Nayak's Tutorials

Way to Excellence

Date : 2024 - 25   **Practice Paper 1**   Marks - 100
Std:- X ICSE   Computer Application   Duration :- 2 Hrs

*Attempt **all** questions from **Section A** and **any four** questions from **Section B.***
The intended marks for question or parts of questions are given in brackets [ ].

SECTION A
*(Attempt **all** questions from this **Section**.)*

Question 1

Choose the correct answers to the questions from the given options.
(Do not copy the question, write the correct answers only.)

(i) Which language was developed as the first purely object programming language ?
    (a) Java   (b) C++   (c) Small talk   (d) Kotlin

(ii) A bundle of similar classes is called a :
    (a) Package   (b) Group   (c) Packed classes   (d) None of these

(iii) The keyword used to return a value from a function is :
    (a) returns   (b) return   (c) send   (d) None of these

(iv) Default constructor requires how many parameters ?
    (a) 3   (b) 0   (c) 2   (d) 1

(v) What is the final value stored in variable x?
    double x = Math.pow (˝345˝. index of ('5), 3);
    (a) 8.0   (b) 7.0   (c) 16   (d) 4

(vi) Which of the following is not a java feature ?
    (a) Dynamic   (b) Use of pointers
    (c) Arichitecture Neutral   (d) Object – Oriented

(vii) Which of the following is invalid access modifier ?
    Class, public, private, protected
    (a) protected   (b) private   (c) Class   (d) public

(viii) Multiple branches is used by _____ statement.
    (a) Break   (b) Switch   (c) Continue   (d) Loop

(ix) Which has same name as of class ?
    (a) Data   (b) Object   (c) Sub class   (d) Constructor

(x) What is called the instance of the class ?
    (a) Sub class   (b) Attributes   (c) Object   (d) None of these

(xi) How many times 'Hello' is printed ?

```
Public static void main(String args[]}
{
    for(i=0;i<5;i++)
    {
        System.out.println("hello");
        break;
    }
}
```

(a) 5 (b) 4 (c) 1 (d) 0

(xii) What is the type and value of the following expression ? (Notice the integer division)

–4 + 1/2 + 2*–3 + 5.0

(a) int –5 (b) double –4.5 (c) int –4 (d) double –5.0

(xiii) What is the way to come out of or Quit any Loop suddently ?

(a) quit; statement (b) break; statement

(c) leave; Statement (d) continue; Statement

(xiv) The members of a class are defined inside :

(a) ( ) (b) { } (c) [ ] (d) None of these

(xv) Function prototype means

(a) Return value of a function (b) Name of the function

(c) Return type of the function (d) Return type, Name and Inputs to a fucntion

(xvi) A _____ is a exit control loop in Java.

(a) Do while (b) while (c) for (d) switch

(xvii) Which function is used to check whether a character is in upper case or not ?

(a) isUpperCase() (b) isLowerCase()

(c) toUpperCase() (d) None of these

(xviii) All the functions of a package can be imported by using the _____ character with import statement.

(a) _ (b) * (c) / (d) @

(xix) public class Abc

```
{
    public static void main (String args[])
    {
        System.out.println("hello java");
    }
}
```

(a) hello java (b) 0 (c) Compile time error (d) None of these

(xx) setChar() is used to :

(a) replace the original string values with the new one

(b) convert any of the iterable to the sequence of iterable elements with distinct elements

(c) returns a reference to this Java. lang

(d) None of the above

Question 2

(i) Evaluate the following expression, if x=3, y=5, and z=10:

++z + y – y + z + x++

(ii) Write down java expression for :

$T = \sqrt{A^2 + B^2 + C^2}$

(iii) Rewrite the following using ternary operator :

if (bill > 1000)

discount = bill "10.0/100;

else

discount = bill * 5.0/100;

(iv) Convert the following if else if construct into switch case :

```
if(var = = 1)
System.out.println("good");
else if (var = = 2)
System.out.println("better");
elseif (var ==3)
System.out.println("best");
else
System.out.println("invalid");
```

(v) Give the output of the following program segment and also mention the number of times the loop is executed :

```
int a, b;
for (a=6, b=4; a<=24; a = a + 6_
{
    if(a % b = = 0)
    break;
}
System.out.println(a);
```

(vi) "POLYNOMIAL". replace('O' , 'e').toLowerCase();

(vii) Differentiate between : compareTo() and equals() methods.

(viii) What is the use of 'continue' in loop ?

(ix) Consider the following class :

```
public class myClass
{
    public static int x = 3, y = 4;
    public int a = 2, b = 3;
}
```

(a) Name the variable for which each object of the class will have its own distinct copy.

(b) Name the variable that are common to all objects of the class.

(x) Consider the following String array and give the output :

```
String a [ ] = { "DELHI", "CHENNAI", "MUMBAI", "LUCKNOW", "JAIPUR"};
(a) System.out.print(arr[0].length() > arr[3].length());
(b) System.out.print(arr[4].substring(0,3));
```

SECTION B

*(Answer **any four** questions from this **Section**.)*

The answers in this Section should consists of the programs in either BlueJ environment or any program environment with java as the base.

Each program should be written using variable description/mnemonic codes so that the logic of the program is clearly depicted.

Flowcharts and algorithms are not required.

Question 3

Stock Exchange rates the company against points scored (out of 100) by the company over a period of month as per the following category :

Points earned	Grade awarded	Remark
0 – 20	D	Poor for investment
21 – 50	C	Average for investment
51 – 90	B	Good for investment
90 – 100	A	Best for investment

Write a Java program to design a class named Stock with the following class description :

Class name :   Stock

Member variable :   String CmpName – to store the name of the company

int points –   to store the total points earned over the month

char grd –   to store the grade

Member functions : parameterized constructor to assign company name and points earned through parameter and grd=´\u0000´, rem=null.

void calculate() –   to find the grade and remarks and assign the acc.

void display( ) –   to display all the detail.

Question 4

Using the switch statement, write a menu driven program to perform following operations :

(i) To print the value Z where $Z = \left(\frac{x^3 + 0.5x}{y}\right)$

where x ranges from – 10 to 10 with an increment of2 and y remains constant at 5.5.

(ii) To print the Floyds triangle with N rows

Example : If N = 5, Output :

1
2 3
4 5 6
7 8 9 10
11 12 13 14 15

Question 5

Write a program to accept a list of 20 integers. Sort the first 10 numbers in ascending order and next the 10 numbers in descending order by using 'Bubble Sort' technique. Finally, print the complete list of intergers.

Question 6

Write a java program to find the smallest and second smallest elements in an array.

Question 7

Write a program in JAVA to accept a string in upper case and find the frequency of each vowel present in the string.
Sample Input: ''WE ARE LIVING IN COMPUTER WORLD. ''

Sample Output : Frequency of   'A' = 1
              ''   ''   'E' = 3
              ''   ''   'F' = 3
              ''   ''   'O' = 2
              ''   ''   'U' = 1

Question 8

Write a program in Java to accept ones full name from the user and then rearrange the name in the given manner :

Print all the middle position words first followed by first and the last word of the name.

For Example **''RABINDRA NATH TAGORE''** will be printed as **NATH RABINDRA TAGORE** and **''RAJA RAM MOHAN ROY''** will be printed as **RAMMOHAN RAJA ROY.**