



Estd. 1861

# BOYS' HIGH SCHOOL AND COLLEGE SECOND TERM EXAMINATION (2024-25) CLASS – IX COMPUTER APPLICATIONS

TIME: 2 HRS

MM:100

This paper is divided into two sections. Attempt all questions from Section A and any four questions from Section B

## SECTION A

(Attempt all questions from this section)

Question 1:

Choose the correct answer and write the correct option:

[20]

(i) Which of the following is a valid comment?

- a) /\*comment\*/
- b) /\*comment/

- c) //comment
- d) \*/comment

(ii) The method of Scanner class used to accept a double value is

- a) nextInt()
- b) nextDouble()

- c) next()
- d) nextInteger()

(iii) The output of `Math.round(6.6) + Math.ceil(3.4)` is

- a) 9.0
- b) 11.0

- c) 10.0
- d) 11

(iv) How many times the loop will execute?

```
int i=45;
for(; i>=5; i=i-5)
{
    System.out.println(i);
}
```

- a) 8
- b) 4

- c) 9
- d) 0

(v) Which loop contains initialization, condition for testing and increment or decrement in same line ?

- a) for
- b) while

- c) do-while
- d) None of these

(vi) Which type of value does `Math.max(double, int)` return?

- a) int
- b) float

- c) double
- d) None of these

(vii) In which year Java was developed?

- a) 1995
- b) 1991

- c) 2020
- d) 1997

(viii) To check whether a variable "a" is equal to 0, the statement is

- a) `if(a=0)`
- b) `if(a==0)`

- c) `a=0`
- d) `a==0`

(ix) Which among the following is a valid class name?

- a) Simple Interest
- b) 1SimpleInterest

- c) SimpleInterest
- d) Simple@Interest

(x) \_\_\_\_\_ is an example/s of "entry control loop".

- a) for
- b) do-while

- c) while
- d) Both (a) and (c)

(xi) Ternary operator is a

- a) Logical operator
- b) Arithmetic operator

- c) Relational operator
- d) Conditional operator

(xii) The Scanner class method used to accept words with space:

- a) `next()`
- b) `nextLine()`

- c) `Next()`
- d) `nextString()`

(xiii) `int a=5, b=2; long c=a+b` is a \_\_\_\_\_ type of conversion.

- a) Explicit
- b) Implicit

- c) Reference
- d) Local

(xiv) What will be the output of

```
int a=-20;
System.out.print(-a++);
```

- a) -20
- b) 20

- c) 0
- d) None of these

(xv) What value will `Math.sqrt(Math.ceil(15.3))` return?

- a) 16.0
- b) 16

- c) 4.0
- d) 5.0

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(xvi) Which statement is used to exit from switch case?

- a) continue
- b) break
- c) return
- d) None of these

(xvii) An identifier must start with a

- a) Letter
- b) Underscore
- c) Dollar
- d) All of these

(xviii) Which statement is used to stop a program?

- a) continue
- b) break
- c) System.exit(0)
- d) Return

(xix) "Division by zero" is an example of

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

(xx) Which of the following operator compare two expressions and return a Boolean value?

- a) Arithmetic
- b) Binary
- c) Ternary
- d) Relational

Question 2:

(i) Evaluate the expression when the value of x=2. [2]

$x = x++ + ++x + x$

(ii) Write Java expression for the following: [2]

$ax^5 + bx^3 + c$

(iii) Rewrite the following code by using for loop: [2]

```
int i=1;
while(i<=10)
{
```

```
    System.out.println(i);
    I=i+1;
```

```
}
```

(iv) What is the difference between a break statement and a continue statement when they occur in a loop? [2]

(v) Write the syntax of do while loop. [2]

(vi) What will be the output of the following code? [2]

```
int m=2, n=15;
for (int i=1; i<5; i++)
m++;
--n;
System.out.println("m=" +m);
System.out.println("n=" +n);
```

(vii) Name the type of error ( syntax, runtime or logical error ) in each case given below: [2]

1. Math.sqrt(36-45)
2. int a;b;c;

(viii) Convert the following if else if construct into switch case: [2]

```
If(ch==1)
System.out.println("Good");
else if(ch==2)
System.out.println("Better");
else if(ch==3)
System.out.println("Best");
```

(ix) What are the final values stored in variable x and y below? [2]

```
double a= -6.35, b=14.74;
double x=Math.abs(Math.ceil(a));
double y=Math.floor(b);
```

(x) Find the output: [2]

```
int ch=2;
switch(ch)
{
case 1: System.out.println(" Desk Top");
break;
case 2: System.out.println(" Lap Top");
case 3: System.out.println(" Better than Desk Top");
}
```

## SECTION B

(Answer any four questions from this section)

Each program should be written using variable description box

Question 1:

Define a class ElectricBill with the following specifications:

Data members:

n- to store the name of the customer

units- to store the number of units consumed

bill- to store the amount to be paid

Calculate the bill as per the following tariff:

Number of units	Rate per unit
First 100 units	Rs. 2.00
Next 200 units	Rs. 3.00
Above 300 units	Rs. 5.00

A surcharge of 2.5% charged if the number of units consumed is above 300.

[15]

Question 2:

Define a class named Bookfair with the following description:

Data members:

Bname- stores the name of the book

Price- stores the price of the book.

Calculate the price after discount. Discount is calculated based on the following criteria.

[15]

Price	Discount
Less than or equal to Rs. 1000	2% of price
More than Rs. 1000 and less than or equal to Rs. 3000	10% of price
More than Rs. 3000	15% of price

Display the name and the price of the book after discount.

Question 3:

Write a menu driven program to calculate

1. Area of a rectangle
2. Area of a square
3. Area of a circle

For an incorrect choice, an appropriate message should be displayed.

[15]

Question 4:

Write a program to input a number and check whether number is Neon or not using while loop. (A number is said to be neon if the sum of digits of square of the number is equal to the number itself.)

For example:

Number = 9

Square of 9 =  $81=8+1=9$

[15]

Question 5:

Write a program to input a number and check whether number is Niven or not. A Niven number is a number that is divisible by sum of its digit.

For example:

Number = 153

Sum of digits =  $1 + 5 + 3 = 9$

Now  $153/9=17$  (153 is divisible by 9)

[15]

Question 6:

Write a program to find and display the sum of the given series:

- a)  $\text{Sum} = 1 + (1*2) + (1*2*3) + \dots + (1*2*3*\dots*n)$
- b)  $\text{Sum} = 1/a + 1/a^2 + 1/a^3 + \dots + 1/a^n$

[7]

[8]

Accept values of a and n from user.

\*\*\*\*\*



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with  
programming  
shapes how  
you see it  
forever”**

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