

# **D.A.V PUBLIC SCHOOL**

**Affiliated to CBSE (10+2) New Delhi**  
**Sec-3, Dhurwa, Ranchi 4**

## **SUMMER VACATION HOLIDAY HOMEWORK** **SESSION:- 2025-2026**

### **Class X**

#### **Biology**

Q.I. Answer the following questions :-

1. How does amoeba engulf its food?
2. Why nutrition necessary for an organism?
3. What happens to the carbon dioxide which collect in human tissue?
4. How do plants obtain food? What are the two phases of photosynthesis?
5. What happens today rate of breathing during vigorous exercise and why?
6. What are the functions of liver and pancreas?
7. Mention the functions of bile.
8. What are the stomata and lenticel?
9. How is respiration different from breathing?
10. Define nutrition . What are the different mode of nutrition?
11. Why is diffusion insufficient to meet the oxygen requirements of multicellular organisms like humans ?
12. What criteria do we use to decide whether something is alive ?
13. What are outside raw materials used by an organism ?
14. What processes would you consider essential for maintaining life ?
15. Where do plants get each of the raw materials required for photosynthesis ?
16. What is the role of the acid in our stomach ?
17. What is the function of digestive enzymes ?
18. How is the small intestine designed to absorb digested food ?
19. What advantage over an aquatic organism does a terrestrial organism have with regard to obtaining oxygen for respiration ?
20. What are the different ways in which glucose is oxidised to provide energy in various organisms ?
21. How are the lungs designed in human beings to maximise the area for exchange of gases ?

Q.II. Draw the following diagram:

Human digestive system

Human respiratory system

Open and closed stomata

Q. III.. Project work

Make a project on natural resources

Prepare a brief write up on the topic -Natural resources

Types of natural resources - air, water and soil.

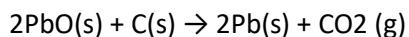
Biogeochemical cycle - oxygen, water, nitrogen, carbon dioxide cycle.

Global warming and ozone layer depletion.

## **CHEMISTRY**

Answer the following question.

1. Which of the statements about the reaction below are incorrect?



(a) Lead is getting reduced. (b) Carbon dioxide is getting oxidised.

(c) Carbon is getting oxidised. (d) Lead oxide is getting reduced.

(i) (a) and (b)

(ii) (a) and (c)

(iii) (a), (b) and (c)

(iv) all

2.  $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$

The above reaction is an example of a

(a) combination reaction.

(b) double displacement reaction.

(c) decomposition reaction.

(d) displacement reaction.

3. What happens when dilute hydrochloric acid is added to iron fillings? Tick the correct answer

(a) Hydrogen gas and iron chloride are produced.

(b) Chlorine gas and iron hydroxide are produced.

(c) No reaction takes place.

(d) Iron salt and water are produced.

4. What is a balanced chemical equation? Why should chemical equations be balanced?

5. Translate the following statements into chemical equations and then balance them.

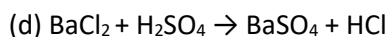
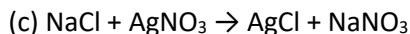
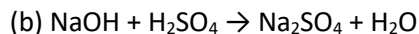
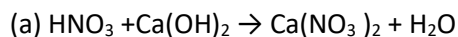
(a) Hydrogen gas combines with nitrogen to form ammonia.

(b) Hydrogen sulphide gas burns in air to give water and sulphur dioxide.

(c) Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of barium sulphate.

(d) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.

6. Balance the following chemical equations.



7. Write the balanced chemical equations for the following reactions.

(a) Calcium hydroxide + Carbon dioxide  $\rightarrow$  Calcium carbonate + Water

(b) Zinc + Silver nitrate  $\rightarrow$  Zinc nitrate + Silver

(c) Aluminium + Copper chloride  $\rightarrow$  Aluminium chloride + Copper

(d) Barium chloride + Potassium sulphate  $\rightarrow$  Barium sulphate + Potassium chloride

8. Write the balanced chemical equation for the following and identify the type of reaction in each case.

(a) Potassium bromide(aq) + Barium iodide(aq)  $\rightarrow$  Potassium iodide(aq) + Barium bromide(s)

(b) Zinc carbonate(s)  $\rightarrow$  Zinc oxide(s) + Carbon dioxide(g)

(c) Hydrogen(g) + Chlorine(g)  $\rightarrow$  Hydrogen chloride(g)

(d) Magnesium(s) + Hydrochloric acid(aq)  $\rightarrow$  Magnesium chloride(aq) + Hydrogen(g)

9. What does one mean by exothermic and endothermic reactions? Give examples.

10. Why is respiration considered an exothermic reaction? Explain.

11. Why are decomposition reactions called the opposite of combination reactions? Write equations for these reactions.

12. Write one equation each for decomposition reactions where energy is supplied in the form of heat, light or electricity.

