**MAHAVEER PUBLIC SCHOOL**

**HOLIDAY HOMEWORK**

**CLASS XII**

**SUBJECT: ENGLISH (CORE)**

1. Prepare a PPT on the following using your creativity from the Extended Reading Text :

‘**The Invisible Man’**

* 1. **Theme and plot**
  2. **Major Characters** of Dr. Kemp, Mr. Thomas Marvel, Griffin and Mrs. Hall.
  3. **Major incidents** :

1. Arrival of the invisible man’s luggage
2. The Burglary at Vicarage
3. Meeting of Griffin with Dr. Kemp

Invisible man’s coming to visibility

**SUBJECT - PHYSICS**

1. INVESTIGATORY PROJECT BASED ON ANY TOPIC OF THE SYLLABUS

[ CHART OF THE PROJECT, WORKING MODEL IF POSSIBLE, PROJECT FILE]

1. UNIT 1: ELECTROSTATICS, UNIT 2: CURRENT ELECTRICITY, UNIT 3: MAGNETIC EFFECTS OF ELECTRIC CURRENTS [REWISE THEORY PART OF ALL THESE UNITS AND PRACTICE NUMERICAS FROM NCERT AND ANY REFERENCE BOOK.

**SUBJECT : CHEMISTRY**

**A-Inorganic chemistry**

1-Chapter 1—Solid State

1. In text questions
2. Solved examples
3. Exercise (20 questions)

2-Chapter 9---Coordination Compounds

1. In text questions
2. Solved examples

iii) Exercise (20 questions)

**B-Physical Chemistry**

1-Chapter3--- Solutions

i) In text questions

1. Solved examples
2. Exercise (20 questions)

**C-Organic Chemistry**

1-- IUPAC Nomenclature of following:

i) 10 examples of each kind of functional group (single)

ii) 5 examples of compounds containing two types of functional groups

iii) 5 examples of compounds containing more than two types of functional groups.

iv) 5 examples of cyclic compounds

1. 10 examples of aromatic compounds.
2. D-INVESTIGATRY PROJECT

**SUBJECT :BIOLOGY**

1. Select any topic for the project for final practical examination. Prepare a complete report along with photographs and bibliography.

2. Select the board examination questions from the sample papers for the **chapters1-4, 8 & 9**. Write the answer in your class note book along with labeled diagrams.

**SUBJECT :MATHEMATICS**

|  |
| --- |
| Q.1 Prove that . |
| Q2 .Evaluate : |
| Q.3 Prove that |
| Q.4 Write the value of |
| Q.5. Prove that : |
| Q.6 Write the principal value of |
| Q.7 Write the value of |
| Q.8 Prove that: |
| Q.9 If , then find . |
| Q.10 If , then find the value of θ |
| Q.11 If, then find the value of . |
| Q.12 Prove that: |
| Q.13 Prove that:, |
| Q.14 If , find the value of |
| Q.15 If , then write the value of . |
| Q.16Solve for x: |
| Q.17 Write the principal value of,  . |
| Q.18 Write the value of . |
| Q.19. Write in simplest form. |
| Q.20 If , find the value of |
| Q.21 Prove that: , . |
| Q.22 Solve: , where |
| Q.23 Without expanding show that |
| Q.24 Without expanding show that |
| Q..25Without expending, prove that |
| Q.26 Prove that |
| Q.27 Prove that: |
| Q.28 Prove that |
| Q.29 If using properties of determinant, find the value of . |
| Q.30 Show that: |
| Q.31 Prove that: |
| Q.32 Show that |
| Q.33 Prove that |
| Q.34 Show that: |
| Q.35 If and then prove that |
| Q.36 Show that: |
| Q.37 If show that . |
| Q.38 If , show that . |
| Q.39 if ; ,find and . |
| Q.40 If find , and . |
| Q.41 If and , then prove that |
| Q. 42 If , then prove that |
| Q.43 If , then prove that . |
| Q.44 Ifshow that . |
| Q.45 If and . Find . |
| Q. 46 If and , then find the value of at |
| Q.47 If prove that . |
| Q.48 If prove that . |
| Q.49 If , prove that |
| Q.50 If , then prove that |
| Q.51 If , then prove that |
| Q.52 Let be the identity matrix of order2. Show that |
| Q.53 Let and Show that Use the result to find |
| Q.54 If A is a square matrix such that then find the simplifies value of |
| Q.55 If is a complex cube roots of unity, show that |
| Q.56 If find. |
| Q.57 Find the value of x for which the matrix product  equal to an identity matrix |
| Q.58 Solve the matrix equations: |
| Q.59If and , then show that |
| Q.60 If , find and hence find a matrix X such that |
| Q.61A trust invested some money in two types of bonds. The first bond pay 10% interest and second bond pay 12% interest. The trust received Rs.2800 as interest. However, if trust had interchanges money in books they would have got rs.100 less as interest. Using matrix method, find the amount invested by the trust.***[CBSE 2016]*** |

