

PRE-BOARD -I 2025-26
COMPUTER APPLICATIONS (GRADE X)

Maximum Marks: 100
Time allowed: Two hours

Answer to this paper must be written on the paper provided separately.
You will not be allowed to write during the first 15 minutes.
This time is to be spent in reading the question paper.
The time given at the head of this paper is the time allowed for writing the answers.

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

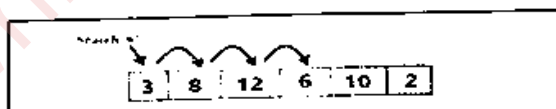
[20]

Choose the correct answers and write the correct option.

- (i) What is the highest index of any array with 100 elements?
 - (a) 100
 - (b) 101
 - (c) 99
 - (d) 98
- (ii) Which of the following is a valid initialisation statement?
 - (a) `int x = "GOOD";`
 - (b) `int y = 45.0/2;`
 - (c) `int z=(int) 'x';`
 - (d) `int m = false ;`
- (iii) The sum of `a[1]` and `a[3]` in the array `int a[]={20,40,60,80,100}` is:
 - (a) 80
 - (b) 100
 - (c) 120
 - (d) 60
- (iv) The output of `"Primitive".substring(6)` is :
 - (a) ive
 - (b) itive
 - (c) tive
 - (d) ve
- (v) Name the package that contains wrapper classes:
 - (a) `java.lang`
 - (b) `java.util`
 - (c) `java.io`
 - (d) `java.awt`

- (vi) `System.out.println('Z'+32);` will display:
(a) z
(b) Z
(c) 122
(d) 154
- (vii) do-while loop is an
(a) entry controlled loop
(b) infinite loop
(c) exit controlled loop
(d) Finite loop
- (viii) The output of the statement `Math.ceil(89.9)+Math.floor(90.5)` is:
(a) 0.0
(b) 180
(c) 180.0
(d) 180.4
- (ix) The element in `arr[5]` of the array `{5,47,14,36,74,14,36,42,22,96}`
(a) 14
(b) 74
(c) 36
(d) 4
- (x) The output of `Math.max(-7, Math.min(-5, -4))` is:
(a) -5
(b) -4
(c) -7
(d) error
- (xi) What is the output of the statement given below?
`"ANGER".compareTo("ANGEL")`
(a) 3
(b) -6
(c) 6
(d) 0
- (xii) Which of the following String methods results into boolean data type?
(a) `trim()`
(b) `equals()`
(c) `replace()`
(d) `concat()`
- (xiii) The output of the statement `"CONCENTRATION".indexOf('T')` is:
(a) 9
(b) 7
(c) 6
(d) (-1)

(xiv)



Name the method of search depicted in the above picture.

- (a) Binary Search
(b) Selection Sort
(c) Bubble Sort
(d) Linear Search

- xv) Corresponding wrapper class of int data type is _____.
- (a) integer
 - (b) INTEGER
 - (c) Int
 - (d) Integer
- (xvi) The AMB hotel gives the amount to be paid by the customer as an integer. which of the following Math method rounds off the bill in decimals to an integer?
- (a) Math.round()
 - (b) Math.pow()
 - (c) Math.ceil()
 - (d) Math.abs()
- (xvii) What is the output of the following statement:

```
"MONOPOLY".lastIndexOf('O');
```

- (a) 1
 - (b) 3
 - (c) 2
 - (d) 5
- (xviii) Assertion (A) JVM is a Java interpreter loaded in the computer memory as soon as Java is loaded.
Reason (R) JVM is different for different platforms.
- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A).
 - (b) Both Assertion (A) and Reason (R) are true and Reason (R) is not a correct explanation of Assertion (A).
 - (c) Assertion (A) is true and Reason (R) is false.
 - (d) Assertion (A) is false and Reason (R) is true.
- (xix) String a[]={"Rohini", "Rajarshi", "Rajeev", "Rehan", "Rebecca"};

```
System.out.println(a[2].substring(2));
```

Which one of the following will be the output of the above statements?

