HOLIDAY ASSIGNMENT – SUMMER VACATION 2023

FOR CLASS X

Subject- English

Section A: Do this section in your English Language notebook.

1   Letter writing: (Any one)
1. The number of tourists going to the hill stations is increasing. Time has led to their commercialisation and its ill-effects. More hotels and garbage affects the lives of locals. Write a letter to the editor of a national daily expressing your concern over the situation.
2. You are Rohit/Rohini, resident of Rajouri Garden, New Delhi. Write a letter to the editor of a national daily drawing the attention of the concerned authorities to the deteriorating law and order situation in the city.

2   Story writing: (Any one)
1. Complete the story using the given outline:
Hot summer day--- desert safari---storm----lost in the desert......
2. Complete the story using the given cue:
It was a hot day. A blind man was crossing the road. Suddenly a car came out of nowhere.....

3   Article writing:
Smartphone is one of the most important means of communication today. But it has also become a nuisance for the same. Write an article on the same in around 120-150 words.

Section B: Do this section in your English Literature notebook.

4   Describe the following topics in about 300 words each: (Any one)
1. Apartheid (Refer to 'Nelson Mandela: Long Walk to Freedom')
2. Imprisonment (Refer to 'A Tiger in the Zoo')

Section C: Prepare a PowerPoint presentation on the given topic:

5   Creation with proverbs-
Describe any one of the following proverbs in your own words. You should also add pictures and slides to make it look more appealing.
1. 'Pen is mightier than the sword'.
2. 'No pain No gain'.
3. 'All is well that ends well'.

(Parameters: Creativity, relevance and presentation)

विषय-हिंदी

1- अपनी पुस्तिका में निम्न विषयों से संबंधित पांच (5) आकर्षक विज्ञापन (Advertisement) तैयार कीजिए।शब्द सीमा-20 से 25 शब्द।

निर्देश: विज्ञापन किसी सामान को बेचने हेतु, कोई कोचिंग क्लास खोलने हेतु, रक्त दान, जल ही जीवन है एवं पर्यटन (tourism) से संबंधित हो सकता है।

<div align="center">अथवा</div>

2- एक फ़ाइल में जून माह में होने वाली समस्त मुख्य घटनाओं को दिनांक एवं दिवस के साथ एकत्रित कीजिए।(लगभग 30 घटनाएं)

यह समस्त कार्य PPT form में बनाया जाना चाहिए।

विषय अध्यापिका- उषा रानी

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MATHEMATICS

1. Find the zeroes of each of the following quadratic polynomials and verify the relationship between the zeroes and their coefficients:

   (i) $p(x) = x^2 + 2\sqrt{2}\,x - 6$

   (ii) $q(x) = \sqrt{3}\,x^2 + 10x + 7\sqrt{3}$

   (iii) $f(x) = x^2 - (\sqrt{3}+1)\,x + \sqrt{3}$

   (iv) $g(x) = a(x^2+1) - x(a^2+1)$

2. If α and β are the zeroes of the quadratic polynomial $p(x) = x^2 - 5x + 4$, find the value of $\dfrac{1}{\alpha} + \dfrac{1}{\beta} - 2\alpha\beta$.

3. If α and β are the zeroes of the quadratic polynomial $p(y) = 5y^2 - 7y + 1$, find the value of $\dfrac{1}{\alpha} + \dfrac{1}{\beta}$.

4. If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - x - 4$, find the value of $\dfrac{1}{\alpha} + \dfrac{1}{\beta} - \alpha\beta$.

5. If α and β are the zeroes of the quadratic polynomial $g(x)=4x^2-5x-1$, find the value of $\alpha^2\beta+\alpha\beta^2$.

6. If α and β are the zeroes of the quadratic polynomial $q(t)=t^2-4t+3$, find the value of $\alpha^4\beta^3+\alpha^3\beta^4$.

7. If α and β are the zeroes of the quadratic polynomial $f(x)=6x^2+x-2$, find the value of $\dfrac{\alpha}{\beta}+\dfrac{\beta}{\alpha}$.

8. Find all zeroes of the polynomial $f(x)=x^3+13x^2+32x+20$, if one of its zero is -2.

9. Find all zeroes of the polynomial $f(x)=x^4-3x^3-x^2+9x-6$, if two of its zeroes are $-\sqrt{3}$ and $\sqrt{3}$.

10. Find all zeroes of the polynomial $f(x)=2x^4-9x^3+5x^2+3x-1$, if two of its zeroes are $2-\sqrt{3}$ and $2+\sqrt{3}$.

