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COMPUTER APPLICATIONS (Std X)

Maximum Marks:50

Time allowed: One and a half hours

Answers to this Paper must be written on the paper provided separately.
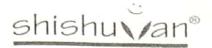*You will not be allowed to write during the first 10 minutes.*
This time is to be spent in reading the question paper.
The time given at the head of this Paper is the time allowed for writing the answers.

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*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   [10]
question, Write the correct answer only.)

(i) _____ package contains classes for input/output operations.

    a) java.lang

    b) java.io

    c) java.awt

    d) java.net

(ii) When primitive data type is converted to its corresponding object of the wrapper class, it is called as _____

    a) Autoboxing

    b) Unboxing

    c) Implicit type conversion

    d) Explicit type conversion

(iii) Identify the correct array declaration for an array of size 10.

    a) double amount[10];

    b) double[10] amount = new amount [10];

    c) double amount[ ]= new amount[10];

    d) double amount[ ]=new double[10];

(iv)   Give the output of the following code:

String A = "25", B= "100";

String C = A+B+ "200";

int x=Integer.parseInt(A);

int y=Integer.parseInt(B);

int z=x+y;

System.out.println(C+" "+z);

    a) 325 125

    b) 25100200 125

    c) 25100 200 125

    d) 125200 125

(v)   Variable that is independent and does not belong to any object of the class

    a) Instance variable

    b) Class Variable

    c) Local Variable

    d) Argument Variable

(vi)   These members are accessed only within the scope of the class.

    a) private

    b) protected

    c) public

    d) package

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

String arr[]={"Maharashtra","Rajasthan","Gujarat","Kerala"};

String substr=arr[2].substring(1,3);

System.out.println(substr+ " " +substr.length());

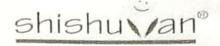   a) Guj 3

    b) Raj 3

    c) uj 2

    d) Gujarat 7

(viii)   valueOf() finction converts:

   a) String to Primitive data type

   b) String to Composite data type

   c) Primitive data type to String

   d) Character to String

(ix)   What will be the output of the following code

```
char c1='A';

char c2=Character.toLowerCase(c1);

int n = (int)c2-32;

System.out.println(n+"\t"+c2);
```

   a) A   a

   b) 32   a

   c) 65   A

   d) 65   a

(x)   Which of the following function can be best used to check if the two strings are equal greater than or smaller than the other.

   a) boolean equals(String s)

   b) boolean equalsIgnoreCase(String s)

   c) int compareTo(String s)

   d) int valueOf(String s)

SECTION B

Attempt *any four* questions from this Section.

*The answers in this Section should consist of the **Programs** in either **Blue J environment** or any program environment with Java as the base. Each program should be written using **Variable** descriptions/Mnemonic Codes such that the logic of the program is clearly depicted.*

Question 2   [10]

Write a program to accept a string. Count and display the number of vowels present in the string,

Sample Input: Computer Applications
Sample Output: Number of vowels in the string = 8

Question 3   [10]

Write a program to input a string. Convert each letter to it's opposite case. Print the original and new string along with suitable message.

Sample Input: Sky LIne
Sample Output: sKY line

Question 4   [10]

Write a program in Java to accept a word and check whether the word is palindrome or not

Sample Input: radar
Sample Output: The word is palindrome

Question 5   [10]

Write a program to create a single dimensional array to input any 10 integers.
Print the array elements in a single line.
Also print the sum of the elements which are divisible by 5.
If none of the numbers entered is divisible by 5 then print the statement: "None of the numbers are divisible by 5"

Question 6   [10]

Write a program to initialize the array with the average temperatures recorded in a week. Display the minimum and the maximum temperature recorded in the week.

Sample Input:

T[0]	T[1]	T[2]	T[3]	T[4]	T[5]	T[6]
25.0	28.0	22.5	25.0	23.0	24.0	26.0

Sample Output:
Minimum temperature: 22.5
Maximum temperature: 28.0

[10]

Question 7

Write a program to accept 10 different numbers in a Single Dimensional Array. Enter a number to check if that number is present in the list of array elements by using Binary search technique. If the number is present display the message "Search Successful" otherwise display "Search unsuccessful".

Sample Input:

N[0]	N[1]	N[2]	N[3]	N[4]	N[5]	N[6]	N[7]	N[8]	N[9]
20	22	24	26	28	30	32	34	36	38

Sample Output:
Enter the number to be searched: 34
Search successful

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