

**PRABHU DAYAL PUBLIC SCHOOL, SHALIMAR BAGH**

**HOLIDAY HOMEWORK 2024-25**

**CLASS-XII**

**“Success is the sum of small efforts repeated day in and day out.”**

**Dear Parents,**

Summer Vacation is a time for the children to enjoy and relax. These days are precious and valuable and can be made most from if judiciously used. We should always remind ourselves that children will not remember us for the gifts we shower upon them but will always cherish the time we spent with them. It is time to nurture young minds, inculcate moral values and narrate family anecdotes to keep them in touch with their roots.

It's summertime again! The time to strengthen family bond, tying threads of family tree, sharing joys and sorrows and having a good time together.

*Here are a few tips to make the vacation a fruitful time for your child:*

- Look for interesting books and read as much as you can about the places and people. Take good care of your health and hygiene. Avoid heavy and oily food and increase intake of fresh fruits and water to keep yourself well hydrated and energetic.
- Use Holiday Homework as an opportunity to spend quality time together. The role of the parent is to be a facilitator and guide to steer the child in the right direction.
- Encourage your child to take up yoga or any other form of healthy activity during the vacation.
- Involve children in household chores.
- Enjoy walking with them in parks and appreciate nature.

**General instructions:**

In order to keep our students well engaged and to revise and be thorough with the portions we have completed so far, we are sending the Summer Holiday Homework. We request parents to encourage the kids to finish their homework during the summer holidays. This will help them to have a revision of all the portions without over burdening them. Original work by the child shall be acknowledged and assessed.

Follow the guidelines given by teachers to complete specific activities.

**Happy holidays!**

## ENGLISH

Select **any one topic of your choice** and prepare the Project Work for CBSE Practical Exam. Do as Holiday Home Work.

1. The impact of globalization on the economy and society.
2. Exploring the role of technology in education.
3. Climate change: Causes, effects, and solutions.
4. Gender equality and women empowerment.
5. Mental health awareness and strategies for coping with stress.
6. The future of work: Automation, AI, and employment trends.
7. The role of media in shaping public opinion and democracy.
8. The impact of social media on interpersonal relationships.
9. Urbanization: Opportunities and challenges in developing countries.
10. Cyber security: Threats and preventive measures.
11. Present a brief report on the life and works of any ONE of the poets/authors of your choice.  
(from the prescribed texts)
12. Child Labour -a stumbling block on the road to development.

## POLITICAL SCIENCE

**I. Political Science Project: Create a project following the CBSE guidelines provided.**

**Topic: Assigned in the classroom (Roll No. Wise) Guidelines:**

1. This project is to be completed individually.
2. Handwritten project on A4 size sheets.
3. The project should be between 20-25 pages.
4. Ensure thorough research with facts, figures, dates, and visuals.
5. The project can include hypotheses and surveys to back up your research.

**II. Make it a habit to read the newspaper daily, especially the editorial section.**

**III. Review and revise the syllabus for PWT -I regularly.**

## **Geography**

### **Practical Work**

#### **Important Instructions**

- Do the Practical work On A3 sheets
- Sheets can be plain or coloured
- Don't use red colour for headings or written work
- Written work, diagrams, tables and maps should be legible and accurate

#### **Practical Work in Geography Part –II NCERT Textbook**

Chapter 1 -Data its Source and Compilation

Chapter 2- Data Processing

Chapter 3- Graphical Representation of Data

Chapter 4-Spatial Information Technology

### **Theory part**

#### **Geography Map File**

- **Refer the Map list mentioned in the Geography Syllabus 2024-25 by CBSE for both Fundamentals of Human Geography Textbook and India People and Economy Textbook**

#### **Important Instructions**

- Make the Map file on A 4 sheets
- Sheets can be plain or coloured
- Don't use red colour for headings or written work
- Map work should be accurate and neat strictly following the NCERT Textbook

- **Revise the Syllabus for Periodic Written Test I**

### **Physical Education**

**Practical 2-** Procedure for Asanas, benefits and contradiction for any three asanas for each lifestyle disease.

**Practical 3-** One IOS recognized sports/game of your choice, labelled diagram of field and equipment. Also mention its rules, terminology and skills.

#### **Instructions.**

- Do the practical in your practical file.
- All the Diagram should be clear.
- Labelled all the photos related to Yogasana, Terminology and Skills.

## MASS MEDIA STUDIES

- I. Make an attractive advertisement for a gym using Canva.
- II. Prepare a PPT on various media channels that can be used for promoting a product.
- III. Revise the syllabus for PWT I.

