



# DELHI PUBLIC SCHOOL JAMMU

## Holiday Homework

for

## Classes IX - XII

### Session 2019-20



Dear Parents,

True education starts from home. Parents are the first teachers and they have a key role in shaping up the character of their children. A balance of education at home and school moulds a student's actual learning.

If parents extend a helping hand in the educational journey of their children and inspire them with hope and values, we will create successful, wholesome and future ready human beings.

Here are a few ways which parents can adopt to help with their children's education:

- ▶ Become a partner in your children's education. Show them how exciting and meaningful a school life can be, if they give out their best.
- ▶ Doing things together with parents gives children a sense of support and confidence. Reading books or the lessons together is one of the best ways to be close with the child's learning at school.
- ▶ The general habits of the children are closely linked with how they perform in their studies. Help them to be more organized with their daily routine and find enough time for the lessons.
- ▶ Remember: Lessons + Play time + Rest = Quality Student Life.
- ▶ Avoid unnecessary quarrels in your child's presence. Both parents should ensure that the kids are provided with adequate moral support and peaceful, loving and pleasant atmosphere at home.
- ▶ If you notice that your children are not performing well or giving less importance to studies, correct them at the beginning itself. Make them understand what is right and wrong rather than using ill words to blame them.
- ▶ When it is their exam time, don't leave them alone with their lessons. Help them to prepare for the tests with good guidance and support. You may even conduct mini tests at home before the actual test to lessen their exam worries and tensions.
- ▶ Kindly avoid unnecessary trips or functions that can affect their study schedule. Don't encourage your children to take unnecessary leaves from school for silly matters and make them understand the importance of daily class attendance.
- ▶ Lastly, make efforts to know your child's areas of interests and include them in the holiday time to give them a good relief from the stress of studies.

**IMPORTANT:** Many studies and surveys have shown that parent's involvement in their children's education has led to their better grades at school, higher self-esteem, better social skills and improved behaviour.

We hope that, in coming times we would see improved parent-child- teacher relationship and together we can " fulfil the promise of our children's tomorrow."

Happy Parenting!! Happy Holidays!!

Principal  
DPS Jammu

**DELHI PUBLIC SCHOOL, JAMMU**  
**HOLIDAY HOME WORK**  
**SESSION : 2019-20**

**CLASS : XII**

**SUBJECT : ENGLISH**

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**Do all the following questions in English Home-work Notebook.**

**1. Do the following questions .**

- a) Attempt any 5 questions on Notice writing.
  
- b) Attempt the following 5 questions of classified Advertisement.
  - i) Situation Vacant
  - ii) Sale/Purchase ( Property and Vehicle )
  - iii) Lost and Found
  - iv) Travel and Tours
  - v) Missing Persons and Pets
  
- c) **Write the following letters.**
  - i) 3 Letters of complaint    ii) 3 Letters of Placing Order
  - iii) 4 Letters to the Editor of a newspaper
  - iv) Write Articles on the following in 150-200 words each.
    - Need for inculcating Healthy Dietary Habits
    - Social Networking—A Boon or a Bane
    - Role of Students in Removing Illiteracy
    - Impact of Advertisement on Younger Generations
    - Importance of Time Management

**2. Read Newspaper Everyday and do the following:**

Paste 5 Articles from the Newspaper in the Notebook and write summary of each article in 120 words.

**DELHI PUBLIC SCHOOL, JAMMU**  
**HOLIDAY HOMEWORK**  
**SESSION 2019-20**

**CLASS XII**

**SUBJECT: PHYSICS**

Prepare a **Project** and a **Project Report** .

