



L.R.S. ACADEMY

A Senior Secondary English Medium School, Nagina (Bijnor)
(Affiliated to C.B.S.E. New Delhi)

SUMMER HOLIDAY HOMEWORK

CLASS

X



Laying the foundation of excellence

Principal's message

Dear Scholars,

Let us wholeheartedly wish you a cheerful summer vacation & may you enjoy the holidays to the fullest by making optimum use of your priceless time.

It is certain that each one of you have planned in advance about how to have an exciting vacation with your near & dear one's

But amidst all your plans ensures that you set aside some time for reading books of varied choices so that you enhance on both language & thinking skills.

Remember, this is the time when you may build a beautiful bond with your Parents, siblings, grandparents and other family members as well.

Spend some time with your grandparents specially and ask them to share their childhood & younghood events with you. Help your mother in house hold chores & water your plants twice daily. You should take help of your elder siblings to do your homework & maintain healthy bond with youngers. Drink plenty of water and eat healthy food. Add seasonal fruits to eat in your daily routine. Take care of your health.

Let us all hope to rejoin and meet one another without any hurdles. Till then wishing you all a happy & eventful summer vacation.

With prayers

**Noopur Chandra
Principal
L.R.S. ACADEMY, Nagina**

Instructions to do holiday homework -:

- 1. Do holiday homework in a separate notebook.**
- 2. While doing Homework, maintain each subject's work separately.**
- 3. Take care of your handwriting.**
- 4. Cover the notebook properly & label it.**
- 5. Homework will be submitted on 01/07/2024.**
- 6. Holiday homework marks will be added in the next exam.**

Important Dates

- 1. Summer vacation will start from 26/05/2024.**
- 2. After vaccination school will reopen from 01/07/2024.**
Timing at 07:45am to 01:40pm



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HOLIDAY HOME WORK- 2024-25

Class -X

हिन्दी

1. 'मैं और मेरी दुनिया' विषय पर पोर्टफोलियो तैयार कीजिए।
2. साहसिक कार्य के लिए 'बाल वीरता पुरस्कार' से सम्मानित होने वाले अपने मित्र को लगभग 60 शब्दों में बधाई संदेश लिखिए।
3. प्रतिदिन एक पृष्ठ सुलेख लिखिए (20 पृष्ठ) में।
4. मेले में आंध्र प्रदेश के स्टॉल का एक विज्ञापन तैयार कीजिए जिसमें निम्नलिखित बिन्दुओं का समावेश होना आवश्यक है-
 - क) कला कृतियाँ
 - ख) परिधान
 - ग) आभूषण
 - घ) खान-पान एवं पकवान



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HOLIDAY HOME WORK- 2024-25

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ENGLISH

1. The student are directed to read newspaper daily and update themselves with the current affairs collect any five current affairs cutting and paste them in scrap book and write report in your own words.
2. You are asked to write an article for the school magazine on 'Climate change' (words limit 150)
3. You are Saurabh, A-114, Defense Colony, New Delhi. Your Colony is facing the severe problem of inadequate and contaminated water supply. You decided to express your views and make the authorities aware of the situation by writing a letter to the editor of the Hindustan Times. New Delhi. (words limit 120 - 150 words)
4. Complete the following passage using the appropriate form of the verbs.

When I (reach) home yesterday. I (hear) noise of fire engine. When I (go) over to the place and (find) a small group of people who (gaze) at the smoke and (take) in serious tones as if something really bad (happen).
5. You will learn the art of translation and translate 5 Hindi to English translation daily on the each tense.
6. The postmaster was a representative of God. Evaluate this statement in the context of your understanding of 'A letter to God' (150 words)
7. Freedom is inconsequential if it is behind bars of prejudice and narrow mindedness. How would you explain the statement? Support your answer with suitable example from 'Nelson Mandela: Long walk to freedom' and 'A tiger in the zoo' of your test book.