13. What is the difference between displacement and double displacement reactions? Write equations for these reactions.

14. In the refining of silver, the recovery of silver from silver nitrate solution involved displacement by copper metal. Write down the reaction involved.

15. What do you mean by a precipitation reaction? Explain by giving examples.

16. Explain the following in terms of gain or loss of oxygen with two examples each.

(a) Oxidation (b) Reduction

17. A shiny brown coloured element 'X' on heating in air becomes black in colour. Name the element 'X' and the black coloured compound formed.

18. Why do we apply paint on iron articles?

19. Oil and fat containing food items are flushed with nitrogen. Why?

20. Explain the following terms with one example each.

(a) Corrosion (b) Rancidity

## **CHEMISTRY PROJECT**

Performing and observing the following reactions and classifying them into:

a) Combination reaction

b) Decomposition reaction

c) Displacement reaction

d) Double displacement reaction

## **PHYSICS**

1. State the laws of refraction of light. If the speed of light in vacuum is  $3 \times 10^8$  ms<sup>-1</sup>, find the speed of light in a medium of absolute refractive index 1.5.

2. Which phenomenon is responsible for making the path of light visible?

3. When we place a glass prism in the path of a narrow beam of white light a spectrum is obtained.

4. What happens when a second identical prism is placed in an inverted position with respect to the first prism? Draw a labeled ray diagram to illustrate it.

5. The power of the lens is -4.0D. What is the nature of this lens?

6. Which type of mirror is used to give erect and enlarged image of an object?

7. Answer all the questions of 'Light' and 'Human eye' from both NCERT and Foundation Science.

# **SST (Economics)**

## **Model -**

1. **Prepare a model of Development plans in India .**

## **Project Work - (Art integrated based)**

- **Make a project on the topic of Consumer Rights .**

## **Copy work -**

Answer these questions:-

1. Which of the following neighboring countries has better performance in terms of human development than India?

(i) Bangladesh

(ii) Sri Lanka

(iii) Nepal

(iv) Pakistan

2. Assume there are four families in a country. The average per capita income of these families is Rs 5000. If the income of three families is Rs 4000, Rs 7000 and Rs 3000 respectively, what is the income of the fourth family?

(i) Rs 7500

(ii) Rs 3000

(iii) Rs 2000

(iv) Rs 6000

3. In what respects is the criterion used by the UNDP for measuring development different from the one used by the World Bank?

4. Kerala, with lower per capita income, has a better human development ranking than Punjab. Hence, per capita income is not a useful criterion at all and should not be used to compare states. Do you agree? Discuss.

5. Find out the present sources of energy that are used by the people in India. What could be the other possibilities fifty years from now?
6. What is the main criterion used by the World Bank in classifying different countries? What are the limitations of this criterion, if any?
7. Why is the issue of sustainability is important for development?
8. "The Earth has enough resources to meet the need of all but not enough to satisfy the greed of even one person." How is this statement relevant to the discussion of development? Discuss.

## **GEOGRAPHY**

- **Prepare a model of soil profile.**
- **Project Work -**  
**Make a project on the topic of the Indian agriculture system.**

### **Copy work -**

1. What do you mean by resources?
2. How can we transform materials available in the environment?
3. What are individual resources? give examples.
4. Define National resources.
5. Why is conservation of resources important to all levels?
6. What factors are involved in resource planning in India?
7. Write any three factors which are responsible for large scale deforestation in India?
8. Explain three reasons why we need to save the biodiversity of our planet?

## **COMPUTER**

**Answer the following questions.**

1. Define the network with an example.
2. What are the feature of LAN?
3. Explain characteristics of wan.

4. Write short notes on WI-FI and WIMAX.
5. Describe any two internet used by used by Web.
6. Define E-mail and its benefits
7. Write down the difference between Downloading and Uploading.
8. Define Bluetooth.
9. Write one characteristic each for 2G and 3G mobile technologies.
10. What is e-Shopping? What type of products can you buy from e-Shopping?