*General Guidelines:*

- The project chosen should be from any of the topics from XII class curriculum. Some of them are listed below:
  - (i) Electromagnetic Induction
  - (ii) Diffraction of light
  - (iii) Light Dependent Resistor
  - (iv) Electroscope
  - (v) Eddy currents
  - (vi) Transformer
  - (vii) Logic gates
  - (viii) Rectifier
  - (ix) Photo diode
- You can also choose any one from the suggested investigatory projects recommended by the CBSE.
- Report of your project should be hand written and should be according to the format mentioned below.
  - Name/ Title of the project
  - List of components used along with their specifications
  - Theory/ principle behind the working of project
  - Related diagrams
  - Working in detail /procedure
  - Further modifications (if any) can be done
  - Bibliography

**DELHI PUBLIC SCHOOL, JAMMU**  
**HOLIDAY HOMEWORK**  
**(2019-2020)**

**Class-XII**

**Sub- Chemistry**

- . Make a holiday homework notebook for all the NCERT question of chapter-solution, electrochemistry ,chemical kinetics.
- . Complete your investigatory project (any one)
  - i) Study of quantity of casein present in different samples of milk
  - ii) Extraction of essential oils present in saunf (aniseed), Ajwain (carum) and Illaichi (cardimoni).
  - iii) Study of common food adulterant in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.
  - iv) Comparative study of the rate of fermentation of following material wheat flour, gram flour, potato juice, carrot juice etc.
  - v) Preparation of soyabean milk and its comparison with the natural milk with respect to curd formation effect of temperature etc.
    - a) Compare your results with those available in the reference books.
    - b) Discuss your results in the light of available information about the project and draw out meaningful conclusion.
- 1. Make use of , graphs, photographs, diagrams or models to support your observations and conclusions.
- 2. Give a list of books, magazines/journals and internet sites you have consulted during the course of your project.
- 3. Acknowledge the guidance, help and assistance rendered by your Principal, teachers, parents, and friends by expressing sincere gratitude and thanks to them in the beginning.

**I.3 How to write an investigatory project:**

Students are required to get their project report typed on bond paper sheets and to represent in the best possible manner. The project report should be written in the following sequence:

1. Title / Aim – Name of the project.
2. Introduction – Information collected from various sources related to the topic.
3. Observations – Record your observations / data in the form of tables, graphs, photographs, etc.

**DELHI PUBLIC SCHOOL, JAMMU**  
**Holiday Home Work (2019-2020)**

**Subject: Biology**

**Class: XII**

**Science operates on the edge of what is known, to discover more about what is not... we have to be a person of what we can do to explore being young scientists.....**

**I.1 Make an investigatory project on any of the following topics:**

For selection of the topic for the project, you work and read different chapters of your syllabus and also consult scientific literature, magazines, and newspapers, go and use search engines of internet, etc. Then select the topic of your interest.

- ✓ Importance, usage and preparation of bio-insecticides and pesticides.
- ✓ Population Explosion and Control.
- ✓ Organic Farming / Organic Agriculture.
- ✓ HUMAN DISEASES Any human disease can be taken as a topic and collect the complete information with statistical data and a support of statistical analysis about the same questioners.
- ✓ Effect of salinity of water on the growth of one type of plant.
- ✓ Effect of pH of water on the growth of one type of plant.
- ✓ Applications of Biotechnology.
- ✓ Genetically Modified Organisms.
- ✓ Environmental Pollution.
- ✓ Drug Addiction and Control.

**I.2 Following points should be kept in mind while performing the experiments for the project work.**

1. Compare your results with those available in the reference books.
2. Discuss your results in the light of available information about the project and draw out meaningful conclusion.
3. Make use of histograms, graphs, photographs, diagrams or models to support your observations and conclusions.
4. Give a list of books, magazines/journals and internet sites you have consulted during the course of your project.

**DELHI PUBLIC SCHOOL, JAMMU**  
**HOLIDAY HOME WORK**  
**SESSION: 2019-20**

CLASS: XII

SUBJECT: MATHEMATICS

1. Discuss the continuity of the following functions:

a)  $f(x) = \begin{cases} \frac{1-x^m}{1-x}, & \text{if } x \neq 1 \\ m-1, & \text{if } x = 1 \end{cases}$  ;  $m \in \mathbb{N}$ , at  $x=1$ .

b)  $f(x) = \begin{cases} \frac{|x^2-1|}{x-1}, & \text{if } x \neq 1 \\ 4, & \text{if } x = 1 \end{cases}$  ; at  $x=1$ .

