



ST. JOSEPH'S COLLEGE, PRAYAGRAJ
FINAL EXAMINATION 2025
COMPUTER APPLICATION
CLASS – 9

TIME: 2 Hours

MM: 100

This Paper is divided into two Sections.

Attempt all questions from Section A and Section B.

The intended marks for questions or parts of questions are given in brackets [].

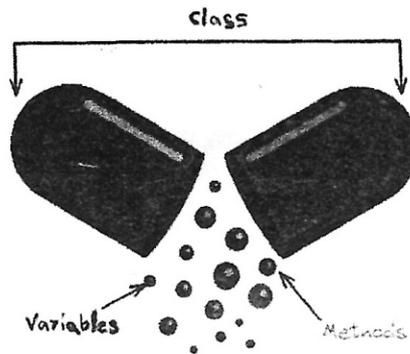
Section A

(Attempt all questions from this Section.)

Question 1.

[20]

i.



Name the feature of Java depicted in the above picture.

- | | |
|------------------|-----------------|
| a) Encapsulation | b) Inheritance |
| c) Abstraction | d) Polymorphism |
- ii. Multiple branching statement of Java is :
- | | |
|-----------|-------------|
| a) for | b) while |
| c) switch | d) do-while |
- iii. The number of bytes occupied by the constant 45 are:
- | | |
|----------------|--------------|
| a) four bytes | b) two bytes |
| c) eight bytes | d) one byte |
- iv. Choose the correct arrangement of the operators from higher precedence to lower precedence:
&&,%,>=,++
- | | |
|---------------|---------------|
| a) ++,%,>=,&& | b) ++,&&,%,>= |
| c) ++,>=,%,&& | d) ++,&&,>=,% |
- v. do- while () loop is an
- | | |
|--------------------------|-------------------------|
| a) entry controlled loop | b) infinite loop |
| c) finite loop | d) exit controlled loop |
- vi. Package is a:
- | | |
|-----------------------------|-----------------------------|
| a) collection of data | b) collection of classes |
| c) collections of functions | d) collection of data types |
- vii. The size of '\n' is:
- | | |
|------------|-------------|
| a) 2 bytes | b) 4 bytes |
| c) 1 byte | d) 16 bytes |
- viii. The correct if statement for the following ternary operation statement is:
`System.out.println(n%2 == 0? "true": "false");`
- | | |
|--|--|
| a) <code>if(n%2==0)</code>
<code>return true;</code>
<code>else</code>
<code>return false;</code> | b) <code>if(n%2==0)</code>
<code>return "true";</code>
<code>else</code>
<code>return "false";</code> |
| c) <code>if(n%2==0)</code>
<code>System.out.println("true");</code>
<code>else</code>
<code>System.out.println("false");</code> | d) <code>if(n%2==0)</code>
<code>return false;</code>
<code>else</code>
<code>return false;</code> |



xx. Name the type of error in the given statement:

```
int r=100/0;
```

- a) Syntax error
- b) Runtime error
- c) Logical error
- d) None of these

Question 2.

- i. State the purpose of `nextInt()` and `next().charAt(0)` methods. [20]
- ii. State the purpose of `new` operator with an example. Also define the purpose of `dot(.)` operator. [2]
- iii. What do you mean by an expression? Name two types of expressions. [2]
- iv. What happens when `break` statement is present within a nested `for()` loop? Also, give an example. [2]
- v. What is the difference between `floor()` and `ceil()` methods? [2]
- vi. Write valid statements for the following tasks using mathematical methods: [2]
 - a) Print 7 raised to the power 3
 - b) Print the positive form of the number -952
- vii. Name the following: [2]
 - a) What is an instance of the class called?
 - b) The package required to use scanner class.
- viii. [2]
 - a) Write the Java expression for $\sqrt[3]{x} + \sqrt{y}$
 - b) Rewrite the following code using single if statement.

```
if(code=='g')
System.out.println("GREEN");
else if(code=='G')
System.out.println("GREEN");
```
- ix. Write an equivalent `while () loop` for the following `for () loop`: [2]

```
int a=335;
for(int n=a; n>0; n/=10)
s += n%10;
```
- x. What will be the output of the following code? [2]

```
int x = 2;
for int j = 1; j <= 20; j++)
{
    if (x<=4)
    {
        x += 2;
        System.out.println(x + "\t");
        continue;
    }
    else
    {
        System.out.println(++x);
        break;
    }
}
```

Section B

(Attempt any four questions from this Section.)

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

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

Flowcharts and algorithms are not required.



Question 3.

Write a program that accepts the *name*, *age*, and *marks* of a student using the Scanner class and allocate a stream based on the given criteria.

marks	stream
>= 300	Science and Computer
>= 200 and < 300	Commerce and Computer
>= 75 and < 200	Arts and Animation
< 75	Try Again

Also displays the student's name, age, marks, and allocated stream with proper message. [15]

Question 4.

Write a program that accepts a number from the user and allows them to choose between two options using a *switch-case*:

1. Check if the number is a *Prime Number*.
2. Check if the number is an *Automorphic Number*.

[Note: An Automorphic number is a number whose square ends with the same digits as the number itself. For example, 25 is an Automorphic number because its square is 625, and it ends in 25].

If the user enters an invalid option, print an appropriate message. [15]

Question 5.

Using *switch* statement, write a menu driven program for the following:

1. To find and display the sum of the series given below:
 $S = x^1 - x^2 + x^3 - x^4 + x^5 - \dots - x^{20}$; where $x = 2$
2. To display the series:
0, 7, 26, 63 p terms

For an incorrect option, an appropriate error message should be displayed. [15]

Question 6.

Write a program to input the coordinates of 'a,' 'b' and 'c.' Evaluate X1 and X2 from the following formula and print them.

$$X1 = \frac{-b + \sqrt{b^2 - 4ac}}{2a} \qquad X2 = \frac{-b - \sqrt{b^2 - 4ac}}{2a} \qquad [15]$$

Question 7.

Write a program to input a letter. Find its ASCII code. Reverse the ASCII code using for () loop and display the equivalent character.

Sample Input: Y

Sample Output: ASCII Code = 89

Reverse the code = 98

Equivalent character: b

[15]

Question 8.

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

1. To Print the value of Z where $Z = (x^3 + 0.5x) / Y$
where x ranges from -10 to 10 with an increment of 2 and Y remains constant at 5.5
2. 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
```

For an incorrect option, an appropriate error message should be displayed. [15]

**“Your first
experience
with
programming
shapes how
you see it
forever”**

Right teacher can make coding fun, clear, and exciting, else it becomes confusing and frustrating.

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