11. Solve the following equations for x.

   (i) $\dfrac{a}{x-b}+\dfrac{b}{x-a}=2, \qquad x\neq a, b$

   (ii) $\dfrac{a}{x-a}+\dfrac{b}{x-b}=\dfrac{2c}{x-c}, \qquad x\neq a, b, c$

   (iii) $\dfrac{1}{a+b+x}=\dfrac{1}{a}+\dfrac{1}{b}+\dfrac{1}{x}, \qquad a\neq 0, b\neq 0, x\neq 0, -(a+b)$

   (iv) $\dfrac{1}{2a+b+2x}=\dfrac{1}{2a}+\dfrac{1}{b}+\dfrac{1}{2x}$

   (v) $\dfrac{a}{ax-1}+\dfrac{b}{bx-1}=a+b, \qquad a+b\neq 0, ab\neq 0$

   (vi) $\sqrt{2x+9}=13-x$

12. Find the value(s) of 'k' for which each of the following quadratic equations have real and equal roots:

   (i) $x^2-2(k+1)x+k^2=0$

   (ii) $k^2x^2-2(2k-1)x+4=0$

   (iii) $(k+1)x^2-2(k-1)x+1=0$

   (iv) $x^2+k(2x+k-1)+2=0$

   (v) $(3k+1)x^2+2(k+1)x+1=0$

13. The sum of two numbers is 9 and the sum of their squares is 41. Find the numbers.

14. In a certain positive fraction, the denominator is greater than the numerator by 3. If 1 is subtracted from both the numerator and denominator, the fraction is decreased by $\dfrac{1}{14}$. Find the fraction.

15. The sum of the numerator and denominator of a certain positive fraction is 8. If 2 is added both the numerator and denominator, the fraction is increased by $\dfrac{4}{35}$. Find the fraction.

16. A two-digit number contains the bigger value at ten's place. The product of the digits is 27 and the difference between two digits is 6. Find the number.

17. A two-digit positive number is such that the product of its digits is 6. If 9 is added to the number, the digits interchange their places. Find the number.

18. Sum of two natural numbers is 8 and the difference of their reciprocals is $\dfrac{2}{15}$. find the numbers.

19. If the perimeter of a rectangular plot is 68 m and the length of its diagonal is 26 m, find its area.

20. The sum of two smaller sides of a right-angled triangle is 17 cm and the perimeter is 30 cm, then find the area of the triangle.

21. An aeroplane flying with a wind of 30 km/hr takes 40 minutes less to fly 3600 km, than what it would have taken to fly against the same wind. Find the plane's speed of flying in still air.

22. The hotel bill for a number of people for overnight stay is Rs 4800. If there were 4 more, the bill each person had to pay would have reduced by Rs 200. Find the number of people staying overnight.

23. A boat can cover 10 km upstream and 5 km downstream in 6 hours. If the speed of the stream is 1.5 km/hr, find the speed of the boat in still water.

PROJECT

Write, in detail, about the two Indian Mathematicians and the work done by these two mathematicians in the field of mathematics.

Note: Do all these questions and the project in a project file.

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SCIENCE

PHYSICS

Please perform one activity and complete one project from the following options:

Activities-

1. Make a PPT to describe the formation of images with the help of Ray Diagrams.
[At least 15 slides]

2. Describe Reflection and Refraction of light with examples of plane and curved surfaces through a   PPT of at least 15 slides.

Projects-

1. Investigate about the Power of Eye Glasses (Eye lenses) and make a PPT on your findings (15 slides).

2. Describe Phenomena related to Atmospheric Refraction. (15 slides PPT)

 NOTE:

 Though you might not be aware of some terms and concepts, but you are supposed to investigate about them and then perform the activity or do your project work. Take help of internet or other sources and mention the source from where you have taken help.

CHEMISTRY

1 Prepare a project on any one of the following :

i)   Chemistry of metal Aluminium from its extraction to electrolytic refining method. Compare the properties of the metal vis-à-vis other metals in terms of its cost, availability ,industrial applications and alloying.

ii)   Metallic Mixtures (Alloys) any five :
Comparative analysis in terms of composition , durability, resistance to corrosion and commercial application.

iii)   Carbon and its Compounds (any three)
Analysis in terms of structure, occurrence , properties and recent discovery of its usage in industry and medical field.
Instructions : the project should be research based with content and illustrations and to be prepared in the form of PPT. Minimum 14-15 slides .

Biology

1. <u>Response of the plant to the direction of light.</u>
Requirements:- Conical flask, water, wire mesh, 2-3 freshly germinated bean seeds, cardboard box open from one side.

Method:- Take a conical flask and fill it with water. Cover the neck of the flask with a wire mesh. Now, keep two or three freshly germinated seeds on the wire mesh. Keep this flask in the cardboard box(open from one side) in such a manner that the open side of the box faces light coming from the window. Observe the plant after few days. Now, turn the flask so that the shoots are away from light and the roots towards light. Leave it undisturbed in this position for a few days and then observe the difference if any.

Record your observation.
Click pictures, paste it in a scrapbook and write about it
<div align="center">OR</div>

2. Prepare PPT on discovery of Nobel Prize winners (Biology) of 2018-2020.
- Minimum 16 slides should be there

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SOCIAL SCIENCE

Choose one of the following topic and make a PowerPointPresentation(PPT) on that. Prepare 8 to 10 slides.

1. The life of Mahatma Gandhi and his contribution towardsIndia's freedom.

2. Political Parties in India.

3. Sustainable development.

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Information Technology (Use pen drive to submit)

Make ppt slide on any one topic from the 3 topic given below.

1. Collect information regarding Web Development companies in Saharsa, India and suggest your suggestion which one is the best.

2. Collect information regarding highest paying jobs in Bangalore, eg. Machine Learning Engineer, Master of Blockchain, Data Scientist, Web Developer, Android Developer etc., compare them and state which one is the best and why?

3. Collect information regarding all hardware require to make a computer system. Also collect information regarding top 3 mostly web browser used.

*For any help in this regard you are free to WhatsApp @ 9199090057

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