2. Find the value of a for which the function f defined by

$$f(x) = \begin{cases} a \sin \frac{\pi}{2}(x+1), & x \leq 0 \\ \frac{\tan x - \sin x}{x^3}, & x > 0 \end{cases} \text{ is continuous at } x=0.$$

3. A car driver is driving a car on the dangerous path given by

$$f(x) = \begin{cases} \frac{1-x^m}{1-x} & x \neq 0 \\ m-1, & x = 0 \end{cases} ; ; m \in \mathbb{N}$$

Find the dangerous point (point of discontinuity) on the path.

4. Find the values of a and b so that the function f given by

$$f(x) = \begin{cases} 1, & \text{if } x \leq 3 \\ ax + b, & \text{if } 3 < x < 5 \\ 7, & \text{if } x \geq 5 \end{cases} \text{ is continuous at } x=3 \text{ and at } x=5.$$

5. The function f(x) is defined as  $f(x) = \begin{cases} x^2 + ax + b, & 0 \leq x < 2 \\ 3x + 2, & 2 \leq x \leq 4 \\ 2ax + 5b, & 4 < x \leq 8 \end{cases}$

If f(x) is continuous on [0,8], find the values of a and b.

6. Let  $f(x) = \begin{cases} \frac{1-\sin^3 x}{3\cos^2 x}, & \text{if } x < \frac{\pi}{2} \\ a, & \text{if } x = \frac{\pi}{2} \\ \frac{b(1-\sin x)}{(\pi-2x)^2}, & \text{if } x > \frac{\pi}{2} \end{cases}$ . If f(x) is continuous at  $x = \frac{\pi}{2}$ , find a and b.

7. Check the continuity of the function  $f(x) = \begin{cases} \frac{\sin 3x}{\tan 2x} & \text{if } x < 0 \\ \frac{3}{2} & \text{if } x = 0 \\ \frac{\log(1+3x)}{e^{2x}-1} & \text{if } x > 0 \end{cases}$  at  $x=0$ . Show that the volume

8. An open box with a square base is to be made out of a given quantity of card board of area  $c^2$  square units. Show that the maximum volume of the box is  $c^3/6\sqrt{3}$  cubic units .

9 Show that the semi-vertical angle of the cone of maximum volume and of given slant height is  $\tan^{-1} \sqrt{2}$  .

10 Prove that the radius of the base of right circular cylinder of greatest curved surface area which can be inscribed in a given cone is half that of the cone.

11 A window of perimeter (including the base of the arc ) is in the form of a rectangle surrounded by a semi circle. The semi-circular portion is fitted with coloured glass while the rectangular part is fitted

with clear glass. The clear glass transmits three times as much light per square meter as the coloured glass does. Show that the ratio of the length and breadth of the rectangle is  $6:6+\pi$ , so that the window transmits maximum light.