## **MATH**

### **Section A - In Homework copy**

1. Find the HCF of 56 and 72.
2. Express 180 as a product of its prime factors.
3. Determine whether the decimal expansion of  $7/11$  is terminating or non-terminating repeating. Explain how you determined your answer.
4. Prove that  $\sqrt{2}$  is an irrational number.
5. Find the degree of the polynomial  $4x^3 - 3x^2 + 2x - 5$
6. If  $x = 2$  is a zero of the polynomial  $p(x) = x^2 - 4x + 4$ , find the other zero.
7. Factorize the polynomial  $x^2 + 5x + 6$ .
8. Use the Remainder Theorem to find the remainder when  $x^3 - 3x^2 + 2x - 5$  is divided by  
 $x - 1$ .
9. Verify if  $x - 2$  is a factor of the polynomial  $x^2 - 2x - 8$ .
10. Write a polynomial whose sum of zeroes and product of zeroes are respectively:
  - a)  $-2, 4$
  - b)  $\frac{1}{2}, 2$
  - c)  $3, 5$
11. Solve the system of equations graphically:

a)  $x + y = 10$

$$x - y = 2$$

b)  $2x + 3y = 20$

$$x + 4y = 10$$

12. Solve the system of equations using the substitution method:

$$3x + 4y = 10$$

$$2x - 2y = 2$$

13. Solve the system of equations using the elimination method:

$$x + y = 5$$

$$2x - 3y = 4$$

14. A part of monthly hostel charges is fixed, and the remaining depends on the number of days one has taken food in the mess. When a student A takes food for 20 days, she has to pay ₹1000 as hostel charges, whereas a student B, who takes food for 26 days, pays ₹1180 as hostel charges. Find the fixed charges and the cost of food per day.([BYJU'S][2])

15. The sum of two numbers is 50, and their difference is 10. Find the numbers.

### **Section B- Maths Projects (in bio file)**

1. Exploring the Golden Ratio: Investigate the occurrence of the golden ratio in nature, architecture, and art. Create a report detailing your findings and present examples

2. History of Zero: Write a short essay on the history and significance of the number zero in mathematics.

3. Famous Mathematicians: Research a famous mathematician and write a biography highlighting their contributions to mathematics.

4. Find out how fractals are made. Give examples of fractals in the field of communication and fractals in nature.



## ❑ Section C-Art Integrated Mathematics Project (in scrap book)

Title: "Mathematical Patterns in Nature" Study mathematical patterns found in nature, such as the Fibonacci sequence in sunflower spirals or symmetry in leaves.

Create an artwork that incorporates these patterns. This could be a drawing, painting, or digital art piece.

Assessment Criteria

- \* Creativity and originality in the artwork.
- \* Understanding and application of mathematical concepts.
- \* Clarity and coherence in the presentation.

## SANSKRIT

प्रश्न - 1 शुचि पर्यावरण पाठ का शोक अनुवाय और अर्थ लिखें।

प्रश्न - 2 बुद्धि बलवती सदा पाठ का हिंदी में अर्थ लिखो।

प्रश्न - 3 प्रदूषण कितने प्रकार का होता है जल प्रदूषण और वायु प्रदूषण के विषय में 10 वाक्य संस्कृत में लिखो।

प्रश्न - 4 प्रदूषण का निवारण कैसे कर सकते हैं विस्तार पूर्वक लिखो।

प्रश्न- 5 प्रश्ननां उत्तराणि संस्कृत भाषायाम् लिखत्।

क- स्वस्थः जीवनाय कीदृशे वातावरणे भ्रमणीयम्?

ख - अन्तिमे पद्यान्शे कवेः का कामना अस्ति?

ग- लोके महतो भयात् कः मुच्यते?

घ - बुद्धिमती शृगालं किं उक्तवती?

ङ - व्याघ्रः किं विचार पलायितः?

प्रश्न -6 संधि विच्छेदं कुरुत।

पितुर्गृहम्, एकैकः, अन्योऽपि, इत्युक्ता, यत्रास्ते, प्रकृतिरेव, स्यान्नैव, वहिन्तर्जगति,  
गायकः, मध्वस्ति।

प्रश्न -7 समास विग्रह कुरुत।

प्रतिदिनं, वासभवनं, रामलक्ष्मणौ, यथाविधि, मातापितरौ, कृष्णा श्रितः, दैवरक्षितं,  
शताब्दी, नवरत्नम्, उपकृष्णम्, यथाविधि।