|  |
| --- |
| Q.62 Find the inverse of the matrix using elementary row (column) transformations |
| |  |  | | --- | --- | |  | Ans. | |  | Ans. | |  | Ans. | |  | Ans. | |  |  | |  |  | | |

|  |
| --- |
| Q.63 The monthly income of Aryan and Babban are in the ratio and their monthly expenditures are in the ratio. If each save Rs. 15000 per month, find their monthly income using matrix method. This problem reflect which value?***[CBSE 2016]*** |
| Q.64 If and , find and . |
| Q.65 If find x and y such that |
| Q.66 Find the value of such that |
| Q.67 If , find A. |
| Q.68 There are two families A and B. There are 4 men, 6 women and 2 children in family A and 2 men, 2 women and 4 children in family B. the recommended daily allowance for calories is : Man;2400. Woman: 1900, child: 1800 and for proteins is: Man: 55gm, woman: 45gm and child: 33gm. Represent the above information by matrices. Using matrix multiplication, calculate the total requirement of calories and proteins for each of the two families. |
| Q.69 Three school and organised a mela for collecting funds for helping the rehabilitation of food victims. They sold and plates made fans, matsfrom recycled material at a cost of Rs 25, Rs.100 and Rs.50 each. The number of articles sold are given below:   |  |  |  |  | | --- | --- | --- | --- | | School  Article | ***A*** | ***B*** | ***C*** | | Hand- Fans | 40 | 25 | 35 | | Mats | 50 | 40 | 50 | | Plates | 20 | 30 | 40 |   Q.70 Find the fund collected by each school separated by sailing the above articles. Find the total funds collected for the purpose.  Ans: Amount raised by school A, school B and School C are and respectively. Total fund = ₹21000. ‘ |
| Q.71 Prove that the product of matrices is he null matrix, when and differ by an odd multiple of.  and |

**SUBJECT : ACCOUNTANCY**

1. Project Work : Complete Comprehensive Project in Project File.
2. Accounting for Partnership firms: Fundamentals :- Practical Questions Nos. 1 to 100 in separate Holiday Homework Copy.

**SUBJECT : APPLIED ART**

* **Practical**

1. 3 Posters-Layouting and Final Poster Designing.
2. 3 Illustrations –Layouting and Final Illustration Designing.
3. 1 Caricature Art.

* **Theory**
  + 1. Origin & Development of Rajasthani & Mughal School of Miniature Painting.
    2. Main Characteristics of Rajasthani & Mughal School of Art.

**SUBJECT : COMPUTER SCIENCE**

1. Write a function that takes time as three integer arguments(hours,minutes,seconds),and returns the number of seconds since the clock last struck "12". Use thisfunction to write a program to calculate the amount of time in seconds betweentwo times, both of which are ithin one 12 hour cycle of clock.
2. Write a c++ program to sum the sequence: -x -(x2/2!) + (x4/4!) -(x6/6!) + .......
3. Write a program to accept three digits and print all possible combinations from these digits.
4. Computers are playing an increasing role in education. Write a program that will help elementary school students learn multiplication. Use rand function to produce two positive one digit integers.
5. Write a program in c++ to store and display the data of audio tape and book.
6. Write a c++ program to illustrate a calculator. Perform calculations on two operands using a class calculator. Calculator should add, subtract, multiply and divide operands.
7. Imagine a ticket selling booth at a fair. People passing by are requested to purchase a ticket. A ticket is priced at Rs. 2.50. The booth keeps track of the number of people that have visited the fair and of the total amount of money collected. Model this ticket selling booth with a class tick. Include a program to rest this class.
8. Write a program to accept information about a person and then display it.
9. Write a program to record a score of a cricket match.One array stores information of batting team such as atman's name runs scored, etc. The other array stores information about bowling team. The program reads in above information and depending on user's choice, it displays either batting team's information or bowling team's information.
10. Write a program to calculate the no. of types of guests i.e. gentlemen or ladies or children using a class.

