

**North Ex Public School**  
**School Block, Jain Nagar, Delhi- 110081**  
**Holiday Homework (Summer Break)**  
**Class - XII**

Dear Parents,

Summer brings with it the ever smiling sun, fresh breeze, blossoming flowers and HOLIDAYS!

Holidays are the time for the parents to become teachers and friends! Vacations help to rejuvenate your child and develop an everlasting bond between you and your child by devoting your precious time towards him/her.

Allow us to facilitate you to help your child explore his/her environment. Make optimum use of this time to cultivate your child's interest in co-curricular activities. Have fun with family and friends.

HAPPY VACATIONS

**GENERAL INSTRUCTIONS**

1. Start the revision as per the syllabus which is scheduled from April onwards.
2. Written Homework is to be done in the Weekly test notebooks and further as per the instruction & guidance given by the subject teacher.
3. The child will be assessed for the Handwriting, presentation, neatness, completion of all the given question, indexing of the work.
4. Charts, Presentations and Projects must be labeled properly indicating very clearly the Name, Class, Roll No and Subject.

Parents can be the facilitators for the child at home but let the child complete his/her work independently & in his/her own handwriting.

**ENGLISH**

1. Make a poster on 'Save Wildlife'.
2. Write a letter to editor of Deccan Herald about rising prices of essential commodities. Give suggestions on how to control the price rise.
3. Write an article on 'Protecting Environment'.
4. You are Sunita, a teacher & social worker. You are happy with the recent introduction of scholarship given by the government to promote girl education. But you feel it's not enough. Write a speech for a program conducted on girl education on 'Promotion of Girls Education'.
5. You are Smitha/ Sumit, Secretary, Red Cross Society of your school. You are going to organize a blood donation camp. Write a notice urging the relatives of students and senior students to come in large numbers for this noble cause.
6. Write the summary of the The Last Lesson . (Write on CD)
7. Write the summary of 'My mother at Sixty Six'. (CD).

## ECONOMICS

1. "Only scarce goods attract price". Comment.
2. "Scarcity and Choice go together". Comment.
3. Massive unemployment will shift the PPF to the left. Defend or refute.
4. Why is PPC concave? Explain with the help of diagram.
5. Why does the problem of 'What to produce' arise? Explain.
6. Why does the problem of 'How to produce' arise? Explain.
7. Explain the concepts of opportunity cost and marginal rate of transformation using a production possibility schedule based on the assumption that no resources are equally efficient in the production of all goods.
8. Why does an economic problem arise? Explain.
9. Give reason, comment on the shape of PPC based on the following table :

Good X units	Good Y units
0	4
1	3
2	2
3	1
4	0

10. How many ice-cream will a consumer have, if ice-cream is available free of cost?
11. Define a budget line. When can it shift to the right?
12. What does an Indifference curve show?
13. What is meant by monotonic preference?
14. Explain the conditions of Consumer equilibrium with the help of Utility Analysis.
15. Suppose price of a commodity X is given as Rs 5 and MU (in terms of money) for 4 units is given as

Units	1	2	3	4
MU(in RS)	12	9	5	3

16. State and explain the characteristics of indifference curve.
17. Define an Indifference map. Explain why an indifference curve to the right shows higher utility level.
18. "Law of demand is a qualitative statement". Comment.
19. How is the demand for a good affected by a rise in the prices of other goods? Explain.

## MATHS

1. For real numbers x and y, define xRy if and only if  $x - y + \sqrt{2}$  is an irrational number. Determine whether the relation R is reflexive, symmetric and transitive.
2. Let the function  $f : R \rightarrow R$  be defined by  $f(x) = \cos x$ , for all x belonging to R. Show that f is neither one one nor onto.
3. Let  $f : [0, \infty) \rightarrow R$  be a function defined by  $f(x) = 9x^2 + 6x - 5$ . Prove that f is not invertible. Modify only the codomain of f to make f invertible and then find its inverse.
4. Prove that :  $\cot^{-1}7 + \cot^{-1}8 + \cot^{-1}18 = \cot^{-1}3$
5. Prove that :  $\tan \left[ \frac{\pi}{4} + \frac{1}{2} \cos^{-1} \frac{a}{b} \right] + \tan \left[ \frac{\pi}{4} - \frac{1}{2} \cos^{-1} \frac{a}{b} \right] = \frac{2b}{a}$
6. If  $A = \begin{bmatrix} 2 & -3 & 5 \\ 3 & 2 & -4 \\ 1 & 1 & -2 \end{bmatrix}$  then, find  $A^{-1}$ . Using  $A^{-1}$ , solve the system of equations:

$$2x-3y+5z=11$$

$$3x+2y-4z=-5$$

$$x+y-2z=-3$$

7. If  $M(A) = \begin{bmatrix} \cos A & \sin A \\ -\sin A & \cos A \end{bmatrix}$ , then show that  $M(x) \cdot M(y) = M(x+y)$
8. Express  $A = \begin{bmatrix} 3 & -4 \\ 1 & -1 \end{bmatrix}$  as the sum of a symmetric and skew symmetric matrix.
9. If  $x, y, z$  are different and  $\begin{bmatrix} x & x^2 & 1+x^3 \\ y & y^2 & 1+y^3 \\ z & z^2 & 1+z^3 \end{bmatrix} = 0$ , then show that  $1+xyz=0$ .
10. Prove using the properties of determinants :

$$\begin{vmatrix} 1+a^3 & ab & ac \\ ab & 1+b^2 & bc \\ ac & bc & 1+c^2 \end{vmatrix} = 1+a^2+b^2+c^2$$

