

INTER NOBILIAN FIRST SEMESTER EXAMINATION 2025-26

Computer Applications Class 9

Marks: 100

Duration: 2 hrs.

Attempt all questions in Section A. Attempt any four questions from Section B

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

SECTION A (40 marks)

(Answer all questions from this Section)

Question 1: Choose the correct answer to the question from the given options: [20]

(Do not copy the question, write only the correct answers.)

(i) `int a=5, b=4; long c=a+b;` is a _____ type of conversion.

- (a) Explicit (b) Implicit (c) Reference (d) Local

(ii) Which of the following principle shows the essential features without knowing the background details?

- (a) Encapsulation (b) Data hiding (c) Inheritance (d) Polymorphism

(iii) Default value of the 'char' data type is:

- (a) '\uffff' (b) '\u0000' (c) '\uaaaa' (d) '\u1111'

(iv) The output of following code is _____.

```
System.out.println(Math.ceil(89.9) + Math.floor(90.5));
```

- (a) 0.0 (b) 180.0 (c) 180 (d) 180.4

(v) Which type of code can be executed in a web browser only?

- (a) Stand Alone (b) Object (c) Mobile Application (d) Applet

(vi) _____ operator works on the principle of "CHANGE BEFORE ACTION".

- (a) Prefix (b) Counter (c) Postfix (d) Accumulator

(vii) Which of the following is a principle of Object Oriented Programming?

- (a) Super class (b) Variable (c) Polymorphism (d) Subclass

(viii) Which of the following is a conditional statement?

- (a) for (b) switch (c) `System.out.println()` (d) if-else

(ix) Which of the following class is required to use Mathematical methods in Java?

- (a) util (b) `InputStreamReader` (c) Math (d) Scanner

(x) Identify the keyword, which does not allow the value to change once assigned:

- (a) Identifier (b) final (c) static (d) new

(xi) Identify the data type which normally cannot be converted into other data types.

- (a) double (b) boolean (c) long (d) float

(xii) Eliminate the incorrect option from the list.

- (a) int (b) long (c) byte (d) double

(xiii) Java is a/an _____ programming language.

- (a) Procedure Oriented (b) Object Oriented (c) Both a and b (d) None of these

(xiv) Which of the following is known as data member?

- (a) Member Methods (b) Instance variable (c) Constructor (d) None of these

(xv) Which statement is used to stop execution of a program?

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

(xvi) Assertion (A): Value of a variable cannot be fixed.

Reason (R): Variable's value can be fixed by using the final keyword.

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true and R is not the correct explanation of A.

(c) A is true, but R is false.

(d) A is false, but R is true.

(xvii) Normal flow of control executes according to _____.

(a) Bottom Up Approach (b) Top Down Approach (c) Side Wise (d) None of these

(xviii) Name the operator which is used to initialize all non-primitive data types.

(a) . (dot) operator (b) Ternary operator (c) new operator (d) Relational operator

(xix) Which of the following is known as a natural language?

(a) 3GL (b) 4GL (c) 5GL (d) Both a and b

(xx) Assertion (A): A class is known as an object factory.

Reason (R): Objects are created from a class which contains common attributes & behavior.

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true and R is not the correct explanation of A.

(c) A is true, but R is false.

(d) A is false, but R is true.

Question 2: Do as directed:

(i) Write an equivalent java expression for the following expression: [2]

(a) $a^b + b \geq b^a + a$ (b) $ut + \frac{1}{2}at^2$

(ii) Evaluate the expression: [2]

```
if int a=20, b=15;  
b += a++ * 2 / a++ + b;
```

(iii) Predict the output: [2]

```
int a=10, b=20, c=15;  
System.out.println(((a+b)>c) ? a+b : b-c);
```

(iv) What are the differences between / and % operator? [2]

(v) Convert the following into a ternary operator: [2]

```
if (a>=4)  
    c = a+b;  
else  
    c = a-b;
```

(vi) Define the following: [2] (a) Byte Code (b) Dangling Else

(vii) Write two advantages of a high level language. [2]

(viii) Give the output of the following code: [2]

```
String A="26", B="100";  
String D = A + B + "200";  
System.out.println(D);
```

(ix) Identify the types of literals listed below: [2] (a) 0.78 (b) 'A' (c) false (d) "A"

(x) Predict the output: [2]

```
int x=97;  
char m = (char) x;  
System.out.println(m);
```

SECTION B (60 marks)

(Attempt any four questions from this Section)

The answers in this section should consist of the programs in either Blue J environment or program environment with java as base. Each program should be written using variable description / mnemonic codes so that the logic of the program is clearly depicted. Flowchart and algorithms are not required.

Question 3 [15]

Write a program to assign the sequence number of a month and display the name of the month and number of days in the given month.

Example:

Assigned value: 5

Output:

MAY - 31 DAYS.

Question 4 [15]

Write a program to assign the three angles of a triangle and display if the triangle is possible or not. If it is possible, display whether it is an Acute angled Triangle, Right angled Triangle or Obtuse angled Triangle.

Question 5 [15]

Write a program to calculate the Gross Salary and Net Salary of an employee when:

Basic Salary	= Rs. 24000
DA	= 20% of Basic Salary
HRA	= 10% of Basic Salary
CTA	= 10% of Basic Salary
PF	= 12% of (Basic Salary + DA)
Gross Salary	= (Basic Salary + DA + HRA + CTA)
Net Salary	= (Gross Salary – PF)

Question 6 [15]

In a school picnic group, there were 22 students and 3 teachers. Each person had to pay an amount Rs. 450 for food, Rs. 225 for transport and Rs. 175 for entertainment. The organizer's profit was 10% of the entire expenditure. Calculate and print the entire expenditure and profit of the organizer.

Question 7 [15]

Write a program to assign a two digit number. Add the sum of its digits to the product of its digits. If the value is equal to the assigned number, then display the message "Special 2-Digit Number" otherwise display the message "Not a Special 2-Digit Number".

Example: consider the number 59

Sum of the Digits = $5 + 9 = 14$

Product of the Digits = $5 * 9 = 45$

Sum of the sum of Digits and Product of digits = $14 + 45 = 59$

Question 8 [15]

The State Electricity Board calculates the electricity bill for their consumers according to the units consumed (per month) as per the given tariff:

Unit Consumed	Charges
Up to 100 units	Rs. 5.80/unit
More than 100 units and up to 300 units	Rs. 8.30/unit
More than 300 units and up to 500 units	Rs. 9.80/unit
More than 500 units	Rs. 10.50/unit

Write a program to assign name of the consumer, consumer number and unit consumed. Calculate and display the electricity bill with all the details.