- (a) jeev
 - (b) Ra
 - (c) Raj
 - (d) je
- (xx) Which of the following is true for the given object creation statement?
- ```
Game cricket = new Game();
```
- (a) Game is an object of cricket class
  - (b) New keyword creates object Game
  - (c) Game is a class and cricket is an object
  - (d) Game and cricket are objects

## Question 2

- (i) Write the java statement for:  
Sum of a raised to b and cuberoot of c [2]
- (ii) Write Java expression for the following:  
 $x^{10} + y^{10}$  [2]
- (iii) Give the output of the below code:  
"COLOMBIA".charAt(0) + " " + "COLOMBIA".charAt(3) [2]
- (iv) Evaluate the expression:  
 $3*6\%5*4/2*7\%5$  [2]
- (v) How are different overloaded methods distinguished from each other? [2]
- (vi) Write the output of the following String method:  
String x= "talent" ; String y="matrix" ;  
System.out.print(x.substring(3).concat(y.substring(3))) ; [2]
- (vii) Following is a for loop, as simple as it gets.Change it into a while loop. [2]  
for (int i=0;i<5;i++)  
{  
System.out.println(i);  
}
- (viii) Evaluate the given expression when x = 4 [2]  
 $x*--x+x--+x;$
- (ix) Write the output of the following String methods: [2]  
(a) "ARTIFICIAL ".indexOf('I')  
(b) "DOG and PUPPY". trim().length()
- (x) Name the following: [2]  
(a) Method with the same name as of the class and is invoked every time an object is created.  
(b) Keyword to access the classes of a package.

## SECTION B

(Answer any four questions from this Section)

The answers in the 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/mnemonic codes so that logic of the program is clearly depicted.

Flowcharts and algorithms are not required.

### Question 3

[15]

Define a class with following specifications.

**class name:** Hotel

**Member variables:**

String name: stores name of customer name  
long mobno: stores mobile number  
int days: stores number of days customer stayed in hotel  
int bill: stores customer bill

**Member method:**

void input () – input values using Scanner class methods only

void charge() – calculate bill as per the following criteria

| <u>days</u>  | <u>charge/day</u> |
|--------------|-------------------|
| first 3 days | 1000 Rs/ day      |
| next 4 days  | 900 Rs/day        |
| > 7 days     | 800 Rs/day        |

bill = bill + gst (18% of bill)

void print() - Display customer name, mobile number and bill.

Invoke all the above methods in main method with the help of an object.

#### Question 4

Write a program to input and store integer elements in a double dimensional array of size 3 x 3 and find the sum of elements in the left diagonal.

Example :

|   |   |   |
|---|---|---|
| 1 | 3 | 5 |
| 4 | 6 | 8 |
| 9 | 2 | 4 |

Output : Sum of the left diagonal elements =  $(1 + 6 + 4) = 11$

#### Question 5

[15]

Define a class to accept 10 integers in an array, search for the given value using the Linear Search technique and print appropriate messages.

#### Question 6

[15]

Define a class to accept a string, convert it into lowercase and check whether the string is a palindrome or not.

A palindrome is a word which reads the same backward as forward.

Example:

madam, racecar etc.

#### Question 7

[15]

Define a class to accept a string and convert it into uppercase. Count and display the number of vowels in it.

Input: robotics

Output: ROBOTICS

Number of vowels: 3

**Question 8**

**Design a class to overload a function compare( ) as follows:-**

[15]

- (a) void compare (int, int) to compare two integer values and print the greater of the two integers.
- (b) void compare (char, char) to compare the numeric value of two characters and print the character with higher numeric value.
- (c) void compare(String, String) to compare the length of the two strings and print the longer of the two.

Downloaded From [www.icseboard.org](http://www.icseboard.org)