Registration Number:
Date & session:

ST. JOSEPH'S UNIVERSITY, BENGALURU -27
MSc (BIG DATA ANALYTICS) – I SEMESTER
SEMESTER EXAMINATION: OCTOBER 2023
(Examination Conducted in November/December 2023)
BDA 1421 – COMPUTING FOR DATA SCIENCE
(For Current students only)

Time: 2 Hours **This paper contains TWO printed Pages and THREE Parts** **Max Marks: 50**

PART A

Answer All Questions **5 X 2 =10**

1	Give any two drawbacks of R programming.	**2**
2	When do we use binary search?	**2**
3	When do we use Newton-Raphson method?	**2**
4	What do you mean by steepest ascent?	**2**
5	When do we use Monte Carlo simulation?	**2**

PART B

5 X4 =20

Answer ANY FIVE Questions

6	Give advantages of R programming.	**4**
7	Using Bubble sort algorithm sort the given list of numbers -34,23,11,20,9,44 in ascending order.	**4**
8	What are the advantages of divide and conquer method?	**4**
9	Write the algorithm for bisection method.	**4**
10	Explain steepest descent algorithm with a neat diagram.	**4**
11	Using random number generator, find the random numbers(integers) between 10 and 50	**4**
12	What are the advantages of Monte Carlo simulation?	**4**

PART C

Answer ANY TWO Questions **2 X 10 = 20**

13(a)	Explain the advantages of R programming.	**5**
13(b)	Find the time complexity of Linear search algorithm.	**5**
14	Solve $2x^3 - 2.5x - 5 = 0$ for the root in [1, 2] by Newton-Raphson method.	**10**

15 A store has one counter. Random numbers used for prediction of interarrival time and service time as per the table given below **10**

Customer	1	2	3	4	5	6	7	8	9	10	11	12
R.n. for arrival		61	55	1	33	19	25	79	93	18	49	92
R.n. for service	28	1	61	85	67	53	62	79	66	63	33	77

It is assumed that first customer comes at 0 time.

i) What is the service start time for 11th customer?

ii) What is the waiting time in queue by 5th customer?