- 12 Show that the right circular cone of least curved surface area and given volume has an altitude equal to  $\sqrt{2}$  times the radius of the base.
- 13 A jet of enemy is flying along the curve  $y=x^2+2$  and a soldier is placed at the point (3, 2). Find the minimum distance between the soldier and the jet.
- 14 If the sum of the lengths of the hypotenuse and a side of a right-angled triangle is given, show that the area of the triangle is maximum when the angle between them is  $\frac{\pi}{3}$ .
- 15 Show that the height of the cylinder of maximum volume that can be inscribed in a cone of height  $h$  is  $\frac{1}{3}h$ .
- 16 A tank with rectangular base and rectangular sides open at the top is to be constructed so that its depth is 2m and volume is  $8\text{m}^3$ . If building of tank cost Rs. 70 per sq meter for the base and Rs. 45 per sq meter for the sides. What is the cost of least expensive tank?
- 17 A given rectangular area is to be fenced off in a field whose length lies along a straight river. If no fencing is needed along the river, show that the least length of fencing will be required when length of the field is twice its breadth.
- 18 A given rectangular area is to be fenced off in a field whose length lies along a straight river. If no fencing is needed along the river, show that the least length of fencing will be required when length of the field is twice its breadth.
- 19 Show that the semi-vertical angle of the cone of maximum volume and of given slant height is  $\tan^{-1}\sqrt{2}$ .
- 20 Prove that the radius of the base of right circular cylinder of greatest curved surface area which can be inscribed in a given cone is half that of the cone.
- 21 Show that the semi vertical angle of right circular cone of given surface area and maximum volume is  $\sin^{-1}\left(\frac{1}{3}\right)$ .
- 22 Show that the height of the cylinder of maximum volume that can be inscribed in a sphere of radius  $R$  is  $\frac{2R}{\sqrt{3}}$ . Also find the maximum volume.
- 23 Show that the right circular cone of least curved surface area and given volume has an altitude equal to  $\sqrt{2}$  times the radius of the base.
- 24 If the sum of the lengths of the hypotenuse and a side of a right-angled triangle is given, show that the area of the triangle is maximum when the angle between them is  $\frac{\pi}{3}$ .
- 25 A given rectangular area is to be fenced off in a field whose length lies along a straight river. If no fencing is needed along the river, show that the least length of fencing will be required when length of the field is twice its breadth.

# **DELHI PUBLIC SCHOOL, JAMMU**

**SESSION (2019-20)**

## **HOLIDAY HOMEWORK**

**CLASS:-XII**

**SUB:-PHYSICAL EDUCATION**

Q1. What do you understand by food myths? Discuss briefly about various food myths.

Q2. What are functions of protein in our body?

Q3. Is fat useful or not useful for us and for our body, explain.

Q4. Write about the various committees and their responsibilities.

Q5. Explain macro-nutrients and their role in our diet.

Q6. Mention all calculations and steps involved to draw a Knock-out fixture of 19 teams, where 4 teams are to be seeded.

Q7. Draw a fixture of 11 teams on the basis of league tournament using cyclic method. Explain British method to declare the winner.

Q8. What do you mean by balance diet? Explain the factors which affect the balance diet.

Q9. What are the pitfalls of dieting? Explain any five pitfalls in dieting.

Q10. Write short notes on: (i) National sports day (ii) Run for specific causes (iii) Run for unity (iv) Run for awareness.

Q11. Write three differences between Intramurals and Extramurals.

Q12. Write the advantages and disadvantages of knock-out tournament.

Q13. Discuss about seeding method with an Example?

**COMPUTER SCIENCE**  
**SESSION 2019-2020**  
**HOLIDAY HOME WORK**

**CLASS: XII**

*Note: Attempt all the questions in a separate holiday's Homework notebook.*

Q1. Differentiate between public and private visibility modes in context of Object Oriented Programming using a suitable example illustrating each.

Q2. What is difference between in structure and class?

Q3. Difference between "assignment operator" and a "copy constructor"

Q4. What is type def and size of operator in c++?

Q5. What is Actual parameter and formal parameter in c++?

Q6. What is difference between Local & Global? Explain

Q7. Differentiate between a default and a parameterized constructor in context of class and object. Give suitable example in C++.

Q8. Write a function in C++, which accepts an integer array and its size as parameters and rearranges the array in reverse. if an array of nine elements initially contains the elements as 4, 2, 5, 1, 6, 7, 8, 12, 10

Q9. Define a Class with example?

**Delhi Public School, Jammu**  
**Holiday Home-Work (2019-20)**

**Class: XII**

**Sub: Accountancy (055)**

**COMPREHENSIVE PROJECT STATEMENT “Reba Creations”**

Reba had studied fashion at the Institute of Fashion Technology (IFT). During the course of her training at the institute she had developed various designs for ladies and kids wear. She had held some exhibitions also. In the final year of her stay in the IFT she participated in a Fashion Show, where her creative designs were very much appreciated by buyers from all over India. By the time she came out of the IFT, her name was well known in the Fashion World.

