HOLIDAY HOMEWORK
CLASS XII

ENGLISH

1. Work in your assigned groups on the Documentary Topics that your group has chosen.
2. Update the assignment notebooks.
3. Prepare for the Review Examinations.

HINDI

- किसी एक पठित पुस्तक (यात्रा वृत्तान्त, कहानी,कविता,उपन्यास- एकांकी) की समीक्षा कीजिए।

BIOLOGY

1. Prepare review examination syllabus.
2. Prepare herbarium sheets.
3. Complete the work related to the project.
4. Prepare " Microbes in human welfare " and note down your problems

PHYSICS

1- Biography of a Scientist for first quarter.
2- Project synopsis.
3- Revision work for review –examination.
4- Internship –Report.
5- Ten questions based on discussed concepts.

CHEMISTRY

1. Biography of a Scientist for first quarter
2. Internship report.
3. Investigatory project synopsis.
4. Preparation for review exam.
5. An article for school magazine.
6. Write down all the name of the reaction of organic chemistry together form chapter 1,2,3.

PAINTING

1- Prepare for the review examination syllabus.
2- Make two object drawings and one composition with water color.

MATHS

Prepare the chapters **RELATIONS AND FUNCTIONS, INVERSE TRIGONOMETRIC FUNCTION, MATRICES AND DETERMINANTS for REVIEW EXAMS.**

Some questions are given below for practice and better understanding of concepts.

Q-1 If R = { (x,y): x+2y = 8} is a relation on a set of natural numbers, then write the $domain, range\ and\ codomain\ of\ R.$

Q-2 Show that the relation R in the set {1,2,3} given by R = {(1,1) ,(2,2),(3,3),(1,2),(2,3) } is reflexive but neither symmetric nor transitive.

Q-3 Consider f : $R^+ \rightarrow$ (-9,∞) given by f(x) = $5x^2 + 6x - 9$, then prove that f is invertible with $f^{-1}(y) = \{ \frac{\sqrt{54+5y}-3}{5} \}$ where R^+ is the set of all positive real numbers.

Q- 4 Let S be the set of all rational numbers except 1 and * be defined on S by a*b = (a +b – ab) ∀ a, b ∈ S. Prove that (i) * is a binary operation on S. (ii) * is commutative as well as associative.

Q-5 Solve for x (i) $\sin^{-1} x = \frac{\pi}{6} + \cos^{-1} x$ (ii) $4\sin^{-1} x = \pi - \cos^{-1} x$

(iii) $\tan^{-1} x + 2\cot^{-1} x = \frac{2\pi}{3}$ (iv) $\tan^{-1}(x + 1) + \tan^{-1}(1 - x) = \tan^{-1}(\frac{8}{31})$

Q-6 Prove that : $\cos^{-1} x + \cos^{-1}\{\frac{x}{2} + \frac{\sqrt{3-3x^2}}{2}\} = \frac{\pi}{3}$

Q-7 If $\begin{pmatrix} a+4 & 3b \\ 8 & -6 \end{pmatrix} = \begin{pmatrix} 2a+2 & b+2 \\ 8 & a-8b \end{pmatrix}$ then write the value of a – 2b.

Q-8 Construct a 3x4 matrix, whose elements are given by $a_{ij} = \frac{1}{2}|-3i + j|$

Q-9 Use matrix multiplication to divide Rs. 30,000 in to two parts such that the total annual interest at 9% on the first part and 11% on the second part amounts Rs. 3060.

Q-10 If $A = \begin{bmatrix} 0 & 1 \\ -1 & 0 \end{bmatrix}$, then find the real values x &y such that $(x I + YA)^2 = A$

Q-11 If A is a square matrix of order 3 such that |adj(A)| = 64, then find |A|.

