ICSE SEMESTER 2 EXAMINATION

SPECIMEN QUESTION PAPER

COMPUTER APPLICATIONS

Maximum Marks: 50

Time allowed: One and a half hours

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during the first 10 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

*Attempt **all** questions from **Section A** and **any four** questions from **Section B.***

The intended marks for questions or parts of questions are given in brackets [ ].

SECTION A

*(Attempt **all** questions.)*

Question 1

Choose the correct answers to the questions from the given options. (Do not copy the question, Write the correct answer only.) [10]

(i) When primitive data type is converted to its corresponding object of its class, it is called as _____.

(a) Boxing

(b) Explicit type conversion

(c) Unboxing

(d) Implicit type conversion

(ii) State the value of y after the following is executed:

```
char x='7';
y= Character.isLetter(x);
```

(a) false

(b) 7

(c) true

(d) ‘7’

(iii) Give the output of the following string methods:

"MISSISSIPPI".indexOf('S')+ "MISSISSIPPI".lastIndexOf('I')

(a) 10

(b) 12

(c) 20

(d) 11

(iv) Corresponding wrapper class of int data type is _____.

(a) integer

(b) INTEGER

(c) Int

(d) Integer

(v) Variable that is declared with in the body of a method is termed as:

(a) Instance variable

(b) class variable

(c) Local variable

(d) Argument variable

(vi) Identify the correct array declaration statement:

(a) int a[10];

(b) int a[]=new int[10];

(c) int arr[i]=10;

(d) int a[10]=new int[];

(vii) A variable that is bounded to the object itself is called as:

(a) Instance variable

(b) class variable

(c) Local variable

(d) Argument variable

(viii) The access modifier that gives most accessibility is:

(a) private

(b) public

(c) protected

(d) package

(ix) Give the output of the following code:

```
String A ="26.0", B="74.0";
double C= Double .parseDouble(A);
double D = Double .parseDouble(B);
System.out.println((C+D));
```

(a) 26

(b) 74

(c) 100.0

(d) 2674

(x) Wrapper classes are available in _____ package.

(a) java.io

(b) java.util

(c) java.lang

(d) java.awt

SECTION B

*(Attempt **any four** questions.)*

Question 2 [10]

Define a class to declare an integer array of size ***n*** and accept the elements into the array. Search for an element input by the user using linear search technique, display the element if it is found, otherwise display the message "NO SUCH ELEMENT.

Question 3 [10]

Define a class to declare a character array of size **ten**, accept the character into the array and perform the following:

- Count the number of uppercase letters in the array and print.
- Count the number of vowels in the array and print.

Question 4 [10]

Define a class to declare an array of size **20** of double datatype, accept the elements into the array and perform the following:

- Calculate and print the sum of all the elements.
- Calculate and print the highest value of the array.

Question 5 [10]

Define a class to accept two strings, convert them into uppercase, check and display whether two strings are equal or not, if the two strings are not equal, print the string with the highest length or print the message both the strings are of equal length.

Question 6 [10]

Define a class to accept a string, convert it into lowercase and check whether the string is a palindrome or not.

A palindrome is a word which reads the same backward as forward.

Example:

madam, racecar etc.

Question 7 [10]

Define a class to accept and store **10** strings into the array and print the strings with even number of characters.

Answers

Section-A

1. (i) (a) Boxing

Explanation :

When primitive data type is converted to its corresponding object of its class, it is called as Boxing.

(ii) (a) false

Explanation :

The variable x stores 7. Hence Character.isLetter(x); returns false into y.

(iii) (b) 12

Explanation :

"MISSISSIPPI".indexOf('S') returns 2 , the first index of 'S' + "MISSISSIPPI".lastIndexOf('I') returns 10 , the last index of 'I' =12

(iv) (d) Integer

Explanation :

The Integer is the Wrapper class for the int primitive data type.

(v) (c) Local variable

Explanation :

Variable that is declared with in the body of a method is called a local variable as they are accessible locally in the scope of the method.

(vi) (c) int a[]=new int[10];

Explanation :

While declaring an array the array name along with the new operator and size of the array is to be specified.