She decided to set up her own Fashion Studio. She worked out the financial requirements which came to be Rs.10,00,000 to start with. She had Rs.4,00,000 of her own. She borrowed another Rs.6,00,000 from a friend from a friend of hers @ 6% p.a. for two years on April 1, 2018. She opened a Bank Account on that day with this money and later on she deposited Rs.3,00,000 out of the capital she invested in the form of cash. She had her own car which was worth Rs.80,000. She decided to use the same car in the business. She arranged a two room ground floor flat and she paid Rs.50,000 as security deposit and rent for five months in advance at the rate of Rs.2,000 per month. She bought four Sewing Machines for Rs.1,40,000. Office and Workshop furniture was also purchased for Rs.16,000. One designer and three tailors were employed. Fabric was purchased for Rs.50,000. Other dress accessories were purchased for Rs.15,000. She got some showcases built for Rs.20,000 in which she displayed all her creative designs which she had developed during her stay at IFT. She talked to all those buyers who had appreciated her work at the Fashion Show. Many of them showed their curiosity to visit her designer studio.

She formally inaugurated her boutique on 1<sup>st</sup> April 2018. It was named as “Reba Creations”. In the first week itself she received orders worth Rs.1,50,000. All sales were on credit for one month. The receipts from the customers were by cheques. All petty expenses were made through the cash account. All purchases were on credit for two weeks. In the month of August 2018, on 31<sup>st</sup> day she bought another set of four second hand sewing machines for Rs.1,20,000 and got them overhauled at the cost of Rs.10,000. By the end of December 31, 2018, she was well placed in her business. Her designs and new creations were in great demand. She had drawing Rs.8,000 per month for her private expenses. In the month of December she paid back Rs.4,00,000 out of the bank loan with interest which she had taken from her friend. On February 1, 2019 she sold two old Sewing Machines for Rs.40,000 and bought two brand new Sewing Machines for Rs.90,000.

During the year various expenses were incurred and payments were made. The following is the summary of such receipts and payments:

Receipts from the Debtors	25,00,000
Discounts allowed	12,000
Payments to creditors	14,00,000
Discount received	10,000
Salaries paid to Designer and Tailors for 11 months	1,32,000

Fire Insurance Premium paid on July 1, 2018	2,400
Advertising Expenses	15,000
Petty Expenses	50,000
Postage and Telephone Expenses	25,000
Trade Expenses	18,000
Travelling Expenses	30,000
Petrol & Gas Expenses	40,000
Rent paid @ Rs.2,000 p. m. (including the rent paid in advance)	22,000
Interest on Loan	18,000
Selling Expenses	12,000
Stationery Expenses	18,000
Office Expenses	25,000
Power Expenses	48,000

There was a fire in the godown and goods worth Rs.20,000 were destroyed. The Insurance Company accepted only Rs.12,000 as claim for the loss. Depreciation on all the fixed assets was to be charged at 10% for the full year irrespective of the year of purchase. On March 31, 2019, the following balances appeared in the books of the firm:

Trade Debtors	2,10,000
Trade Creditors	1,25,000
Cash in hand	50,000
Stock in Trade	6,80,000

Reba wants to judge her performance during the year. She thinks that she has some excess working capital unnecessarily locked.

You are required to prepare the following:

- Journalize the above transactions, post them into ledger accounts and prepare trial balance for the year ended 31st March, 2019.
- Trading and Profit and Loss Account for the year ending 31st March, 2018 and Balance sheet as at 31st March, 2019.

She needs to be guided in working capital management and for this she purpose she engages you as a Financial Advisor of the firm and thus you are required to prepare Financial Statements of "Reba Creations" Also give your valuable comments on her profitability and financial position along with operational efficiency.

**Note: Students are required to present their work (neatly handwritten) on plain white A4 sized sheets in Folders.**

**DELHI PUBLIC SCHOOL , JAMMU**

**HOLIDAY HOMEWORK (2019 -20)**

**CLASS : XII**

**SUB : BUSINESS STUDIES**

Prepare a project on marketing management .Students are required to select any one of the specified product /service keeping in mind the following.