Q-12 Using properties of determinants prove that:

(i) $\begin{vmatrix} x & y & z \\ x^2 & y^2 & z^2 \\ y+z & z+x & x+y \end{vmatrix} = (x - y)(y - z)(z - x)(x+y+z)$

(ii) If f(x) = $\begin{vmatrix} a & -1 & 0 \\ ax & a & -1 \\ ax^2 & ax & a \end{vmatrix}$, then find the value of f(2x) – f(x)

Q- 13 Find the equation of the line joining P(11 , 7) and Q (5,5) using determinants. Also find the value of k if R(-1,k) is the point such that area of triangle PQR is 9 sq m.

ECONOMICS:

1. Prepare the synopsis and file for board project.

2. Differentiate between-

   (I) Real flow and Money flow

   (Ii) Microeconomics and Macroeconomics

   (Iii) Depreciation and Capital loss

   (Iv) Intermediate and Final Goods

   (V) Positive and Normative Economics

3. All producer goods are Capital goods? Explain.

4. Mention factors responsible for the shifting of -

   (I) Production Possibility Curve

   (II) Budget line.(Explain with the help of Diagram.)

5. State Attainable and Unattainable combinations on PPC.

6. Write down the equation of-

   Budget set, Budget line, Budget Constraint.

7. Preparation for Review Exams.

PSYCHOLOGY:

1. Importance of having connections in life. Friendship, Family, School etc. Why and in what ways are they important?

2. Watch one short documentary and write a brief account on the same.

3. Imagine yourself to be living in the year 2050. And write a diary entry.

4. Go to Oscar.go.com /filmfare.com and Give the answer of the following:-
    - Which of the nominees for Best Picture is the longest film? Which is the shortest?
    - The most popular?
    - Earned the maximum money at the box office?
        - Which film has the most nominations?
        - Which in your opinion is the best film?
        - Compare the actors nominated for Different awards. Who is older? Younger? Taller? Prettier? Etc…
        - Are looks important in industry or Skills?

Mandatory work:

Write rationale for starting your case study based upon your chosen topic.

- Introduction to the topic
- Types/Subtypes/Areas
- Psychological Measures which will be used
- References

BUSINESS STUDIES

1. Explain in detail the 14 principles of management by Henry Fayol, mention negative and positive impacts of the principles.
2. Do extensive internship program for 7 to 10 days.
3. Write summary of 5 chapters completed in class.

ACCOUNTANCY

1. Prepare a report of internship program including learning outcomes of accounting.

2. Do practice of review test. (partnership a/c and NPO)

PHYSICAL EDUCATION:

1. According to your Major Game do comparative study of an Indian and International Sportsman based on their performance, skill and achievement.
2. Prepare a file of Specialization game and mention history, latest rules, measurements, terminologies, trophies, national-international players, venues, awards and major muscles involved in concerned game.

HISTORY

1 Prepare the project file for submission in 1st week of July.

2 Prepare 1st book of History for Review exam.

3 Write an article for School Magazine on Current affairs or social issues or on National and International affairs. Article should be original.

GEOGRAPHY

1. Prepare for review exam.
2. Practice GIS Software and note down you experiences date wise.(Diary entry)

COMPUTER SCIENCE

Sample Paper Review Exam CLASS - XII
SUBJECT – COMPUTER SCIENCE

Q1. (a) Differentiate between ordinary function and member functions in C++. Explain with an example. [2]

(b) Write the related library function name based upon the given information in C++: [1]
. (i) Get single character using keyboard.
(ii) To check whether given character is alpha numeric character or not.

(c) What do you understand by Polymorphism? Give an example to illustrate the same. [2]

(d) How encapsulation and abstraction are implemented in C++ language? Explain with an example. [3]

Q.2 (a) Rewrite the following C++ program code after removing syntax error(s) if any. Explain each
correction with reason. [3]

```
#include<iostream.h>
void main( )
int A[10];
A=[3,2,5,4,7,9,10];
for( p = 0; p<=6; p++)
{ if(A[p]%2==0)
int S = S+A[p]; }
cout<<S; }
```

