

COMPUTER APPLICATION
CLASS X
PRACTICE TEST(MCQ BASED)
Total marks: 50

A. Tick (✓) the correct option.20x1=20

1. Which among the following is not a primitive data type?
 - a. int
 - b. short
 - c. String
 - d. Long
2. Name the operator that is used to allocate memory space for an object.
 - a. Dot
 - b. New
 - c. Both a and b
 - d. None of these
3. What is the name given to a memory location called in Java?
 - a. Variable
 - b. Constant
 - c. Data Type
 - d. None of these
4. Which are the data types used in Java?
 - a. Primitive data type
 - b. Composite data type
 - c. Both a and b
 - d. None of these
5. How are the characteristics of an object represented in a class?
 - a. Data Members
 - b. Member Functions
 - c. Access specifiers
 - d. None of these
6. Which among the following is used to change the state of an object?
 - a. Data Members
 - b. Name of the class
 - c. Both a and b
 - d. None of these
7. Once a function is defined, it can be invoked repeatedly. What is this feature called?
 - a. Interface
 - b. Reusability
 - c. Restructuring
 - d. All of these
8. If a function does not return any value, its return type should be:
 - a. int
 - b. no-return
 - c. void
 - d. empty
9. A type of parameter that are used to identify what data is to be passed to a function is called:
 - a. Formal parameter
 - b. Actual parameter
 - c. Both a and b
 - d. None of these
10. How many objects can you create from a class?
 - a. One
 - b. Two
 - c. Three
 - d. Any number
11. The first line of the function definition is called:
 - a. Function prototype
 - b. Function signature
 - c. Both a and b
 - d. None of these
12. A local variable in a function has its scope:
 - a. Limited within the function
 - b. Can be accessed anywhere within the same class
 - c. No limitation at all
 - d. None of these


```
for(i=1;i<=5;i++)
{
System.out.print(s+" ");

s=s+i;
}
}

Q2. public int rem()
{
int a=234,b=456,c=712,d;
d=a%10+b%10+c%10;
return d;
}

Q3. class overload{
public static void calc(int a, int b)
{
int x=a/b;
System.out.println(x);
}
public static void calc(double c, double d)
{
double x=c%d;
System.out.println(x);
}
public static void main(){
calc(10, 4);
}}

Q4. public void loop(String args[])
{
while(true)
{
int A=5;
System.out.print(A);
A=A+1;
if (A==10)
break;
}
}

Q5. public void display()
{
int i=10;
while ( i !=0)
{
System.out.print(i +" ");
```

```

        }
    }
}

```

C. Fill the following programs with proper statements:-4x5=20

Program1. Write a program to input a number. Use a function `int Armstrong(int n)` to accept the number. The function returns 1, if the number is Armstrong, otherwise zero(0).

Sample Input: 153

Sample Output: $153 \Rightarrow 1^3 + 5^3 + 3^3 = 153$

It is an Armstrong Number.

```

import java.util.*;
public class ArmstrongNumber
{
    public int armstrong(int n) {

        int num = n, s= 0;

        while (n> _____) {
            int d = n % 10;
            s = s+(_____);
            n=n/10;
        }

        if (s == num)
            return 1;
        else
            _____;
    }

    public static void main(String args[]) {

        Scanner in = new Scanner(System.in);
        System.out.print("Enter Number: ");
        int n1= in.nextInt();

        ArmstrongNumber ob = new ArmstrongNumber();
        _____ k = ob.armstrong(n1);

        if (_____ )
            System.out.println(n1 + " is an Armstrong number");
        else

```

```

        System.out.println(n1 + " is not an Armstrong number");
    }
}

```

Program2. Write a class with the name Perimeter using function overloading that computes the perimeter of a square, a rectangle and a circle.

