Nayak's Tutorials

Way to Excellence

Date : 2024 - 25 | **Practice Paper 2** | **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) Wrapping up of data and methods together as one unit is termed as :

(a) Inheritance (b) Polymorphism (c) Encapsulation (d) Abstraction

(ii) The datatype which is specified that the method does not return a value is :

(a) Void (b) void (c) VOID (d) boolean

(iii) The logical operator which is an unary operator :

(a) && (b) || (c) ! (d) >>

(iv) The Scanner class is a _____ class.

(a) Primitive (b) Derived (c) Wrapper (d) super

(v) Math. pow(625, 1/2) + Math.sqrt(144)

(a) 17.0 (b) 13.0 (c) 37.0 (d) 13

(vi) Which of the following is not a java feature ?

(a)
```
if(n%2=0)
    return true;
    else
    return false;
```

(b)
```
if(n%2==0)
    System.out.println("true");
    else
    System.out.println("false");
```

(c)
```
if(n%2==0)
    return "true";
    else
    return "false";
```

(d)
```
if(n%2==0)
    return false;
    else
    return "false";
```

(vii) Multiple branching statement of java is :

(a) For (b) while (c) do... while (d) switch

(viii) The number of bytes occupied by the constant 45 are :

(a) Four bytes (b) two bytes (c) Eight bytes (d) one byte

(ix) do ..... while loop is an

(a) entry controlled loop (b) infinite loop

(c) exit controlled loop (d) finite loop

(x)
```
for(k=1; k<=2; k++)
{       for(m=1; m<=4; m++)
        {
            System.out.println(m*2);
        }
}
```

How many times the inner loop is executed ?

(a) 4 times (b) 8 times (c) 2 times (d) 16 times

(xi) A method with the same name as of the class and with arguments and no return type is termed as :

(a) parameterised constructor (b) default constructor

(c) non-parameterised constructor (d) wrapper class method

(xii) int res='A'; What is the value of res ?

(a) A (b) 66 (c) 65 (d) 97

(xiii) The style of expressing single line comment is :

(a) /*comment*/ (b) *comment (c) //comment (d) /*comment

(xiv) The method to check if a character is an alphabet or not is :

(a) isLetter(char (b) isUppercase(char)

(c) isAlpha(char) (d) isLowercase(char)

(xv) The output of Double.parseDouble(''71.25'') + 0.75 is :

(a) 72 (b) 72.0 (c) 71.0 (d) 71.75

(xvi) The method to convert a string to upper case is :

(a) toUpperCase(char) (b) toUpperCase(String)

(c) toUPPERCASE(String) (d) touppercase(String)

(xvii) The output of the method ''DETERMINATION'' .substring(2,6) is :

(a) ''TERM'' (b) term (c) ''Term'' (d) ''TERMI''

(xviii) The array int x[10] occupies :

(a) 10 bytes (b) 40 bytes (c) 20 bytes (d) 80 bytes

(xix) The element in x[4] of the array [3, 5, 7, 12, 16, 18, 20, 35, 42, 89} is :

(a) 16 (b) 12 (c) 7 (d) 18

(xx) Name the type of error that occurs for the following statement :

(a) Syntax error (b) run time error (c) logical error (d) no error

Question 2

(i) Evaluate the given Java expressions, if x =3.0 and y = 2.0 :

```
y+= ++x + ++x +5;
```

(ii) Write Java expression for :

$\sqrt{((a+b)^3/\,|a-b|)}$

(iii) Rewrite the following condition without using logical operators :

```
if (a > b || a > c)
System.out.println(a);
```

(iv) Rewrite the following loop using for loop :

```
while (true)
System.out.println(″*″)
```

(v) Give the output of the following code and mention how many times the loop will execute ?

```
int i;
for (i=5; i>=1; i --)
{
   if(i%2 == 1)
   continue;
   System.out.printing(i+ ″″);
}
```

(vi) ″TRANSPARENT″. replace('N' , 'u').toLowerCase();

(vii) ″MISSISSIPPI″.indexOf('S') + ″MISSISSIPPI″.lastIndexOf('I')

(viii) Define ternary operator with example.

(ix) Consider the following program and answer the questions given below :

```
public class Constructed3
{
    int birds=10;
    Constructor3()
    {
        this(20);
    }
    Constructor3(int birds)
    {
        System.out.println(″Birds=″ + birds);
    }
    public static void main(String[] args)
    {
        Constructor3con = new Constructor3();
    }
}
```

(a) What is the output of the above program ?

(b) Which method is used in above program ?

(x) Consider the following array and answer the following given question :

String a [ ] = { cat, dog, lion, mouse, elephant, rabbit, giraffe }

(a) What is the position of elephant ?

(b) What is the size of an array ?

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

Define a c lass with the following specifications :

Class name : employee

Member variable : eno – employee number
ename – name of the employee
age – age of the employee
basic – basic salary

[Declare the variables using appropriate data types]

Member methods :

void accept ()– accept the details using scanner class

void calculate() – to calculate the net salary as per the given specifications :
net = 18.5% of basic

da = 17.45% of basic
pf = 8.10% of basic
if the age of the employee is above 50he/she
gets an additional allowance of ₹ 5000.

void print() - to print the details as per the following format
eno ename age basic net

void main()- to create an object of the class and invoke the methods

Question 4

WAmicable Number Definition: The number n is amicable if it belongs to an amicable pair. Two numbers n and m are called an amicable pair if the sum of all positive divisors of n and the sum of all positive divisors of m are equal to (n+m).

First ten such numbers:

220, 284, 1184, 1210, 2620, 2924, 5020, 5564, 6232, 6368.

Declare a class named Numbers contain a method **AmicableNos(int, int)** that will check both the numbers are of Amicable pairs or not. Appropriate error message should be given in case.

Question 5

Write a program to input name and percentage of 35 students of Class X in two separate one dimensional arrays. Arrange students details according to their percentage in the descending order using bubble sort method. Display name and percentage of first ten toppers of the class.

Question 6

A dimensional array contain 100 elements. Each element is an integer. Write a program to read the array and find the mean element of the array. Find the position of the element which has the maximum deviation from the mean.

Question 7

Write a program to accept a string and print all the palindrome words present there.
A Palindrome string is a string that reads the same from left to right and vice-verca.
E.g., MADAM, ARORA, ABBA, etc.

Question 8

Write a program to search for an integer value input by the user in the sorted list given below using binary search technique. If found display ''Search Successful'' and print the element, otherwise display ''Search unsuccessful''.

{31, 36, 45, 50, 60, 75, 86, 90}