(b) Rewrite the following program after removing the syntactical errors (if any). Underline each correction. [2]

```
include <iostream.h>
include <stdio.h>

class MyStudent
{ int StudentId=1001;
char Name[20];
public
MyStudent( ) { }
void Register( )
{ cin>>StudentId;
gets(Name);   }
void Display( )
{ cout<<StudentId<<":"<<Name<<endl;}      };
```

```
void main( )
{       MyStudent MS;
        Register.MS( );
        MS.Display( );          }
```

Q.3 (a) Find the output of the following program: [3]

```
#include<iostream.h>
void switchover(int A[ ],int N, int split)
{       for(int K = 0; K<N; K++)
        if(K<split)
                A[K] += K;
        else
                A[K]*= K;       }


void display(int A[ ] ,int N)
{
        for(int K = 0; K<N; K++)
        (K%2== 0) ?cout<<A[K]<<"%" : cout<<A[K]<<endl;
        }

        void main( )
        {        int H[ ] = {5,10,20,50,40,30};
                switchover(H,6,3);
                display(H,6);           }
```

(b) Find the output of the following program. [3]

```
#include<iostream.h>
#include<conio.h>
#include<ctype.h>
class Class
{       int Cno,total;
        char section;
public:
        Class(int no=1)
        {
                Cno=no;
                section='A';
                total=30;       }
        void addmission(int c=20)
        {       section++;
                total+=c;       }
        void ClassShow()
        {       cout<<Cno<<":"<<section<<":"<<total<<endl;      }       } ;

        void main()
        {       Class C1(5),C2;
                C1.addmission(25);
                C1.ClassShow();
                C2.addmission();
                C1.addmission(30);
                C2.ClassShow();
                C1.ClassShow();       }
```

Q.4 **(**a) What is the role of constructor in class? Explain implicit and explicit constructor. [2]

(b) Answer the questions (i) and (ii) after going through the following class:

```
class Stream
{       int StreamCode ; char Streamname[20];float fees;
        public:
        Stream( )       //Function 1
        {       StreamCode=1; strcpy (Streamname,"DELHI");
                fees=1000;     }

void display(float C)   //Function 2
{       cout<<StreamCode<<":"<<Streamname<<":"<<fees<<endl;         }

~Stream( )      //Function 3
{       cout<<"End of Stream Object"<<endl;         }
Stream (int SC,char S[ ],float F) ;                 //Function 4
};
```

i) In Object Oriented Programming, what are Function 1 and Function 4 combined together referred as? [1]

ii) What is the difference between the following statements? [2]

```
Stream S(11,"Science",8700);
Stream S=Stream(11,"Science",8700);
```

(c) Define a class TravelPlan in C++ with the following descriptions: [4]

Private Members :

Customer_no integer, Customer_name char (20), Qty integer, Price, TotalPrice, Discount, Netprice as float

Public members:

* A constructer to assign initial values of Customer_no as 111,Customer_name as "Leena", Quantity as 0 and Price, Discount and Netprice as 0.

Input( ) – to read data members(Customer_no, Customer_name, Quantity and Price and call Caldiscount().

Caldiscount ( )– To calculate Discount according to TotalPrice and NetPrice

TotalPrice = Price*Qty

TotalPrice >=50000 – Discount 25% of TotalPrice

TotalPrice >=25000 and TotalPrice <50000 - Discount 15% of TotalPrice

TotalPrice <250000 - Discount 10% of TotalPrice

Netprice= TotalPrice - Discount

Show( ) – to display Customer details.

(d) Consider the following C++ declaration and answer the questions given below: [4]

```
class A
{       void any( );
protected:
        int a, b;
        void proc( );
public:
        A();
        void getA( );
        void putA( );   };

class B : protected A
{       int c,d;
protected:
        int e, f;
        void getB( );
public:
        int g;
        B ( );
        void putB( );   };

class C : private B
{       int p;
protected:
        int q;
        void getC( );

public:
        int r;
        void showC( );                  };
```

(i) Name all the member functions and data members which are accessible by the object of class C?

(ii) Name the base class and derived class of class B?

(i) Name all the data members which are accessible from member functions of class C?

(iv) How many bytes will an object belonging to the class C require?