

SAINIK SCHOOL BALACHADI
2018-19
SUMMER VACATION : HOLIDAY HOMEWORK
CLASS – X



• **ENGLISH**

1. STORY WRITING: Write a story in 150 – 200 words based on the input given below:

Travelling in metro — tunnel — lights went out — general panic — pushing and shoving — screams — phone flashlights switched on — an old man

2. ARTICLE: While reading the newspaper, you came across the following news item.

Two Dutch women attacked, robbed in New Delhi New Delhi: Two Dutch women on a world tour were brutally attacked and robbed of their money and passports by two men posing as tourist guides, Police said.

above, and using the ideas from the Unit Travel and Tourism and your own, write an article for a national newspaper in about 150 words on the subject offering suggestions for improving tourist facilities. Also give a suitable title.

3. LETTER (Formal): You have noticed many stray animals on the road during the busy hours of the day. Write a letter to the editor of a leading newspaper about the nuisance created by the stray animals. Sign your name as Krishnan. (150 words)

4. BOOK REVIEW: Select a book (Novel, Science Fiction, Drama,....) Read the book completely with proper understanding. Write a review of the book in about 500 words covering an introduction, summary, language style, theme/ concept, publication details and your recommendations for other readers/ conclusion.

5. SPEECH DRAFT: Draft a speech in about 250 words to be delivered in School assembly on the topic 'My Learning Based on Experience in the Recent Vacation'

• **HINDI**

1. निबंध लिखिए (लगभग 150-200 शब्दों में)–

(क) विज्ञापनों से घिरा मानव जीवन

(ख) कंप्यूटर : आज के युग की जरूरत

(ग) सबसे प्यारा देश हमारा

2 . (क) गत कुछ दिनों से आपके क्षेत्र में अपराध बढ़ने लगे हैं . उसकी रोकथाम के लिए थानाध्यक्ष को पत्र लिखिए .

(ख) सूखे से जूझते लोगों की कठिनाइयों का वर्णन करते हुए किसी दैनिक पत्र के संपादक को पत्र लिखें .

3 . रचना के आधार पर वाक्य-भेद परिभाषा एवं उदाहरण के साथ लिखिए .

4 . रस और उसके स्थायी भावों की सूची बनाइए .

5 . नेताजी सुभाषचंद्र बोस अथवा अपनी पसंद के किसी स्वाधीनता सेनानी का चित्र सहित संक्षिप्त जीवन परिचय चार्ट पेपर पर लिखिए .

• **MATHEMATICS**

- If one zero of the polynomial $5z^2 + 13z - p$ is reciprocal of the other, then find p .
- If the product of two zeroes of polynomial $2x^3 + 3x^2 - 5x - 6$ is 3, then find its third zero.
- Find the polynomial of least degree which should be subtracted from the polynomial
 - $x^4 + 2x^3 - 4x^2 + 6x - 3$ so that it is exactly divisible by $x^2 - x + 1$.
- Write a quadratic polynomial, sum of whose zeroes is $2\sqrt{3}$ and product is 5.
- Write the zeroes of the polynomial $x^2 + 2x + 1$.
- If the zeroes of the polynomial $f(x) = x^3 - 12x^2 + 39x + a$ are in AP, find the value of a .
- A polynomial $g(x)$ of degree zero is added to the polynomial $2x^3 + 5x^2 - 14x + 10$ so that it becomes exactly divisible by $2x - 3$. Find the $g(x)$.
- Find the zeroes of the quadratic polynomial $x^2 + 5x + 6$ and verify the relationship between the zeroes and the coefficients.
- If $x + a$ is a factor of the polynomial $x^2 + px + q$ and $x^2 + mx + n$ prove that $a = \frac{n-q}{m-p}$.
- Find a cubic polynomial with the sum, sum of the product of its zeroes taken two at a time and product of its zeroes are $3, \frac{-1}{2}, \frac{5}{4}$ respectively.
- Write cubic polynomial whose zeroes are $\frac{2+\sqrt{5}}{2}, \frac{2-\sqrt{5}}{2}, 4$.
- α, β, γ are zeroes of cubic polynomial $kx^3 - 5x^2 + 9$.
If $\alpha^3 + \beta^3 + \gamma^3 = 27$, find the value of k .
- Two zeroes of cubic polynomial $ax^3 + 3x^2 - bx - 6$ are -1 and -2 . Find the third zero and value of a and b .
- α, β, γ are zeroes of cubic polynomial $x^3 - 2x^2 + qx - r$.
If $\alpha + \beta = 0$ then show that $2q = r$.
- 6 men and 10 women can finish making pots in 8 days, while the 4 men and 6 women can finish it in 12 days. Find the time taken by the one man alone from that of one woman alone to finish the work.
- A boat covers 14 kms in upstream and 20 kms downstream in 7 hours. Also it covers 22 kms upstream and 34 kms downstream in 10 hours. Find the speed of the boat in still water and of that the stream.
- 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
- When you add two numbers and the number obtained by reversing the order of its digits is 165. If the both numbers differ by three, find the number.
- A number say z is exactly the four times the sum of its digits and twice the product of the digits. Find the numbers.

