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SUBJECT : OBJECT ORINTED PROGRAMING

FINAL : SUMMER EXAM LAB

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BS : CS

Q1

Sol:-

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

```
class Triangle
```

```
{
```

```
public static void main(String args[])
```

```
{
```

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

```
System.out.print("Enter the sides of triangle : ");
```

```
int a = sc.nextInt();
```

```
int b = sc.nextInt();
```

```
int c = sc.nextInt();
```

```
if(a+b>c && b+c>a && a+c>b && a!=0 && b!=0 && c!=0)
```

```
System.out.println("Perimeter of triangle : " + (a+b+c));
```

```
else
```

```
System.out.println("Invalid sides entered.");
```

```
}
```

OUTPUT:

Enter the sides of triangle : 5 12 13

Perimeter of triangle : 30

Q2

Sol :-

```
class CircleDemo2
```

```
{
```

```
public static void main(String args[])
```

```
{
```

```
int radius = 3;
```

```
double area = Math.PI * (radius * radius);
```

```
System.out.println("The area of circle is: " + area);
```

```
double circumference= Math.PI * 2*radius;
```

```
System.out.println( "The circumference of the circle  
is:"+circumference) ;
```

```
}  
}
```

Output:

The area of circle is: 28.274333882308138

The circumference of the circle is:18.849555921

Q3

Sol :-

```
public class LeapYear
```

```
{
```

```
    public static void main(String[] args)
```

```
{
```

```
    int year = 1900;
```

```
    boolean leap = false;
```

```
    if(year % 4 == 0)
```

```
{
```

```
        if( year % 100 == 0)
```

```
{
```

```
// year is divisible by 400, hence the year is a leap year
if ( year % 400 == 0)
    leap = true;
else
    leap = false;
}
else
    leap = true;
}
else
    leap = false;
if(leap)
    System.out.println(year + " is a leap year.");
else
    System.out.println(year + " is not a leap year."); } }
```

Output

1900 is not a leap year.

Q4

Sol :-

```
import java.util.Scanner;  
  
public class JavaProgram  
{  
  
public static void main(String args[])  
{  
  
char ch;  
  
Scanner scan = new Scanner(System.in);  
  
System.out.print("Enter an Alphabet : "); ch =  
scan.next().charAt(0);  
  
if(ch=='a' || ch=='A' || ch=='e' || ch=='E' || ch=='i' ||  
ch=='l' || ch=='o' || ch=='O' ||  
ch=='u' || ch=='U')  
  
{  
  
System.out.print("This is a Vowel");  
  
}  
  
else
```

```
{  
    System.out.print("This is not a Vowel");  
}  
}  
}
```

Q5

Sol :-

```
public class Java  
{  
    public static void main(String[] args)  
    {  
        int number = 10, p = 3;  
        double result = Math.pow(number, p);  
        System.out.println(number+"^"+p+" = "+result);  
    }  
}
```