## INFORMATICS PRACTICES

Q.1. Answer the following based on the series given below.

```
import pandas as pd list1=[1,2,3,4,5,6,7,8]
list2=['swimming','tt','skating','khokho', 'bb', 'chess', 'football','cricket"]
school=pd.Series(list1,index=list2) school.name=("little") print (school*2) #statement 1 print
(school.tail(3)) # statement 2 print (school["tt"]) # statement 3 print (school[2:4]) # statement
4
print (school[school<3]) #5 l3=[3,4,5] s2=pd.Series(data=l3*2)
print(s2) # 6
```

i. Choose the correct name of the series object given above.

- a) list1 b) list2 c) school d) little

ii. Write the correct output for the six print statements above iii Give the output of the following program

```
import pandas as pd s
=pd.Series([10,20,30,40,50,60,70,80],index=['a','b','c','d','e','f','g','h'])
print(s[1:4]) print(s[:7:3])
```

iv Fill the missing statement to retrieve the first three elements in the Series import pandas as pd s =pd.Series([1,2,3,4,5],index=['a','b','c','d','e']) print(s[ \_ ])

Its output is as follows – a 1 b 2 c 3

v Fill the missing values to get the desired output. import pandas as pd

```
name=['Harsh','Arun','Ankur','Harpahul','Divya','Jeet']
```

```
empno=[101,102,103,104,105,106]
```

```
p=pd.Series(_____,index=_____)
```

```
print ('name of empno 103 is',p[_____])
```

Output

name of empno 103 is Ankur

vi Write code to show rows of those empno which are greater than 103

```
import pandas as pd
```

```
empno=[101,102,103,104,105,106,107]
```

```
p=pd.Series(empno)
```

-----

**(vii) Write python code to create the following series**

101 Harsh  
102 Arun  
103 Ankur  
104 Harpahul  
105 Divya  
106 Jeet

- show details of 1st 3 employees using head command
- show details of last 3 employees using tail command
- show details of 1st 3 employees without using head command
- show details of last 3 employee without using tail command
- show value of index no 102
- show 2nd to 4th records
- show values of index no=101,103,105
- show details of "Arun"

**Q.2 DATAFRAME**

**Consider the given dataframe STOCK and answer the following questions:**

```
item manf qty    price l1 laptop dell 5 45000
m1 mobile samsun 2 12000 g
l2 laptop acer 3 30000
ms1 mouse hp 10 1000
```

- Wrtie the code to create the above dataframe
  - Display the details of all the laptops (use boolean indexing)
  - Display the details of manufacturers with prices
  - Insert a column named "color" with the following values (black, black, grey, white)
  - Insert the given rows to store the following details
- |     | item    | manf   | qty    | Price         |      |
|-----|---------|--------|--------|---------------|------|
|     | color   | m2     | mobile | oppo 15 15000 | blue |
| sp1 | speaker | Bose 4 | 20000  | red           |      |
- Display the details of those items which have price less than 15000
  - Remove the column color permanently
  - Display the items of Samsung company in the stock
  - Add a column named "rating" with the following values ("A+","A","B","B+","A","A+")
  - Delete row with index label l2 temporarily.
  - Display first two rows
  - Display shape, size of the dataframe

**Q.3 SQL (revision xi class)**

A Departmental store 'Iconic' is planning to automate its system so that they can store all the records on computer. They contacted a Software Company to make the software for the same. The company suggested that there is need of a front end and back-end software. The major challenge was to keep the record of all the items available in the store. To overcome the problem, the software company has shown the glimpses of the database and table required to resolve their problem:

Database Name: Iconic

Table Name: Garment

Attributes of the table: Gcode – Numeric Primary key, Gname – Character 25, Size - Character 5, Colour – Character 10, Price – Numeric

**a) Write the statement to create the Garment Table**

Consider the following records in ‘Garment’ table and answer the given questions:

**Table: GARMENT**

GCODE	GNAME	SIZE	COLOUR	PRICE
111	Tshirt	XL	Red	1400.00
112	Jeans	L	Blue	1600.00
113	Skirt	M	Black	1100.00
114	Jacket	XL	Blue	4000.00
115	Trousers	L	Brown	1500.00
116	LadiesTop	L	Pink	1200.00

- b) Write the statement to insert any one record
- c) Write the statement To delete the record with GCode as 116
- d) Give the output of : Select GName, Price from GARMENT order by Price Desc;
- e) Write the statement To change the colour of GARMENT with code as 116 to “Orange”
- f) What is the degree and cardinality of ‘GARMENT’ table?
- g) Write the statement to display size without duplicate
- h) Write the statement to display records in the price range 1100 to 1500

**Q.4 Complete practical file questions of Python Pandas Q 1 to 10 and mail the soft copy to mail id pdpswork@gmail.com.**

**Q.5 Project work**

The aim of the class project is to create tangible and useful IT applications. The learner may identify a real-world problem by exploring the environment. e.g. Students can visit shops/business ,places, communities or other organizations in their localities and enquire about the functioning of the organization, and how data are generated, stored, and managed.The learner can take data stored in csv or database file and analyze using Python libraries and generate appropriate charts to visualize.