20. There are two points on a highway A, B. They are 70 km apart. An auto starts from A and another auto starts from B simultaneously. If they travel in the same direction, they meet in 7 hours, but if they travel towards each other they meet in 1 hour. Find how fast the two autos are.
21. A diver rowing at the rate of 5 km/h in still water takes double the time in going 40 km upstream as in going 40 km downstream. Find the speed of the stream.
22. The larger of two supplementary angles exceeds thrice the smaller by 20 degrees. Find them.
23. The sum of two children is 'a'. The age of the father is twice the 'a'. After twenty years, his age will be equal to the addition of the ages of his children. Find the age of father.
24. Find the HCF of 52 and 117 and express it in form $52x + 117y$.
25. If m and n are odd positive integers, then $m^2 + n^2$ is even, but not divisible by 4. Justify.
26. If $\text{HCF}(6, a) = 2$ and $\text{LCM}(6, a) = 60$, then find a.
27. If n is any prime number and a^2 is divisible by n, then n will also divide a. Justify.
28. Find the greatest number of 5 digits exactly divisible by 12, 15 and 36.
29. Find the smallest number which when increased by 20 is exactly divisible by 90 and 144.
30. Find the smallest number which leaves remainder 8 and 12 when divided by 28 and 32 respectively.

• **SCIENCE**

BIOLOGY

1. Explain the types of nutrition with example.
2. Explain Autotrophic nutrition in plants with all diagrams of leaf and chloroplast.
3. Explain Human digestive system.
4. What is Phagocytosis?
5. Differentiate between Light reaction and Dark reaction.

WORK SHEET

1. Draw a labeled diagram of chloroplast showing site of light reaction and dark reaction.
2. Draw a labeled diagram of Human Digestive system.

CHEMISTRY

1. What is a balanced chemical equation? Why should chemical equation be balanced? Give four different example.
2. What do you mean by a precipitation reaction? Explain by giving examples.
3. What is difference between displacement and double displacement reactions? Write the equations for these reactions.
4. Define the combination reaction with example?
5. Why is respiration considered an exothermic reaction? explain.
6. Explain the following terms with one example each

(a) Corrosion	(b) Rancidity
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PHYSICS

1. Prepare a full chart for -the ray diagram of Concave mirror in the following cases:
 - (a) When object at infinity

- (b) When object is at focus
- (c) When object is situated at centre of curvature
- (d) When object is beyond centre of curvature
- (e) When object is between F and C.
- (f) When object is kept between P and F.

Draw the Ray diagram in each case and mention the position of object, types and nature of image.

- 2. Write four uses of concave mirror.
- 3. Write three difference between Real and Virtual image.
- 4. How we can differentiate between the convex, Concave and plane mirror without physical touch.

- **SOCIAL SCIENCE**

Refer Chapter -5 of Political Science. Prepare a write up on the following, not more or less than **20- 25 pages** along with photos.

- A. Role of Trade Union as a Pressure Group.
 - 1. The history and origin of Trade Unions in India
 - 2. Major trade unions, brief history and its leaders.
 - 3. Their role in a democracy like India.
 - 4. Major achievements of Trade Unions in India.
- B. Role of Narmada Bachao Andolan (NBA) as a Movement.
 - 1. Origin and history of NBA.
 - 2. Medha Padkar and her leadership.
 - 3. The environmental hazard of Sardar Sarovar Project.
 - 4. Present status of the displaced people.

Instructions:-

- a) The project should be submitted in paper file. Pl avoid plastic files.
- b) Use only one side for writing and the other side for pictures, photos and statistics.
- c) The name , class & section, roll number, subject, title etc.. should be written clearly on the title page.
- d) There should be an index page at the beginning.
- e) Last page should be Bibliography, which contain the sources like books, magazines, web sites etc.. used for making the project.
- f) No printed materials will be accepted. Everything should be properly hand written.
- g) Special mark for unique creativity in making the project.