(vii) (a) Instance variable

Explanation :

An Instance variable is bounded to the object itself as it carries different values for different objects.

(viii) (b) public

Explanation :

As the name suggests, the public access specifier creates members that are accessible to all others.

(ix) (c) 100

Explanation :

double C= Double .parseDouble(A);

gives C as 74.0

double D = Double .parseDouble(B);

gives D as 24.0

C+D gives 100.0

(x) (c) java.lang

Explanation :

The Wrapper classes in java are available in java.lang package.

Section-B

2.
```
import java.util.Scanner;
class LinearSearch
{
    public static void main(String args[])
    {
        int c, n, search, array[];
        Scanner in = new Scanner(System.in);
        System.out.println("Enter number of elements");
        n = in.nextInt();
        array = new int[n];
        System.out.println("Enter those " + n + " elements");
        for (c = 0; c < n; c++)
            array[c] = in.nextInt();
        System.out.println("Enter value to find");
        search = in.nextInt();
        for (c = 0; c < n; c++)
        {
            if (array[c] == search)     /* Searching element is present */
            {
                System.out.println(array[c]);
                break;
            }
        }
        if (c == n)  /* Element to search isn't present */
            System.out.println(search + " No such element");
    }
}
```

3.
```
public class CountUpperLower
{
    public static void main(String[] args)
    {
        Scanner sc= new Scanner(System.in);
        int upperCase = 0;
        int vowels = 0;
        char chh,ch;
        System.out.println("Input some characters...");
        char[10] a = sc.next().toCharArray();

        for(int i=0;i<a.length;i++)
        {
            chh=a[i];
            System.out.print(a[i]);
            if(chh >='A' && chh <='Z')
                upperCase++;
            ch=Character.toUpperCase(chh);
            if (ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U')
                vowels++;
        }
        System.out.println("Count of uppercase letters :" + upperCase);
        System.out.println("Count of vowels :" + vowels);
    }
}
```

4.
```
import java.util.Scanner;
public class MaxSum
{
    public static void main(String args[])
    {
        Scanner in = new Scanner(System.in);
        double arr[] = new double[20];
        System.out.println("Enter 20 numbers:");
        for (int i = 0; i < 20; i++)
        {
            arr[i] = in.nextDouble();
        }
        int max = arr[0], sum = 0;
        for (int i = 0; i < arr.length; i++)
        {

            if (arr[i] > max)
                max = arr[i];

            sum += arr[i];
        }
        System.out.println("Largest Number = " + max);
        System.out.println("Sum = " + sum);
    }
}
```

5.
```
import java.util.*;
public class Strings
{
    public static void main(String [] args)
    {
        String s1="",s2="";
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter two strings :");
        s1=sc.nextLine();
        s2=sc.nextLine();
        s1=s1.toUpperCase();
        s2=s2.toUpperCase();
        if (!s1.equals(s2))
        {
            if (s1.length()>s2.length())
                System.out.println(s1);
            else
                System.out.println(s2);
        }
        else
        System.out.println("Strings are equal");
    }
}
```

6.
```
public class Palindrome
{
    public static void main(String args[])
    {
        String a, b = "";
        Scanner s = new Scanner(System.in);
        System.out.print("Enter the string you want to check:");
        a = s.nextLine();
        a=a.toLowerCase();
        int n = a.length();
        for(int i = n - 1; i >= 0; i--)
        {
            b = b + a.charAt(i);
        }
            if(a.equalsIgnoreCase(b))
        {
            System.out.println("The string is palindrome.");
        }
            else
            {
                System.out.println("The string is not palindrome.");
            }
    }
}
```

7.
```
import java.util.*;
public class Strings
{
    public static void main(String[] args)
    {
        Scanner sc=new Scanner(System.in);
        String[] strArray = new String[10];
        System.out.println("Enter 10 Strings :");
        for (int i=0;i<3;i++)

            strArray[i]=sc.nextLine();
        for (int i=0;i<3;i++)
        {

            if (strArray[i].length() %2==0)
            System.out.println(strArray[i]);
        }
    }
}
```

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