Data can be imported in Pandas for analysis and visualization. Learners can use Python libraries of their choice to develop software for their school or any other social good. Learners should be sensitized to avoid plagiarism and violation of copyright issues while working on projects.

**Q.6 Design a beautiful A4 SIZE POSTER on any of the given topics**

- 1. Python XII E
- 2. SQL XIIE
- 3. Computer Network XII E
- 4. Cyber Safety -----XII C
- 5. Digital Society ,Law and Ethics --- XII C

**REVISE THE SYLLABUS FOR PWT1 \*NOTE:**

**Q 1 TO 4 to be done in IP register**

## ECONOMICS (030)

1. Practice the following numerical questions:

\*Practise any 10 numerical of national income. Show your workings clearly.

\*Questions are to be done in your class registers only.

2. Prepare a project as per CBSE guidelines as briefed in the class. You have to abide by the topic allotted to you only.

### GUIDELINES -

\*Use a ring file as your project file and cover it neatly. Write your particulars on the project file which include- Name, Board Roll. No, Subject, Class & Section, Session: 2024-25 and Topic.

\* Project should be of 25-30 (excluding graphs and diagrams) covering the entire content and should be handwritten only.

\*You can include newspaper articles, IMF/World bank reports, NITI Aayog reports, Government policies etc.

\* Plagiarism is not allowed and you must mention the source of the information to ensure authenticity of the research work.

\*Presentation of the project should be in the following manner-

1. Topic
2. Acknowledgement
3. Certificate
4. Index
5. Introduction of topic
6. Causes, Consequences and remedies
7. Various stakeholders and effect on each of them
8. Advantages and disadvantages of situations or issues identified.
9. Short-term and long-term implications of economic strategies suggested in the course of research.
10. A **case study** or real life application of the topic is a must.
11. Conclusion
12. Bibliography – Citation of materials referred to should be included.
13. Thank you sheet

## हिंदी ऐच्छिक (002)

### **मौखिक अभिव्यक्ति**

माँ सुनाओ मुझे वो कहानी,  
जिसमें " राजा " ना हो " रानी " ॥  
जो हमारी तुम्हारी कथा हो ,  
जो सभी के हृदय की व्यथा हो ॥  
गंध जिसमें भरी हो धरा की ,  
बात जिसमें ना हो अप्सरा की ॥  
माँ सुनाओ मुझे वह कहानी ....

जैसा कि आप जानते हैं, कहानियों का हमारे जीवन में विशेष महत्व है। कहानियाँ पढ़ने-सुनने से हमारा मानसिक, नैतिक और चारित्रिक विकास होता है, तो आप भी इस ग्रीष्मावकाश एक बेहतरीन कहानी पढ़ें जिसका शीर्षक है- नमक का दरोगा इसे प्रसिद्ध लेखक मुंशी प्रेमचंद जी ने लिखा है।

### **यह कार्य इस क्रम में करें : -**

- कहानी नमक का दरोगा को पढ़ना व समझना ।
- परिवार के सदस्यों के समक्ष कहानी सुनाना ।
- कक्षा प्रस्तुतीकरण के लिए कहानी को मज़ेदार ढंग से सुनाने का अभ्यास करना ।  
(कक्षा गतिविधि हेतु)

### **रचनात्मक व क्रियात्मक कौशल**

प्रश्न-1. विशेष लेखन किसे कहते हैं? इसके प्रमुख क्षेत्र तथा उनमें प्रयोग होने वाली भाषा शैली के बारे में लिखें एवं इसके लिए मन के नक्शे (mind map) तैयार कीजिए।

प्रश्न-2. एक दिन के किन्हीं दो हिंदी समाचार पत्रों का संकलन कीजिए, उनको पढ़िए एवं दिए गए संकेत बिंदुओं के संदर्भ पर उनका तुलनात्मक अध्ययन कीजिए-

- सूचनाओं का मुख्य केंद्र / आकर्षण
- समाचार का पृष्ठ एवं स्थान
- समाचार की प्रस्तुति
- समाचार की भाषा शैली

### **प्रस्तुतीकरण कौशल**

प्रश्न-3. निम्नलिखित में से किसी एक विषय पर पावरपॉइंट प्रेजेंटेशन (पीपीटी) तैयार कीजिए-

- हिंदी में रोज़गार के अवसर
- महाकवि तुलसीदास जी का व्यक्तित्व एवं कृतित्व

**नोट:-** प्रथम सामयिक लिखित परीक्षा हेतु निर्धारित पाठ्यक्रम का अभ्यास कीजिए।

## MATHEMATICS

Q.1 Let  $A=\{1,2,3,4,\dots,9\}$  and relation  $R$  on  $A \times A$  defined as  $(a,b) R (c,d)$  if  $a+d=b+c$  for all  $(a,b),(c,d) \in A \times A$ , show that  $R$  is an equivalence relation. Also find the equivalence class of  $(2,5)$ .