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HOLIDAY HOME WORK- 2024-25

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MATHS

Solve the following questions:

1. In a class there are 24 girls and 20 boys. Find the minimum number of books that can be distributed equally among girls and boys.
2. Two oil tankers contains 850 liters and 680 liters of petrol respectively. Find the maximum capacity of the container which can measure the petrol of either tank in exact number of times.
3. Find H.C.F and L.C.M by prime factorisation method 144, 180, 192.
4. Three light houses flash their lights every 15 seconds, 12 seconds and 18 seconds respectively. If they last flashed together at 9:15 p.m; then at what time will they next flash together?
5. Prove that following are irrational number:
(a) $\sqrt{7}$ (b) $\frac{3}{2\sqrt{5}}$ (c) $4-5\sqrt{2}$
6. Explain why $11 \times 9 \times 7 \times 5 \times 3 \times 1 + 5$ is composite number.
7. Prove that 12^n can not end with the digit 0 for any natural number n ; all $n \in \mathbb{N}$.
8. If α and β are the zeroes of the polynomial $P(x) = 6x^2 - 5x + k$, find k if $\frac{1}{\alpha} + \frac{1}{\beta} = 5$
9. Obtain a quadratic polynomial, whose zeroes are $2\alpha + \beta$ and $\alpha + 2\beta$, where α and β are the zeroes of $x^2 + 3x - 10$.
10. If α, β are the zeroes of quadratic polynomial $x^2 - 4x - 12$, find the value of $\alpha^3\beta + \alpha\beta^3$
11. Find the zeroes of the given polynomial and verify the relationship between its zeroes and coefficients: $5x^2 - 4 - 8x$
12. A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is neither an ace nor a king.
13. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box. Find the probability that it bears-
(i) a two digit no.
(ii) a number divisible by 5

Project:- Aim: To find the condition for consistency and inconsistency for a given system of linear equation in two variables: $-2x - y + 8 = 0, 6x + 3y - 24 = 0$



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BIOLOGY(Science)

1. Draw neat - clean & well - labelled diagram of following-
 - (a) Human heart
 - (b) transverse section of a leaf
2. State the function of following-
 - (a) Peristalsis
 - (b) Cartilage rings in throat.
 - (c) Stomata in plants
 - (d) Liquid component of blood in our body
3. Comment on following statement-

“ Lizard can tolerate some mixing of deoxygenated blood with oxygenated blood .
4. Write 3 advantages of transpiration for plants.
5. How do yeast performs respiration to produce ethanol.
6. Why do aquatic organisms have faster breathing rate.
7. Write 5 consequences on human body which occur due to deficiency of haemoglobin.
8. State different modes of excretion by plants.
9. Differentiate between breathing and respiration.
10. What are following -
 - (a) Sphincter muscles in gut.
 - (b) Lipase.
 - (c) Single circulation.



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Class -X

PHYSICS (Science)

1. Identify the device used as a spherical mirror or lens in following cases, when the image formed is virtual and erect in each case.
 - (a) Object is placed between device and its focus, image formed is enlarged and behind it.
 - (b) Object is placed between the focus and device, image formed is enlarged and on the same side as that of the object.
 - (c) Object is placed between infinity and device, image formed is diminished and between focus and optical centre on the same side as that of the object.
 - (d) Object is placed between infinity and device, image formed is diminished and between pole and focus, behind it.
2. Draw ray diagram showing the image formation by a convex lens when an object is placed.
 - (a) Between optical centre and focus of the lens.
 - (b) Between focus and twice the focal length of the lens.
 - (c) At twice the focal length of the lens.
 - (d) At infinity
 - (e) At the focus of the lens.
3. (A) Write snell's law.
 - (b) Define power of a lens. Write its unit.
 - (c) One student uses a lens of focal length 50cm and another of -50cm. What is the nature of the lens and its power used by each of them?
4. A student focused the image of a candle flame on a white screen using a convex lens. He noted down the position of the candle screen and the as under.

Position of candle = 12.0cm
Position of convex lens = 50.0cm
Position of screen = 88.0cm

 - (i) What is the focal length of the convex lens?
 - (ii) Where will the image be formed if he shifts the candle towardsthe lens at a position of 31.0 cm?
 - (iii) What will be the nature of the image formed if he further shifts the candle towards the lens?
 - (iv) Draw a ray diagram to show the formation of the image in case.(iii) as said above.
5. How can you distinguish between a plane mirror a convex mirror and a concave mirror just by looking at the images formed by them
6. Refractive index of diamond with respect to glass is 1.6 and absolute refractive index of glass is 1.5. Find out absolute refractive index of diamond.
7. Draw a ray diagram showing the path of rays of light when it enters with oblique incidence
 - (i) From air into water
 - (ii) From water into air

8. Analyse the following observation table showing variation of image distance (v) with object distance (u) in case of a convex lens and answer the questions that follow, without doing any calculations:

S.no	Object-distance (in cm)	Image distance (v cm)
1	-90	+18
2	-60	+20
3	-30	+30
4	-20	+60
5	-18	+90
6	-10	+100

