Computer Sample Paper for Class 9 Himachal Pradesh Board

General Instructions:

1. Answers to this Paper must be written on the paper provided separately.
2. You will not be allowed to write during the first 15 minutes.
3. This time is to be spent in reading the question paper.
4. The time given at the head of this Paper is the time allowed for writing the answers.
5. This Paper is divided into two Sections.
6. Attempt all questions from Section A and any four questions from Section B.
7. The intended marks for questions or parts of questions are given in brackets [ ].

SECTION A (40 Marks)

Attempt all questions

Question 1

(a) State the difference between final and finally { }. [2]

(b) Java is an object Oriented programming. Comment. [2]

(c) What is an Exception in Java? How do you handle it? [2]

(d) What is the size and range of data type int. [2]

(e) What is the difference between application class and class as user defined data type. [2]

Question 2

(a) What is empty loop? Give an example [2]

(b) What is scope of a local, instance and class variable? [2]

(c) int a =21, b = 4, c; then evaluate

(i) c+= a++ + 2*++b- a%b; [2]

(ii) c= --a<<b;

(d) What are System.out and System.in ? [2]

(e) What will be the output of following code snippet and how many times the following loop will be executed? [2]

```
int a=10, b=3;

while (a>++b)

{

a--;

System.out.println(a<<b);

}
```

Question 3

(a) State the difference between accessor and mutator function. Give an example of each. [2]

(b) State difference between class and an interface. [2]

(c) What is function overloading? Which principal of OOP is implemented function overloading? [2]

(d) Give output of the following code snippet [2]

```
String str = new String("ICSE Examination 2013");

System.out.println(Integer.parseInt(str.substring(str.length()-3))+ str.length());

System.out.println(str.substring(0,4)+str.lastIndexOf("a"));
```

(e) What is Wrapper class? Give examples [2]

(f) What is copy constructor? Give an example [2]

(g) What is scanner class? Name functions of scanner class to read integer and

String data types. [2]

h) Name the keyword [2]

i) to create a package (ii) that converts a instance variable to class variable .

i) Write the prototype of function [2]

i) isPrime() that checks if number n is prime or not?

ii) count() that returns the frequency of a specific character ch in a string str.

j) Write a java statement to generate random number between 10 and 20 (both

inclusive). [2]

SECTION B (60 Marks)

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. Flow-Charts and Algorithms are not required.

Question 4

Define a class BILL that calculates telephone bill of a consumer having the following description:

Data members/instance variables

int billno - bill number

String name - name of consumer

int unit - no. of units consumed in a month

double amount – bill amount to be paid by the person

Member functions:

BILL () - constructor to initialize data members with default initial value

BILL(…) - parameterized constructor to accept billno, name and no. of units

consumed .

calculate() - to calculate the monthly telephone bill for a consumer as per following

condition

No. of Units consumed Rate in Rs.

First 100 Units Only monthly rental

Next 100 units Rs. 0.60/ Unit

Next 100 units Rs. 1.0/Unit

Above 300 Rs 1.5/Unit

display()- To display the details.

Create an object in the **main()** method and invoke the above function to perform the desired task. [15]

Question 5

Overload a function check() to perform the following task [15]

i) to check if a number is Armstrong. A number is said to be Armstrong if the sum of cubes of its digits is equal to the number.

ii) To check if given string is palindrome

Question 6

Write a program to accept a sentence and print the Palindrome words [15]

Example :

INPUT : MOM AND DAD ARE LEARNING MALAYALAM

OUTPUT: MOM DAD MALAYALAM

Question 7

Write a program to store 16 integers in a 4 x 4 array and find

a) find minimum and maximum no. along with its position.

b) print both the diagonals in „X" format. [15]

Question 8

Write a program to generate and find the sum of all prime numbers between two integers m and n entered by user. Assume that n is greater than m and also both are greater than zero. [15]

Question 9

Write a program to accept names of 100 persons and their telephones nos in a two different 1 Dimensional array and sort the telephone directory in alphabetical order of their name using bubble sort. [15]