Q2. If  $R$  be the relation defined on  $\mathbb{Q}$  (set of rational numbers) as  $aRb \Leftrightarrow |a-b| \leq \frac{1}{2}$  then show that  $R$  is not transitive.

Q3. Is the function  $f : \mathbb{N} \rightarrow \mathbb{N}$ , where  $\mathbb{N}$  is the set of natural numbers is defined by

$$f(x) = \begin{cases} n^2, & n \text{ is odd} \\ n^2 + 1, & n \text{ is even} \end{cases} \text{ onto?}$$

Q4. Let  $R$  be a relation on the set  $A$  of real numbers be defined as  $(a,b) \in R \Rightarrow 1 + ab > 0$  for all  $a, b \in A$ . Show that  $R$  is not transitive.

Q.5 Let  $A=\mathbb{R}-\{2\}$ ,  $B=\mathbb{R}-\{1\}$ , if  $f:A \rightarrow B$ ,  $f(x)=\frac{x-1}{x-2}$  then  $f$  is a bijective function.

Q-6 A function  $f$  is defined on all real numbers except  $2/3$  as  $f(x)=\frac{4x+3}{6x-4}$ , then show that  $f$  is one-one and onto function.

Q-7 Solve for  $x$ ,  $(\tan^{-1} x)^2 + (\cot^{-1} x)^2 = \frac{5\pi^2}{8}$

Q-8 Prove that  $2 \tan^{-1} \left(\frac{1}{5}\right) + \sec^{-1} \left(\frac{5\sqrt{2}}{7}\right) + 2 \tan^{-1} \left(\frac{1}{8}\right) = \pi/4$

Q9 Draw the graphs of  $\sin^{-1} x$ ,  $\cos^{-1} x$  and  $\tan^{-1} x$ .

Q-10 Solve for  $x$ ,  $\cos^{-1} \left(\frac{x^2-1}{x^2+1}\right) + \frac{1}{2} \tan^{-1} \left(\frac{2x}{1-x^2}\right) = 2\pi/3$

Q.11 Find the minimum and maximum value of  $(\sin^{-1} x)^2 + (\cos^{-1} x)^2$

Q-12 Write in simplest form  $\sin^{-1} \left(\frac{12x+5\sqrt{1-x^2}}{13}\right)$

Q.13  $f:\mathbb{R} \rightarrow \mathbb{R}, f(x)=|x|$ , show that  $f$  is neither one-one nor on to function.

Q.14  $A = \begin{bmatrix} 1 & 2 & 1 \\ 1 & 0 & 3 \\ 2 & -3 & 0 \end{bmatrix}$  and  $B = \begin{bmatrix} 9 & -3 & 6 \\ 6 & -2 & -2 \\ -3 & 7 & -2 \end{bmatrix}$ , find  $AB$ , hence solve the equations.  $X+2y+z=7$ ,  $x+3z=11$ ,  $2x-3y=1$

Q.15 If  $A = \begin{bmatrix} 1 & -2 & 0 \\ 2 & 1 & 3 \\ 0 & -2 & 1 \end{bmatrix}$ , find  $A^{-1}$ , hence solve the system of equations

$$X+2y=3, \quad 2x-y+2z=1, \quad 3y+z=3$$

Q.16 If  $\begin{bmatrix} 1 & 2 \\ 2 & 5 \end{bmatrix} A \begin{bmatrix} 1 & -2 \\ 1 & 1 \end{bmatrix} = \begin{bmatrix} 3 & 1 \\ 4 & 2 \end{bmatrix}$ . find matrix A.

Q17. If A and B are skew symmetric matrices of same order then nature of AB+BA?

Q18. Using matrix, solve the equations:  $2/x-3/y+3/z=10$ ;  $1/x+1/y+1/z=10$ ;  $3/x-1/y+2/z=13$

Q19. Prove that diagonal elements of a skew symmetric matrix are zero.

Q20. Express given matrix as a sum of symmetric and skew symmetric matrix

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 5 & 6 & 7 \\ -1 & 0 & 1 \end{bmatrix}$$