प्रश्न- 8 मम् विद्यालयः पर 15 वाक्य का निबंध संस्कृत में लिखें।

प्रश्न - 9 प्रत्यय लिखो।

पठितव्यः, अर्चनीयः, गन्तव्यः, शीलवान्, भानुमत्, हनुमत्, वस्तव्यः,  
कर्तव्य, मूषिका, कुमारी

प्रश्न -10 मञ्जूषायां प्रदत्तं प्रथमां सहायता शुल्कक्षमानार्थम् प्रधानाचार्याय लिखितम्  
प्रार्थना पत्रं पूरयति।

( प्रोजेक्ट वर्क A4 साइज पेपर में बनाना है)

प्रश्न -11 संस्कृत साहित्य के बारे में विस्तार पूर्वक लिखो और संस्कृत साहित्य के पांच  
कवियों के बारे में लिखकर उनका चित्र बनाएं या चिपकाए।

प्रश्न- 12 घड़ी बनाएं और संस्कृत में समय लिखें।

2:00, 3:15 7:45 10:30 4:15

## **ENGLISH**

(1) Power foods are foods that provide rich levels of nutrients like fibre, potassium and minerals. With people becoming increasingly health conscious today, a lot of fitness trainers encourage their clients to include these foods in their daily diet to increase muscle development. There are various ways of incorporating power foods in your daily diet. Of course, the key to enjoying power foods is proper preparation of these foods, the use of season-fresh foods, and indentifying your choice of flavour among power foods.

(2) Some of the recommended power food combinations are those that are prepared in our kitchens on a regular basis. Take for instance, the combination of chickpeas and

onions. This combination is a powerful source of iron which is required by the body to transport oxygen to its various parts. Iron deficiency can lead to anaemia, fatigue, brain fog and tiredness. A study by the Journal of Agricultural and Food Chemistry says that sulphur compounds in onion and garlic help in the absorption of iron and zinc from chickpeas. The combination is a hit with teenagers who need to be diligent about getting iron in their diet. A quick way to prepare this power food is to make a chickpea salad with chopped onions, chaat masala and cilantro.

(3) Another favorite combination with power food takers is yoghurt and bananas. This makes for a perfect snack after a rough game of football. Exercising burns glucose and thus lowers blood sugar. Yoghurt is packed with proteins that help preserve muscle mass, and bananas are packed with carbohydrates that help in refueling energy and preventing muscle soreness. A quick and easy recipe with bananas is a banana smoothie topped with cool yoghurt

(4) Among beverages, green tea is the best source of catechins that are effective in halting oxidative damage to cells. According to researchers at Purdue University, adding a dash of lemon juice to green tea makes the catechins even more easily absorbable by the body. So, the next time you have instead of are friends serve them rounds of iced green tea with mint and lemon juice.

1. Answer the following question

- a) What are power foods?
- (b) What are the rules regarding the partaking of power foods?
- (c) What is the advantage of including onions and garlic in our diet?
- (d) Suggest a quick recipe with chickpeas and onions.
- (e) Why is yoghurt and bananas, an enriching power food?
- (f) Why is green tea a recommended power food?
- (g) . What is the advantage of combining green tea with lemon juice?
- (h) What is the key to enjoying power foods in a wholesome way?

2. Answer the following questions a) Why did Lencho's happiness change into deep concern?

b) In the hearts of all who lived in that solitary house ..., there was a single hope ....' What was that?

c) How did the postmaster react when a postman showed him the letter to God?

Q2) Analytical Paragraph

a) The data given below shows international brands of shoes and their respective shares in the high-end shoe market in India in the year 2020. Study the data carefully and write an analytical paragraph in 100-120 words giving the general trends and other necessary details. Don't forget to compare the segments where relevant.

Nike : 20%

Bata : 15%

Adidas: 15%

Woodland: 10%

Lee Cooper: 10%

Fila: 8%

Puma: 12%

Others: 10%

b) 'Beti Bachao, Beti Padhao' Meri an empty slogan. It is a great shame that in spite of all our talks India remains one of the most insecure places for girls and women. Write an analytical paragraph in 100 to 120 words taking help from the verbal input given below.

Hints:- Beti bachao and Beti padhao - a great slogan - proved hollow - wishful statements - little follow up actions - crime against girls and women in Haryana, Delhi, UP and other states - child marriage - dowry - female infanticide - negligible representation in legislature - women not safe.

### GRAMMAR

Q3) Fill up the blanks by using the correct tense form of the verbs given in brackets.