1. Why have they selected this product /service?
2. Find out 5 competitive brands that exist in the market.
3. What permission and licences would be required to make the product?
4. What are your competitors Unique Selling Proposition (U.S.P)?
5. Does your product have any range give details?
6. What is the name of your product?
7. Enlist its features.
8. Draw the 'Label 'for your product.
9. Draw a logo for your product .
10. Draft a tag line.
11. What is the selling price of your competitor's product?
12. How will your product be packed?
13. Which channel of distribution are you going to use? Give reasons for selection.
14. Decisions related to warehousing, state reasons.
15. List 5 ways of promoting your product.
16. Any schemes for ..... i) The Wholesaler ii) To retailer iii) the consumer
17. What is going to be your U.S.P?
18. What means of transport you will use and why?
19. Draft a social message for your label.
20. What cost effective techniques will you follow for your product?
21. What cost effective techniques will you follow for your promotion plan?

Instructions for the Project:

- a) The total length of the project will be of 25 to 30 pages.
- b) The project should be hand written on A4 size sheets.
- c) The project should be presented in a neat folder.

The project report should be developed in the following sequence.

- Cover page ( Title , Student information , School & year )
- List of contents
- Acknowledgements
- Introduction
- Topic & Heading
- Planning
- Observations

**DELHI PUBLIC SCHOOL, JAMMU**

**Holiday Homework**

**Class: XII**

**Subject: Economics**

Prepare a Project on any one of the following topics:

1. GST
2. Demonetization
3. Money and Banking
4. Govt. Budget
5. Methods of National Income
6. Poverty
7. Unemployment

Mode of Presentation:

1. Meaning and Definition
2. Application of the concept
3. Diagrammatic Explanation
4. Numerical Explanation
5. Student's own views on the topic

Instructions:

1. The project should be hand written.
2. It should be of 20 -25 pages.
3. Use A4 size sheets for preparing the project and cover the folder.

# **Delhi Public School, Jammu**

## **Holiday Homework**

**(2019-20)**

**Class: XII**

**Subject: History**

### **Long Answer Questions**

Q1. What were the various characteristics features of Indus valley civilization?

Q2. What was the town planning of Mohenjo-Daro?

### **Map Based Questions**

On the map of India locate the following sites, cities, towns and kingdoms.

A) All the Mature Harappan sites.

B) Sixteen Mahajanpadas along with their capitals.

C) The distribution of Ashokan Inscriptions.

D) Some of the important towns and kingdoms during Muryan Empire.

E) The region and neighboring area of the Kuru Panchala.

**DELHI PUBLIC SCHOOL JAMMU**

**Holiday Homework**

**Session: 2019-20**

**SUBJECT Political Science**

**Class :XII**

**Each student is required to complete the project work on one of the following topics :**

**Topics:**

1. Cold War Era
2. The End of BI Polarity
3. Role of the US in the world politics with special to reference of Hegemony.
4. Functioning of ASEAN in current scenario.
5. Formation of the European Union.
6. Politics of south Asia.
6. International Organization (UNO)
7. Globalization and its impact
8. Rise of Popular Movements.
9. The Crisis of Democratic Order
10. Era of One Party dominance (1951-1964)
11. Challenges to the process of Nation Buildings (partition and its consequences).
12. India's External Relations especially with the Neighbours.
13. Challenges to the Restoration of the Congress System.
14. Regional Aspirations with special reference to the problem of J&k, Punjab Problem and North Eastern Problem.
15. Recent Trends in Indian Politics.
16. Environment and Natural Resources.

**Important note: Make these projects on a file.**

**DELHI PUBLIC SCHOOL JAMMU  
HOLIDAY HOMEWORK**

**CLASS: XII**

**SUBJECT: GEOGRAPHY**

**Each student is required to complete the practical work on one of the following topics :**

- **Measures of Central Tendency**
- **Graphical Representation of Data**
- **Correlation coefficient**

**Revise the following lessons:**

1. Human Geography: Nature and Scope
2. The world Population: Distribution, Density and Growth.
3. Population Composition
4. Human Development.
5. Primary Activities.

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