VIT
Vellore Institute of Technology

			SLOT: A1
School of Information Technology and Engineering			
Winter Semester 2022-2023			Continuous Assessment Test – I
Programme Name & Branch		MASTER OF COMPUTER APPLICATION	
Course Code:	MAT 5010	Course Title:	Foundations of Data science
Class Number(s)	VL2022230500506		
Faculty Name(s)	Dr Shashikiran Venkatesha		

Exam Duration: 90 Min. **Maximum Marks: 50**

1. Differentiate Business Intelligence versus Data Science. Illustrate with examples the evolution of analytics from Descriptive to Prescriptive. 10 marks

2. Discuss the Layered approach for Big Data Analysis Framework. 10 marks

3. Suppose that the data for analysis includes the attribute age. The age values for the data tuples are (in increasing order) 13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 35, 35, 35, 35, 36, 40, 45, 46, 52, 70.

(a) What is the midrange of the data? 2.5 marks

(b) Find the first quartile (Q1) and the third quartile (Q3) of the data? 2.5 marks

(c) Give the five-number summary of the data. 2.5 marks

(d) Draw boxplot for Five number summary data. 2.5 marks

4. Calculate the Mean, Median and the mode for the data given below. 10 marks

The velocities of the jet aircraft were observed at the time of a catapult on an aircraft carrier.

Velocity in knots	135	140	145	150	155	160	165	170
Frequency	4	6	13	8	17	14	7	1

5. Estimate Standard deviation, $\sqrt{\beta_1}$, & β_2 for the following distribution. 10 marks

The Frequency distribution of the heights (in inches) of 200 students in class is given below.

Heights in inches	54	55	56	57	60	61	62	63
Frequency	1	3	7	12	11	34	33	43