(Also solve the worksheet-1 and worksheet-2 given in the subject IP)

**SUBJECT : INFORMATICS PRACTICES**

Worksheet-1

Find the output of the following java code.(Practice of following questions)

|  |  |
| --- | --- |
| int sum=0, j=0;  for (j=0;j<=50;j+=5)  {  sum+=j  }  System.out.println(“Sum=” + sum); | int sum=0, j=0;  for (j=0;j<=50;j+=5)  {  sum\*=j  if (sum>100)  break;  }  System.out.println(“Sum=” + sum); |
| int sum=0, j=0,k=0;  for (j=1;j<=5;j++)  {  for(k=1;k<=5;k++)  {  sum+=j\*k  }  }  System.out.println(“Sum=” + sum); | int sum=0, j=0,k=0;  while(j<5)  {  while(k>5)  {  sum=sum+k;  k++;  }  j++;  }  System.out.println(“Sum=” + sum); |
| int j=0,k=0, r=10;  for (j=1;j<=5;j++)  {  if(r<15)  r=r+j+2;  else  r=r%5+j\*2;  }  System.out.println(r); | int j=0,k=0, r=10;  for (j=1;j<=5;j++)  {  if(r<15)  r=r + j + 2;  else  r =r – j -2  }  System.out.println(r); |
| int j=0,k=10, r=10;  while(k>=100)  {  if(k%6==0)  r = r + k;  else  r = r – k;  k=k-10;  }  System.out.println(r);  System.out.println(k); | double p=0.0,k=0.0;  while(p<=28)  {  k=k+p;  p+=4.5;  }  System.out.println(k);  System.out.println(p); |

**Worksheet-2**

Rewrite the following for loop using while loop and while loop using for loop without affecting the result. (Practice of following questions)

|  |  |
| --- | --- |
| int sum=0, j=0;  for (j=0;j<=50;j+=5)  {  sum+=j  }  System.out.println(“Sum=” + sum); | int sum=0, j=0;  for (j=0;j<=50;j+=5)  {  sum\*=j  if (sum>100)  break;  }  System.out.println(“Sum=” + sum); |
| int sum=0, j=0,k=0;  for (j=1;j<=5;j++)  {  for(k=1;k<=5;k++)  {  sum+=j\*k  }  }  System.out.println(“Sum=” + sum); | int sum=0, j=0,k=0;  while(j<5)  {  while(k>5)  {  sum=sum+k;  k++;  }  j++;  }  System.out.println(“Sum=” + sum); |
| int j=0,k=0, r=10;  for (j=1;j<=5;j++)  {  if(r<15)  r=r+j+2;  else  r=r%5+j\*2;  }  System.out.println(r); | int j=0,k=0, r=10;  for (j=1;j<=5;j++)  {  if(r<15)  r=r + j + 2;  else  r =r – j -2  }  System.out.println(r); |
| int p=0,k=0;  if p==0  System.out.println(5); | double p=0.0,k=0.0;  while(p<=28)  {  k=k+p;  p+=4.5;  }  System.out.println(k);  System.out.println(p); |

WORKSHEET-3

**Questions for practical record file:**

Q1. ICICI bank wants to computerize it bank to calculate the interest amount on different types of accounts. Bank offers following rate of interest to calculate the interest amount:

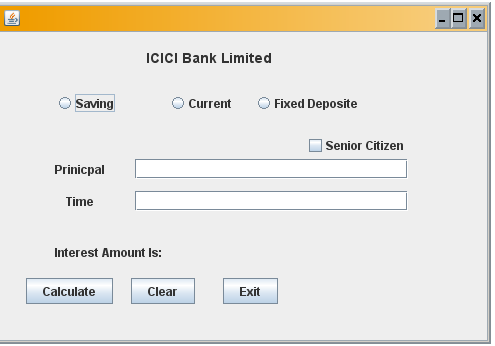
Type Rate of Interest

SAVING 4.5%

CURRENT 3.0%

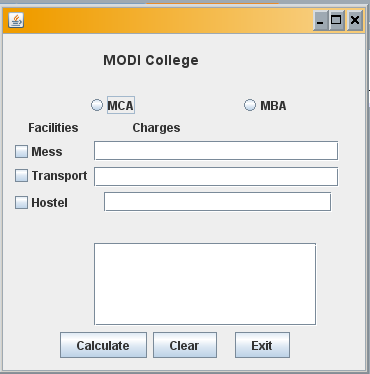
FD 6.5%

Bank also offers 0.5% extra rate of interest for senior citizens. Following data entry form is prepared for the same.