### **BUSINESS STUDIES**

Project Work : Select any one topic -

1. Elements of business environment.
2. Principles of management.
3. Marketing management.

Presentation :

1. Minimum pages 25-30 and handwritten.
2. Cover Page, Contents, Acknowledgement, Introduction, Topic with suitable heading. Planning and Activities, Observation, Conclusion, Photographs (if any), Appendix, Teacher observation

### **ACCOUNTANCY**

1. Do practice of at least 5 questions of each topic
  - (a) Preparation of Profit and Loss Appropriation A/c
  - (b) Partners capital A/c (fixed and fluctuating)
  - (c) Interest on Drawings
  - (d) Past Adjustment Table
  - (e) Guarantee of Profit
2. Do practice of at least 15 questions of Chapter - Change in Profit Sharing Ratio from topics -
  - (a) Treatment of Goodwill
  - (b) Revaluation of assets and reassessment of liabilities
  - (c) Preparation of Balance Sheet

Note : Work should be in Accountancy Notebook

### **POLITICAL SCIENCE**

1. Do written practice of all Ques/Ans of Chapter -1 to 5 in test notebooks.
2. On the political map of India mark the location of the princely states.
  - (a) Locate two states that were affected by the partition of the country.
  - (b) Write the names of 10 provinces which were under direct domination of British rule before partition
  - (c) Locate four states of the country in which congress not get a majority in the state legislature.

## **HISTORY**

1. Do written practice of all the ques/ans of Chapter - 1 to 4 in test notebooks.
2. Make a project on the topic:
  - (a) Harappa Civilisation
  - (b) Life of Mahatma Buddh
  - (c) The Partition Of India in 1947 and its effects
  - (d) Mahatma Gandhi and the National Movement.

## **PHYSICAL EDUCATION**

1. What are the advantages of knockout tournaments?
2. Describe the disadvantages of knockout tournaments.
3. Explain the cyclic method of league tournaments.
4. Explain the advantages of intramural tournaments.
5. Define intramural tournaments. How they are organized?
6. What are the principles of intramural tournaments?
7. Describe the advantages of Health runs.
8. Draw fixture of 28 teams participating in knockout tournament.

## **IP**

1. Rewrite the following set of if-else statements in terms of switch-case statements :

(a) char code ;

```
code = character.readChar();
```

```
if (code == 'A')
```

```
System.out.println ("Accountant");
```

```
else if (code == 'C' || code == 'G')
```

```
System.out.println ("Grade IV");
```

```
else if (code == 'F')
```

```
System.out.println ("Financial Advisor");
```

(b) int inputnum, calcvl;

```
If (inputnum == 5) {
```

```
calcvl = inputnum * 25 - 20 ;
```

```
System.out.println (inputnum + calcvl);
```

```

}
else if (inputnum == 10) {
    calcval = inputnum * 25 - 20
    System.out.println (calcval - inputnum);
}

```

2. How many times are the following loops executed?

<pre> (a)   x = 5 ; y = 50 ; while(x &lt;= y){     x = y/x ;     ..... } ..... } </pre>	<pre> (b)   int m = 10, n = 7; while(m % n &gt;= 0) {     .....     m = m + 1;     n = n + 2; } </pre>
---	--

3. Given the following code fragment :

```

i = 100 ;
while (i > 0)
    System.out.println(i - -);
    System.out.println("Thank you");

```

Rewrite the above code using a do...while loop.

4. Rewrite the following code using while loop

```

int sum = 0;
for (int i = 1 ; i <= 5 ; ++i) {
    sum = sum + i;
}

```

5. Rewrite following while loop into a for loop

```

int stripes = 0;
while (stripes <= 13) {
    if (stripes % 2 == 2)

```

```

{System.out.println("Colour code Red");
}
else {
System.out.println("Colour code Blue");
}
System.out.println("New Stripe");
stripes = stripes + 1;
}

```

6. Rewrite following code using either while or do-while loop or both loops.

```

for (int i = 1 ; i < 4 ; ++i) {
for (int j = 3 ; j > 0 ; --j) {
System.out.println("### . .");
}
}
System.out.println();
}

```

7. Find the output of the following code fragments ?

<pre> (a) int s = 14; if(s&lt;20) System.out.println("Under"); Else System.out.println("Over"); System.out.println("the limit"); } </pre>	<pre> (b) int s = 14; if(s&lt;20) System.out.println("Under"); else { System.out.println("Over"); System.out.println("the limit"); } </pre>
---	---

```

(c) int s = 94;
If (s < 20) {
System.out.println("Under");
}
else {

```

```
System.out.print("Over");CBSE
```

```
}
```

```
System.out.println("the limit");
```

8. What will be the output of the following code fragment when the value of ch is

(a) 'A'      (b) 'B'      (c) 'D'      (d) 'F'

```
switch (ch) {
```

```
case 'A' : System.out.println ("Grade A");
```

```
case 'B' : System.out.println ("Grade B");
```

```
case 'C' : System.out.println ("Grade C");
```

```
break;
```

```
case 'D' : System.out.println ("Grade D");
```

```
default : System.out.println ("Grade F");
```

```
}
```

9. Given the following code fragment:

```
if (a==0)
```

```
System.out.println ("Zero");
```

```
if (a==1)
```

```
System.out.println ("One");
```

```
if (a==2)
```

```
System.out.println ("Two");
```

```
if (a==3)
```

```
System.out.println ("Three");
```

Write an alternative code that saves on number of comparisons.

10. Rewrite the following fragment using switch:

```
if (ch== 'E')
```

```
eastern++;
```

```
if (ch== 'W')
```

```
western++;  
if (ch== 'N')  
    northern++;  
if (ch== 'S')  
    southern++;  
else  
    unknown++;
```