



'समानो मन्त्रः समितिः समानी'

**UNIVERSITY OF NORTH BENGAL**  
BCA Honours 6th Semester Examination, 2022

**DSE-P3-BACHELOR OF COMPUTER APPLICATION (DSE-63L) (E2L) (PRACTICAL)**

**INTRODUCTION TO DATA SCIENCES LAB**

Time Allotted: 2 Hours

Full Marks: 20

*The questions are of equal value.  
The figures in the margin indicate full marks.  
All symbols are of usual significance.*

<b>Lab:</b>	<b>15</b>
<b>Viva:</b>	<b>5</b>
<b>Total</b>	<b>20</b>

**Answer any one question of the following**

15×1 = 15

1. Fifteen students were enrolled in a course. 15  
Their ages were 20, 20, 20, 20, 20, 21, 21, 21, 22, 22, 22, 22, 23, 23, 23.
  - (i) Find the median age of all students under 22 years.
  - (ii) Find the median age of all students.
  - (iii) Find the mean age of all students.
  - (iv) Find the modal age of all students.
  - (v) Two more students enter the class. The age of both students is 23. What will be the new mean, mode and median?
2. Implement binary search. 15
3. Obtain probability distribution of  $X$ , where  $X$  number of spots showing when a six-sided symmetric die is rolled. Simulate random samples of sizes 40, 70 and 100 respectively and verify the frequency interpretation of probability. 15
4. Implement matrix addition, subtraction and multiplication. 15

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