Write the code in Java NetBeans to calculate the interest amount on actionperformed event of calculate button. On clicking clear button all text boxes should be clear. On clicking of exit button application should be closed.

Q2. MODI College offers various degree courses in the college. College also offers hostel, mess and transport facility to the students. To calculate the total charge on the basis of facilities being availed by the students following data entry form is prepared.



College charges Rs. 1000 per month for Mess facility, Rs. 1500 per month for Transport facility and Rs. 1200 for Hostel facility. If a user wants the hostel facility then mess facility should be selected automatically. As the user select the facilities he wants the chargeable amount should be displayed in the text boxes next to it.

Write the code to calculate the total amount to be paid by the students in a textarea along with his details on click event of calculate button as follows:

Student Name:

Course:

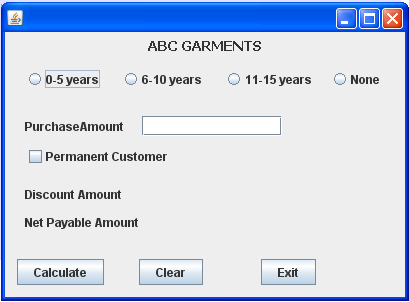
Total Amount:

On clicking of clear button all textfields should be cleared and on clicking of exit button application should be closed.

Q-3: ABC garments offers discount on ready-made garments the basis age group to its customers.

|  |  |  |
| --- | --- | --- |
| Sno | Age Group | Discount Rate |
| 1 | 0-5 years | 10% |
| 2 | 6-10 | 15% |
| 3 | 11-15 | 12% |
| 4 | >15 | 0% |

ABC garments offer 3% additional discount to its permanent customers. To compute the discount amount and net payable amount following data entry form is prepared.



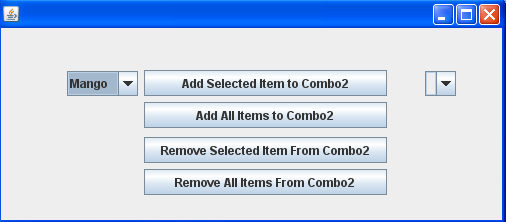
1. Write the code to calculate the total discount amount and net payable amount on ActionPerformed method of btnCal button.
2. Write the code on ActionPerformed method of btnclear button to do followings.

radiobutton should be set to none

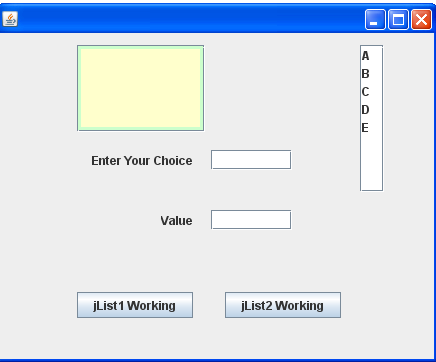
textbox should be clear

checkbox should be unchecked

Q4**:** Design an application in JavaNetbeans to add or remove an element in combo box.



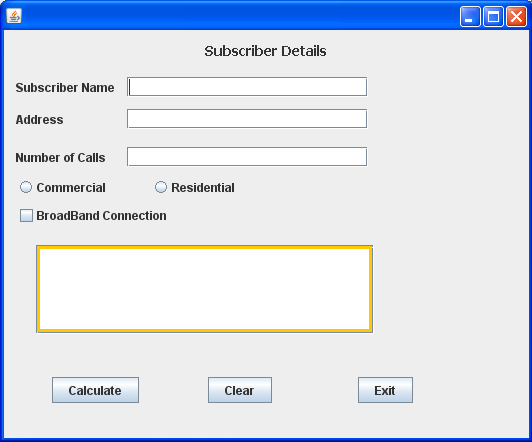
Workshop5: Design an Application to show the use of jListbox methods.



