

THE SCHOLAR HIGH SCHOOL
Preliminary Examination –2019
Computer Application

STD : X

MARKS : 100
TIME : 2 Hrs

(Theory)

(Two Hours)

Answers 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 questions from Section B.

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

SECTION A (40 Marks)

Attempt all questions

Question 1.

- 1) Difference between length and length(). [2]
- 2) Difference between constructor and method. [2]
- 3) State the difference between call by value and call by reference. [2]
- 4) Difference between public and private. [2]
- 5) Difference between exit and entry control loop. [2]

Question 2.

- 1) What do you mean by inheritance? [2]
- 2) What is a break statement? [2]
- 3) Define class. [2]
- 4) What is a Unicode? [2]
- 5) Explain token. [2]

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Question 3.

- 1) What is a local variable? [2]
- 2) Explain polymorphism with example. [2]
- 3) What are the default values of the primitive float and long? [2]
- 4) What are literals? [2]
- 5) What will be the output for the following program segment? [2]
 - (i) `System.out.println(10%5)`
`System.out.println(10/5)`

Say L.
(ii) $(a - + + + a + 4)$ if $a = 5$

(iii) `System.out.println(10 < 10)`

(iv) `System.out.println(10 == 10)`

6) Give the following output:- [4]

```
String str1="great",str2="mind";
```

```
System.out.println(str1.substring(0,2).concat(str2.substring(1)));
```

```
System.out.println("WH"+str1.substring(2).toUpperCase());
```

[2]

7) Rewrite the follow using if statement

```
String gift=pur>=2000? "pendrive":"mouse pad";
```

8) Give the following output:-

```
System.out.println(Math.sqrt(Math.ceil(15.3)));
```

[2]

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

- `double x = 15.2;`

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

- `int x = 12;`

```
long y = x;
```

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 4.

[15]

create a class hotel with

data member

String name

int days

member method

input() to input name of guest, total number of days stayed in

calculate() Number of days stayed Discount on total amount

output() Print the bill including all the data.

The charges for one day stay is 1850.0 per room.

The discount will be given as per the following criteria:

Number of days stayed Discount on total amount

Upto 5 days 10%

> 5 days and <= 10 days 15%

> 10 days and <= 20 days 20%

More than 20 days 25%

Write a program to input name of guest, total number of days stayed in the

hotel. Calculate the total amount to be paid and discount amount. Find the net balance to be paid excluding the discount. [15]

Question 5.

[15]

Write a program in Java to find the sum of the given series taking the value of 'a' and 'n' from the console.

$$S = \frac{a}{a+1} + \frac{a^2}{a+2} + \frac{a^3}{a+3} + \frac{a^4}{a+4} + \dots + \frac{a^{10}}{a+10}$$

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Question 6.

[15]

Write a menu driven program in Java:

(a) to input a number and check whether it is a NEON number or not

(b) to input a number and check it is a prime no from both ways eg 13 is a prime number if you reverse it 31 also a prime number.

Note: NEON:

A number is said to be NEON, if sum of all the digits of the square of the number is equal to the number itself. For example 9 is a NEON number (Workings: Square of 9 = 81. Sum of digits of square: 8 + 1 = 9)

Question 7.

[15]

Write a Java program to input a character from the user and display the animal name starting the alphabet in array

```
String animal[] = {"rabbit", "cat", "horse", "tiger", "rattlesnake", "lion", "dog"};
```

Question 8.

[15]

Write a Java program to input a sentence from the user in lowercase and capitalize the first and the last characters of every word in it.

Question 9.

[15]

Input a word and a number. Reverse it using function name rev() using function overloading..