

St. Mary's School (ICSE)

Preliminary Examinations 2006

Computer Science - Application

Marks: 100

Instructions :

All question in section I are compulsory

Answer any four questions in section II

All questions in section II carry equal marks

Section I

Q1 Give two points of distinction between the following **10 Marks**

- Objects and Classes
- For Loop and While Loop
- Public Method and Private Method
- Identifiers and Literals
- Abstraction and Encapsulation

Q2 Explain the terms with context to Java Programming **15 Marks**

- Constructor
- Public
- Encapsulation
- Object
- Inheritance

Q3 Give the output of the following Program **10 marks**

```
class test1
{ public void work() {
    int a,b,c,d,sum1=0, sum2=0;
    float avg1, avg2;
    for(a=1;a<=100;a++)
    { if (a%2 == 0)
      sum1 = sum1 + a;
      else
      sum2 = sum2 + a;    }
    avg1 = sum1/50;
    avg2 = sum2/50;
    System.out.println(sum1);
    System.out.println(avg1);
    System.out.println(sum2);
    System.out.println(avg2);
    System.out.println(sum1+sum2);
  }
}
```

Q4 Write the Java Code to print the first 30 prime numbers **5 marks**

Section II

- Q5 Write the Java method to create an array of (4, 3). Input numbers into each element, calculate the total of each row and each column
- Q6 Write the Java method to print the first 30 numbers of the Fibonacci series. A Fibonacci number is formed by summing the previous two numbers
- Q7 Write the method to calculate the Gross pay of an employee. Accept the employees name and basic salary as inputs. Dearness allowance is calculated as 25% of Basic : House Rent allowance as 15% of Basic and travel allowance as 10% of Dearness allowance
- Q8 Write a program to initialize an array of 5 names, initialize another array with their five telephone numbers. On inputting a name the corresponding telephone number must be printed.
- Q9 A librarian charges a fine for returning the book late, the fine is calculated as below.
Rs. 2 per day for the first 5 days
Rs. 5 per day for he next seven days
Rs. 10 per day for a period beyond
Write the java program to calculate the fine payable after inputting the number of days.
- Q10 The factorial of a number is calculated by multiplying all numbers from 1 to the number itself. Write a program to calculate the factorial of N where N is input by the user.