(i) Kate Middleton may (a) \_\_\_\_\_ (be) looked dainty and fairly- like wedding gown but (b) \_\_\_\_\_ (talk) doing the rounds (c) \_\_\_\_\_ (be) that the dress bore a striking similarity with Grace Kelly's wedding outfit. Royal wedding fans could not (d) \_\_\_\_\_ (help) noticing that the both the brides (e) \_\_\_\_\_ (wear) dramatic gowns with similar V- shaped necklines and long white lace sleeves at their, respective weddings, (f) \_\_\_\_\_ (report) the New York Daily.

Q4) Read the following paragraph and fill in the blanks with appropriate determiners.

There are so (a) \_\_\_\_\_ ways of entertainment in life. (b) \_\_\_\_\_ circus is one of the most entertaining media. Last Sunday (c) \_\_\_\_\_ of (d) \_\_\_\_\_ friends went to see the Diamond Circus. My uncle took us there. (e) \_\_\_\_\_ one paid for (f) \_\_\_\_\_ ticket.

### LITERATURE

Q5) Explain the following literary devices and cite suitable examples:-

- a) Simile. b) Metaphor
- c) Personification. d) Alliteration
- e) Repetition. f) Oxymoron
- g) Refrain. h) Hyperbole
- i) Allusion. j) Apostrophe
- k) Irony. l) Paradox
- m) Onomatopoeia

Summer break is for the students to relax and rejuvenate themselves. It is hoped that you find the following assignment an interesting learning exercise. Design the first page of your assignment as your portfolio which should have the following details:

Name, class & section

Passport sized latest photograph

Self-introduction in 50 words

Write an autobiography about two writer and two poet

One Autobiography must be 7 pages.

## HINDI

1) क्षितिज - सूरदास के पद, नेताजी का चश्मा .प्रश्न उत्तर लिखो और याद करो (पढ़ाए गए पाठों की पुनरावृत्ति करें।)

2) अलंकार की परिभाषा लिखो ..रूपक अलंकार, उपमा अलंकार ,उत्प्रेक्षा अलंकार ,मानवीकरण अलंकार और अतिशयोक्ति अलंकार की परिभाषा लिखकर 5 - 5 उदाहरण लिखो और याद करो लिखो।

3) संज्ञा और सर्वनाम का परिभाषा और भेद 5 - 5 उदाहरण के साथ लिखो और याद करो।

4) दो औपचारिक तथा अनौपचारिक पत्र लिखे ।

5) अनुच्छेद लेखन.

- परीक्षा से पहले मेरी मनोदशा,

मन के हारे हार है , मन के जीते जीत

6) project . झारखंड के साहित्यकार (पांच साहित्यकार पर आधारित होना चाहिए)

DAV PUBLIC SCHOOL  
Sec. 3, DHURWA, RANCHI-4  
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Class-X

Sub:-HISTORY

**HOLIDAY HOMEWORK**

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1. Why did nationalist tensions emerge in the Balkans ?
2. How was the history of nationalism in Britain unlike rest of Europe ?
3. Who were Marianne and Germania ? What was the importance of way in which they were portrayed ?
4. briefly trace the process of German unification.
5. What was the Zollverein ? What were its wider implications ?
6. Describe the role of Otto von Bismarck in the making of Germany.
7. Why did Frederic Sorrieu present utopian vision in his prints in 1848 ? Explain one reason.
8. What were the major proposals of the Vienna congress ?
9. What were the various impacts of French Revolution ?
10. What area was known as the Balkans ?
11. Explain any five reforms introduced by Napoleons in the regions under his control.

**PROJECT WORK**

1. Project work Art-Integrated project on Rise of Nationalism in Europe.

## CIVICS

1. Sharing of power makes people more powerful. Give reasons.
2. What are the different form of power sharing in modern democracies ? Give an example of each of these.
3. State one prudential reason and one moral reason for power sharing with an example from the Indian Context.
4. Describe the ethnic composition of Belgium.
5. Describe the ethnic composition of Sri Lanka.
6. Describe the way in which power can be shared among government at different levels.
7. Give a comparative analysis between Belgium and India in the sphere of area.
8. What were the Majoritarian measures taken in Sri Lanka to establish Sinhala supremacy ?
9. Differentiate between horizontal and vertical division of powers.
10. Compare the situation of Belgium and Sri Lanka considering their location size and cultural aspects.
11. Evaluate the power sharing system in India.

## PROJECT WORK

1. Art-Integrated project work on power sharing.