- (a) What is the focal length of the convex lens? Give reason in support of your answer.
- (b) Write the serial number of that observation which is not correct. How did you arrive at this conclusion?
- (c) Take an appropriate scale to draw ray diagram for the observation
9. An object is placed at a distance of 60cm from a concave lens of focal length 30cm
- (i) use lens formula to find the distance of image from the lens.
- (ii) List four characteristics of the image (Nature, position, size, erect/inverted) formed by the lens in each case
- (iii) Draw a ray diagram to justify your answer of part (ii).
10. Can a convex lens behave as a diverging lens? Refractive index of air with respect to glass is defined as $n_{ag} = \frac{\sin i}{\sin r}$. Write a similar expression for n_{ag} in terms of i and r .



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CHEMISTRY

- Which among the following changes are exothermic or endothermic in nature?
 - Decomposition of ferrous sulphate
 - Dilution of sulphuric acid
 - Dissolution of sodium hydroxide in water
 - Dissolution of ammonium chloride in water
- Identify the reducing agent in the following
 - $4NH_3 + SO_2 \rightarrow 4NO + 6H_2O$
 - $H_2O + F_2 \rightarrow HF + HOF$
 - $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$
 - $2H_2 + O_2 \rightarrow 2H_2O$
- Identify the oxidizing agent (Oxidant) in the following reactions:
 - $Pb_3O_4 + 8HCl \rightarrow 3PbCl_2 + Cl_2 + 4H_2O$
 - $2Mg + O_2 \rightarrow 2MgO$
 - $CuSO_4 + Zn \rightarrow Cu + ZnSO_4$
 - $V_2O_5 + 5Ca \rightarrow 2V + 5CaO$
 - $3Fe + 4H_2O \rightarrow Fe_3O_4 + 4H_2$
 - $CuO + H_2 \rightarrow Cu + H_2O$
- Give the characteristic tests for the following gases:
 - CO_2
 - SO_2
 - O_2
 - H_2
- Balance the following chemical equations:
 - $FeSO_4 \xrightarrow{\Delta} Fe_2O_3 + SO_2 + SO_3$
 - $MnO_2 + HCl \rightarrow MnCl_2 + Cl_2 + H_2O$
 - $Pb(NO_3)_2 \xrightarrow{\Delta} PbO + NO_2 + O_2$
 - $Al_2O_3 + NaOH \rightarrow NaAlO_2 + H_2O$
 - $Al + FeSO_4 \rightleftharpoons Al_2(SO_4)_3 + Fe$
- What is the colour of ferrous sulphate crystals? How does this colour change after heating.
 - Name the product formed on strongly heating ferrous sulphate crystals. What type of chemical reaction occurs in this change?
- What is observed when a solution of potassium iodide is added to a solution of lead nitrate taken in a test tube?
 - What type of reaction is this?
 - Write a balanced chemical equation to represent the above reaction?
- Why is silver bromide stored in dark coloured bottles in laboratories? Write the chemical equation to justify your answers.
- In the electrolysis of water:
 - Name the gas collected at the cathode and anode respectively.
 - Why is the volume of gas collected at one electrode is double than the other?

(c) Define the type of reaction involved.

10. State the reason for the following :

(i) Potato chips manufacturers usually flush bags of chips with nitrogen gas.

(ii) Iron articles lose their shine gradually.

(iii) Foods should be kept in air tight containers.

- **Note**

(i) Prepare 10 MCQs from chemistry and 10 MCQs from physics.

(ii) Prepare 5 Assertion - Reason based questions from Physics and 5 questions from Chemistry.



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Social Science

Subjective questions

1. "Some human activities such as deforestation, over grazing, mining and quarrying too have contributed significantly in land degradation". How?
2. 'Culture played an important role in creating the idea of the nation: support the statement with examples.
3. 'Sharing of power is an essential component of democracy. Prove the statement.
4. Describe any five condition or aspects that you would consider before accepting a job.

Activity work/Research.

1. Which is the top 10 biggest forest state in India? Locate on map in artistic way.
2. Research on Hasdeo Jungle and mining activity. Make a report with current photograph.

Project file-

Roll no 1 to 12 – Multipurpose River Valley projects.

Roll no 13 to 24 – Development and changes in Agriculture of India.

Roll no 25 to 30 – Industrial Pollution and environmental degradation.

Roll no 31 to 40 – Tourism

Roll no 41 to 50 – Sustainable development

Required pages – Certificate, acknowledgement, Index, bibliography.

- Read Lesson 2 in the, 2ch in geo and extract new words and write in your note book.