



Sri Lanka Institute of Information Technology

B.Sc. Degree
in
Information Technology

Mid Examination
Year 1, Semester 2 (2018)
June Intake

Object Oriented Programming (JAVA)
(N202)

Duration: 1 Hour

**SLIIT ACADEMY
LIBRARY**

Instructions to Candidates:

- ◆ This is a closed book examination.
- ◆ This paper contains 2 questions on 1 pages without the cover page.
- ◆ Create a Folder on the **Desktop** with your **IT Number** and save all your programs in the folder.
- ◆ Read all questions before answering.
- ◆ The total marks obtainable for this examination is 30.
- ◆ Use only the **notepad** as the text editor.

Question 1

(20 Marks)

Write a method call *calculateCosmology* which calculate and returns the Cosmological constant as a float value. The function should take two parameters as the user input (Density: Integer and distance: float) the formula to calculate Cosmological constant is as follows:

$$\text{Cosmological Constant} = \left(\frac{8\pi G}{3c^2} \right) \rho$$

G- universal gravitational constant (6.67408)

Π - the value of PI

c- distance

ρ - density

The Cosmology Rate is generated based on the following factors.

Cosmological Constant	Cosmology Rate
0-100	Below Normal
100-200	Normal
201-300	Above Average
301<	High

Write a main method to take the Density and Distance of the person as parameters and generate following output by calling *calculateCosmology*.

Hint: Use the scanner class to get the inputs from the user

Sample Input:

```
Enter the Distance: 2
Enter the Density: 10
```

Sample Output:

```
Cosmological Constant is 139.78160464980377
Cosmology Rate is Normal
```

Note: -No rounding is required.

Question 2

(10 Marks)

Write a java program which takes two numbers as inputs using **command line arguments**. Your program should print **sum of even square numbers** between them.

Example Input:

```
2 6
```

Example Output:

```
Sum = 22 + 42 + 62 = 56
```

Marking Criteria

Question 1

(20 Marks)

Criteria	Marks	Marks Obtained
Proper class structure and main method	2	
Importing the Scanner class and their usage	2	
Reading user input	2	
Calling the method with correct parameters	2	
correct method header with correct parameters marks	2	
Usage of the Math Library	2	
Calculate the Answer	2	
Deciding the answer based on the calculation using nested if else statements	4	
Final Output with Compiled ByteCode	2	

Question 2

(10 Marks)

Criteria	Marks	Marks Obtained
Proper class structure and main method	2	
Usage of the command line arguments	1	
Conversions of Datatypes	2	
Calculating the Answer with loops	4	
Final Output with Compiled ByteCode	1	