITY 5: TO VERIFY THAT RATIO OF AREAS OF TWO SIMILAR TRIANGLES IS EQUAL TO THE RATIO OF THE SQUARES OF THEIR CORRESPONDING SIDES.

MAKE A PROJECT ON A-4 SIZE SHEET.

Project Title: Statistical Analysis of Mahakumbh Mela (7-8 pages)

To collect weekly data related to the Mahakumbh Mela (e.g., footfall, food packets distributed, tents used), organize it in a table, and Find the **mean, median, and mode**.

हिन्दी

परियोजना कार्य

काव्य खंड

1. सूरदास जी का सम्पूर्ण जीवन परिचय अध्ययन करते हुए अपने जीवन में आए किसी एक व्यक्ति का जीवन परिचय दीजिए जिससे आप आज तक प्रभावित हैं और जिनके जैसा आप बनना चाहते हैं।
2. सूरदास के पदों में से किसी एक पद का भावार्थ अपने शब्दों में लिखिए।

गद्य खंड

2. नेता जी सुभाष चंद्र बोस के जीवन देश सेवा में समर्पित रहा था उनके जीवन की उन घटनाओं का वर्णन कीजिए जिनसे आप प्रभावित हुए और अपने जीवन में उन घटनाओं को किस प्रकार प्रयोग करेंगे।
3. भारत के विभिन्न राज्यों में बोली जाने वाली भाषाओं की एक रूप रेखा तैयार करें व विविधता में एकता दर्शाते हुए एक भारत श्रेष्ठ भारत का एक प्रारूप तैयार करें।

अनुच्छेद लेखन कार्य

1. आतंकवाद से कैसे बचा जाए
2. महाकुंभ का महत्व
3. खेलों के साथ शिक्षा

विज्ञापन लेखन

किसी एक विषय पर विज्ञापन तैयार करें: (ए-4 साइज़ शीट का प्रयोग करें)

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SCIENCE

WORKSHEET

- IMPORTANT CASE STUDIES CHAPTER WISE

CHAPTER-1(CHEMICAL REACTIONS AND EQUATIONS)

Q1. Read the following and answer any four questions from 4.1 to 4.5:

Frothing in Yamuna:

The primary reason behind the formation of the toxic foam is high phosphate content in the wastewater because of detergents used in dyeing industries, dhobi ghats and households Yamuna's pollution level is so bad that parts of it have been labelled 'dead' as there is no oxygen in it for aquatic life to survive.

1. Predict the pH value of the water of river Yamuna if the reason for froth is high content of detergents dissolved in it.
2. Which of the following statements is correct for the water with detergents dissolved in it?
A. low concentration of hydroxide ion (OH^-) and high concentration of hydronium ion (H_3O^+)
B. high concentration of hydroxide ion (OH^-) and low concentration of hydronium ion (H_3O^+)
C. high concentration of hydroxide ion (OH^-) as well as hydronium ion (H_3O^+)
D. equal concentration of both hydroxide ion (OH^-) and hydronium ion (H_3O^+).
3. The table provides the pH value of four solutions P, Q, R and S.

<u>Solutions</u>	<u>pH value</u>
<u>P</u>	<u>2</u>
<u>Q</u>	<u>5</u>
<u>R</u>	<u>9</u>
<u>S</u>	<u>11</u>

Which of the following correctly represents the solutions in increasing order of their hydronium ion concentration?

4. High content of phosphate ion in river Yamuna may lead to:
A. decreased level of dissolved oxygen and increased growth of algae
B. decreased level of dissolved oxygen and no effect of growth of algae
C. increased level of dissolved oxygen and increased growth of algae

D. decreased level of dissolved oxygen and decreased growth of algae

5. If a sample of water containing detergents is provided to you, which of the methods will you adopt to neutralize it?

CHAPTER-2(ACID BASE AND SALT)

Q2. A pH meter is a scientific instrument that measures the hydrogen-ion activity in water-based solution water-based solutions, indicating its acidity or alkalinity. expressed as pH. The pH meter measures the difference in electrical potential between a pH electrode and a reference electrode, and so the pH meter is sometimes referred to as a "potentiometric pH meter". The difference in electrical potential relates to the acidity or pH of the solution. The pH meter is used in many applications ranging from laboratory experimentation to quality control.

1. Which of the following statement is correct regarding pH Scale?

- (i) It is the negative logarithm of H^+ ion concentration of a given solution.
- (ii) It is the positive logarithm of H^+ ion concentration of a given solution.
- (iii) It is a 14 point scale.
- (iv) pH is an example of an extrinsic property.

Correct Options are:

- A. (i) and (iii)
- B. (ii) and (iii)
- C. (i), (iii) and (iv)
- D. Only (ii)

2. What is the neutral value of pH scale?

3. In which of the following field pH scale is important for measurements?

- A. Medicine
- B. Forestry
- C. Food Science
- D. All of the above

4. What is the pH value of very strong acid solution?

5. Why we measure the pH of sea water?

CHAPTER-5(LIFE PROCESSES)

Q3. Carbon and energy requirements of the autotrophic organism are fulfilled by photosynthesis. It is the process by which autotrophs take in substances from the outside and convert them into stored forms of energy. This material is taken in the form of carbon

dioxide and water which is converted into carbohydrates in the presence of sunlight and chlorophyll. Carbohydrates are utilised for providing energy to the plant.

A. Write a chemical reaction which occur during photosynthesis?

B. In which form of carbohydrates does the plant stored in them?

C. What is stomata?

D. What are the functions of stomata?

E. What is Chloroplast?

CHAPTER-8(LIGHT:REFLECTION AND REFRACTION)

Q4. We have, the object distance is the distance of the object from the pole of the mirror. And we always know that object is placed in front of mirror that means on left side and hence object distance u is always taken as negative. The distance of the image from the pole of the mirror is taken as image distance. The image distance may be positive or negative on the basis of nature of image formed. And the distance of principal focus from the pole is called as focal length of the mirror. Thus, the relationship between the object distance u , image distance v and focal length f is given by mirror formula.

Thus,

Mirror formula:

$$1/v + 1/u = 1/f$$

And magnification in case of mirror gives the extent to which the image is magnified as compared to object size. Magnification is given by the ratio of height of image (h') to the height of object (h).

Thus, magnification = (height of image)/(height of object)

Thus, $m = h'/h$

Also, in terms of object distance and image distance magnification is given by,

$$\text{Magnification } m = h'/h = -v/u$$

As we know that, image height is positive if the image formed is virtual while height of image is negative for real images.

Similarly in case of lenses, lens formula is given by

$$1/v - 1/u = 1/f$$

And magnification in case of lenses is given by

$$\text{Magnification } m = h'/h = v/u$$

The power of lens depends on the focal length of the lens and it is the ability of the lens to diverge or converge the number of rays incident on it. Also, power of lens is defined as the reciprocal of focal length of the lens.

$$\text{Thus, } P = 1/f$$

- A. If the focal length of the lens is measured in meter what will be the unit of power of lens?
- B. What is the sign of power of convex and concave lens?
- C. If the lenses placed in contact of powers P_1 , P_2 , P_3 , P_4 are used then what is the net power of lens system?
- D. If the magnification produced is negative and positive in case of mirrors then what about the nature of images formed there?

INFORMATION TECHNOLOGY

1. Prepare a project of about 7-8 pages describing how IT play significant role in developing entrepreneurs and thriving business.
2. Prepare a digital document using libre office writer on any topic, apply styles, images as required. Take prints of it and paste it in fair Notebook.