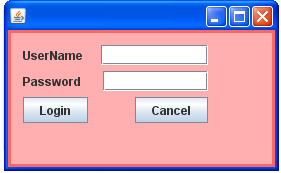
Q6:BSNL wants to calculate the bill amount on the basis of number of calls used by the customer. They have developed an interface shown below. Bill is calculated on the basis of number of calls as per following criteria

|  |  |
| --- | --- |
| Commercial | Residential |
| <=100 no charge  >100 and <=300 : Rs. 1.5 per call  >300 and <=500 : Rs. 2.5 per call  >500 : Rs. 4 per call | <=150 no charge  >150 and <=300 : Rs. 1 per call  >300 and <=500 : Rs. 1.5 per call  >500 : Rs. 2 per call |

If the subscriber is having BroadBand Connection then Rs. 700 and Rs. 400 is to be charged for commercial and residential respectively.



Q-7: Design a Login screen to check the validity of a user. If user enters username and password correctly then display a message “Welcome” + UserName otherwise display a message “Invalid UserName\Password !!! try again”. User should not be allowed to login more then 3 times. If user enters wrong username\password three times then application should close



Q-8: Design an application to display a different image on click of radio buttons. Design the interface as shown below.



Q-9: Design an application in Java Netbeans to display the teachers’ details in the textarea. You are required to input the details of a teacher using the given data entry form. You are also required to define a class “Teacher” with following data members and member functions.

Data Members:

private

String name;

private String address;

private String desig;

private double salary;

private double da;

private double hra;

private double gross;

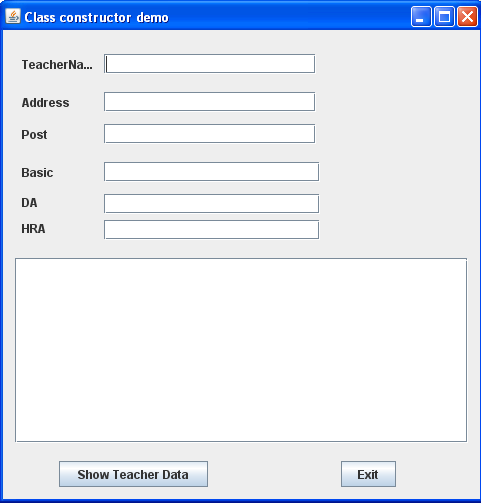
Member Functions :

void read() //to read teachers details

void display() //to display teachers details

Default constructor to initialize the data members.

Your data entry form is as follows:



Q10. ABC International School wants to computerized its employees details. For this they ask Mr. Ashish to develop a data entry form. Mr Ashish design a class EMPLOYEE in Java Netbeans with following data members and member functions:

private:

Empno of type interger

Ename of type string

Post of type string

Basic of type double

public:

void read() //to read employees details

void display() // to display employees details

After a year long school offers the salary to the employees as per government rules which includes followings:

Basic

HRA 20% of Basic

DA 35% of Basic

CCA a fixed amount Rs. 480

PF a fixed amount Rs. 780

Gsal = Basic + HRA + DA+ CCA

Nsal = Gsal-PF

Mr. Ashish requires to calculate salary of each employees as per new rules. He is extending the class EMPLOYEE as EMPSAL with above data members as private and with following member functions declared as public:

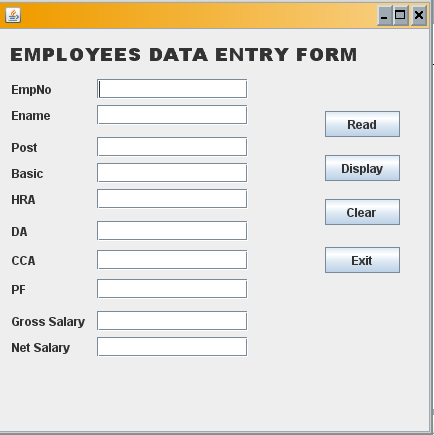
void newread() //to read all details of employees:

void newdisplay() // to display() employees details.

double GrossSal() // to calculate gross salary

double NetSal() //to calculate net salary.

Mr. Ashish develops the following data entry form for the same:



When a user clicks on Read button then it stores all the information in the data members of the class. On the click of read button HRA, DA, CCA and PF must be calculated automatically along with Gross Salary and Net Salary.

When a user clicks on Display button then it should display all information of the employees.