Formula:

Perimeter of a square = 4 * s

Perimeter of a rectangle = 2 * (l + b)

Perimeter of a circle = 2 * (22/7) * r

```

import java.util.*;

public class Perimeter
{
    public double _____(double s) {
        double p = 4 * s;
        return p;
    }
    public double perimeter(double l, _____) {
        double p = 2 * (l + b);
        return p;
    }

    public double perimeter(int c, double pi, double r) {
        double p = c * pi * r;
        _____;
    }

    public static void main(String args[]) {
        Scanner in = new Scanner(System.in);
        Perimeter ob = new Perimeter();

        System.out.print("Enter side of square: ");
        _____side = in.nextDouble();
        System.out.println("Perimeter of square = " + ob.perimeter(side));

        System.out.print("Enter length of rectangle: ");
        double l = in.nextDouble();
        System.out.print("Enter breadth of rectangle: ");
        double b = in.nextDouble();
        System.out.println("Perimeter of rectangle = " _____(l, b));

        System.out.print("Enter radius of circle: ");

```

```

    double r = in.nextDouble();
    System.out.println("Perimeter of circle = " + ob.perimeter(2, 3.14159, r));
}
}

```

Program3. Define a class Library having the following description:

Data Members Purpose

String name to store name of the book

int price to store the printed price of the book

int day to store the number of days for which fine is to be paid

double fine to store the fine to be paid

Member functions Purpose

void input() To accept the name of the book and printed price of the book

void cal() Calculates the fine to be paid

void display() Displays the name of the book and fine to be paid

Write a program to compute the fine according to the given conditions and display the fine to be paid.

Days Fine

First seven days 25 paise per day

Eight to fifteen days 40 paise per day

Sixteen to thirty days 60 paise per day

More than thirty days 80 paise per day

```
import java.util.Scanner;
```

```
public class Library
```

```
{
```

```
    String name;
```

```
    int price;
```

```
    int day;
```

```
    _____ fine;
```

```
    public void input() {
```

```
        Scanner in = new Scanner(System.in);
```

```
        System.out.print("Enter name of the book: ");
```

```
        name = in.nextLine();
```

```
        System.out.print("Enter printed price of the book: ");
```

```
        price = in.nextInt();
```

```
        System.out.print("For how many days fine needs to be paid: ");
```

```
        day = in.nextInt();
```

```
    }
```

```
    public _____cal() {
```

```
        if (day <= 7)
```

```
            fine = day * 0.25;
```

```

else if (day <= 15)
    fine = (7 * 0.25) + ((_____ ) * 0.4);
else if (day <= 30)
    fine = (7 * 0.25) + (8 * 0.4) + ((day - 15) * 0.6);
else
    fine = (7 * 0.25) + (8 * 0.4) + (15 * 0.6) + ((day - 30) * 0.8);
}

public void display() {
    System.out.println("Name of the book: " + name);
    System.out.println("Printed price of the book: " + price);

    System.out.println("Fine to be paid: " + _____);
}

public static void main(String args[]) {
    Libraryy obj = new _____();
    obj.input();
    obj.cal();
    obj.display();
}
}

```

Program 4. Write a program in Java to find the roots of a quadratic equation $ax^2 + bx + c = 0$ with the following specifications :

Class name : Quad

Data Members : float a,b,c,d (a,b,c are the co-efficients & d is the discriminant.) r1 and r2 are the roots of the equation.

Member Methods :

Quad(int x,int y,int z) : to initialize a=x, b=y, c=z, d=0

void calculate() : Find $d = b^2 - 4ac$

If $d < 0$ then print "Roots not possible" otherwise find and print :

$r1 = (-b + \sqrt{d}) / 2a$ and $r2 = (-b - \sqrt{d}) / 2a$

```

import java.util.*;
class Quad {
float a,b,c,d,r1,r2;

```

```

    _____ (int x,int y,int z)
    {
        a=x;b=y;c=z;d=0;r1=0;r2=0;
    }
}

```

```
_____calculate() {  
    d=b*b-4*a*c;  
    if(d<0) {  
        System.out.println("Roots Not Possible.");  
    }  
    else {  
        _____=(-1*b+(float)(Math.sqrt(d)))/2*a;  
        r2=(-1*b-(float)(Math.sqrt(d)))/2*a;  
        System.out.println("Roots are: "+r1+", "+r2);  
    }  
}  
  
public static void main(String args[]) {  
    Scanner in = new Scanner(System.in);  
    System.out.println("Enter A :");  
    int a1 = _____();  
    System.out.println("Enter B:");  
    int b1= in.nextInt();  
    System.out.println("Enter C:");  
    int c1 = in.nextInt();  
    Quad ob = new Quad(_____);  
    ob.calculate();  
}  
}
```