GREENLAWNS SCHOOL, WORLI
PRELIMINARY EXAMINATION
COMPUTER APPLICATION

STD : X **MARKS : 100**

Date :-16/1/24 **TIME :** 2 Hrs

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 the paper is the time allowed for writing the answers.

*This paper is divided in to two Sections. Attempt **all questions in Section A** and **any four questions from Section B.** The intended marks for the questions or parts thereof are given in brackets([ ]).*

Section A (40 marks**)**
(Attempt all questions)

Question 1. **[20]**

1) Name the method of Scanner class that:

   Input an integer data from the standard input stream.Name the method of Scanner class that:

   a) nextInt( ) b) next( )

   c) nextLine( ) d) none of these

2) Identify the type of operator &&:

   a)Ternary b) unary

   c) logical d) relation

3) a superclass and a subclass.

   a)Inheritance b) Encapsulation

   c) Abstraction d) polymorphism

4) the act of representing essential features without including background details.

   a)Inheritance b) Encapsulation

   c) Abstraction d) polymorphism

5) How many times will the following loop execute? What value will be value of y?

```
int x = 2, y = 50;
do
{
        ++x;
```

```
        y - = x++;
    }while(x <= 10);
    System.out.println(y);
```

a)17 b) 15

c) 12 d) 16

6) Given: d = Math.min(-15.5, -19.5);
What data type will you refer for the variable d?

a) double b) float

c) int d) none

7) Given: int p=55/0;
Name the type of error in the given statement:

a) Syntax b) Logical

c) Runtime d) none

8) A loop within another loop is called a:

a) double loop b) embeded loop

c) circular loop d) nested loop

9) Which of the following for loop will not be an infinite loop?

a) for(; ;) b) for(a = 0; a < 1; a--)

c) for(a = 0; ; a++) d) for(a = -1; a < 1; a++)

10) Choose the odd one out from the following:

a)return b) break

c) continue d) All of above

11) The while statement repeats the execution of a block only when the given condition is:

a)false b) true

c) 0 d) none

12) Which of the following functions checks whether a character is a blank or not?

a)Character.isBlankSpace( ) b) Character.isWhiteSpace( )

c) Character.isEmptySpace( )d) none

13) The process of calling a method in such a way that the change in the formal arguments reflects on the actual parameter is known as:

a)call by reference b) call by value

c) call by method d) none

14) method may be associated with:

a)return b) call

c) promote d) none

15) For which purpose a constructor is used?

a) To initialise the instance variables b) To provide the instance variables

c) To organise the instance variables d) To simplify the instance variables

16) Which of the following statements is false?

a) A constructor has same name as class name.

b) A constructor returns initial value.

c) A constructor is called while creating an object.

d) A constructor is not used for arithmetical and logical operations.

17) Which constructor initialises data members with default values?

a) Parameterized constructor b) Non-parameterized constructor

c) Copy constructor d) Default constructor

18) Which element is represented by a[10]?

a)10^{th} b) 9^{th}
c) 11^{th} d) none

19) A dimensional array is also known as:

a) Subscripted variable b)actual variable

c) Compound variable d) none

20) An array element can be accessed through:

a)dots b)element name
c) index number d) none

Question 2.

1) Give the prototype of a function check which receives a character ch and an integer n and returns true or false. [2]

2) What are the types of casting shown by the following examples? [2]

```
double x = 15.2;
int y = (int) x;
```

3) What is the data type that the following library functions return? [2]

```
char ch='a';

isLetter(ch)
```

4) State two features of a constructor. [2]

5) Give a difference between a constructor and a method. [2]

6) Rewrite the following program segment using conditional operators: [2]

```
if(sale >1500)
{
        Comm=sale * 5 /100;
}
else
{
        Comm=0;
}
```

7) Give one example each of a primitive data type and a composite or reference data type. [2]

8) Name the jump statement in bluej [2]

9) Difference between length and length( ). [2]

10) Give the output of the following statements:
String x[ ] = {"SAMSUNG", "NOKIA", "SONY", "MICROMAX", "BLACKBERRY"}; [2]
(i) System.out.println(x[1]);
(ii) System.out.println(x[3].length( ));

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 any program environment with Java as the base.Each program should be written using Variable descriptions/Mnemonic Codes such that the logic of the program is clearly depicted.Flow-Charts and Algorithms are not required.

Question 3.

Define a class Telephone having the following description: [15]

Class name : Telephone

Data Members	Purpose
int prv, pre	to store the previous and present meter readings
int call	to store the calls made (i.e. pre - prv)

String name to store name of the consumer
double amt to store the amount
double total to store the total amount to be paid

Member functions	Purpose
void input( )	Stores the previous reading, present reading and name of the consumer
void cal( )	Calculates the amount and total amount to be paid
void display( )	Displays the name of the consumer, calls made, amount and total amount to be paid

Write a program to compute the monthly bill to be paid according to the given conditions and display the output as per the given format.

Calls made	Rate
Up to 100 calls	No charge
For the next 100 calls	90 paise per call
For the next 200 calls	80 paise per call
More than 400 calls	70 paise per call

However, every consumer has to pay ₹180 per month as monthly rent for availing the service.

Output:

Name of the customer	Calls made	Amount to be paid
.....	.....	.....
.....	.....	.....

Question 4.

Write a program to accept a sentence. Display the sentence in reversing order of its word.
Sample Input: Computer is Fun [15]
Sample Output: Fun is Computer

Question 5.

Write a program in Java to store 20 numbers (even and odd numbers) in a Single Dimensional Array (SDA). Calculate and display the sum of all even numbers and all odd numbers separately.

[15]

Question 6.

Write a programs to input a word and generate the following patterns using iteration (loop) statements: [15]
Input : Greenlawns
Output:
Greenlawns
Greenlawn
Greenlaw
Greenla
Greenl
Green
Gree
Gre
Gr
G

Question 7.

Design a class to overload a function check( ) as follows: [15]

1. void check (String str) — to find and print whether it is palindrome or not.
   Example:
   Input:
   str = "madam"
   Output:
   palindrome word

2. void check(int n) — to find and print whether it is palindrome number or not.
   Example:
   Input:
   n =123
   Output :not a palindrome

Question 8.

Write a program to input a number and print whether the number is a krishnamurthy number or or not.
(A number is. said to be a special number, if the sum of the factorial of the digits of the number is same as the original number).
Example : 145 is a special number, because 1!+4!+5! = 1 + 24 + 120 = 145 (Where ! stands for factorial of the number and the factorial value of a number is the product of all integers from 1 to that number, example 5! = 1*2*3*4*5 = 120). [15]