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Daffodil International University

Department of Software Engineering
Faculty of Science & Information Technology
Midterm Examination, Fall 2023
Course Code: STA 101, Course Title: Statistics I
Sections & Teachers: (A, B, C, D) (JA2), E (UFU)

Time: 01:30 Hrs **Marks: 25**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	a)	Students of the Software Engineering Department are keen to make a decision about opening a new robotics lab in DIU. They have asked 100 students of DIU randomly about the advantages and disadvantages of opening a new robotics lab. 95 percent of students think that this robotics lab will be very effective in the long run. Choose variable, population, sample, and statistic from the above scenario.	[Marks-3]	CLO-1 *Level-1*
	b)	When the data has outliers, which is the most appropriate measure of central tendency and why?	[Marks-2]	
2.	a)	The last investment of randomly selected different software firms was surveyed as following 58, 61, 60, 42, 48, 65, 53, 62, 78, 108 .		CLO-2 *Level-3*
		i) Identify D_7, P_{35}, P_{80} and interpret the results.	[Marks-3]	
		ii) Construct Box-plot from the above data.	[Marks-5]	
		iii) Identify the shape characteristics of the distribution and select the outliers if have any.	[Marks-1]	
	b)	A record was kept over a period of 6 months by a sales manager to determine the average number of calls made per day by his six salesman. The results are shown below,	[Marks-4]	

Salesman	A	B	C	D	E	F
Average number of calls per day	8	10	12	15	7	5

i) Identify the coefficient of kurtosis and interpret the result.

3.	a)	In software engineering department the number of students in different sections are expert at C++ : 32, 37, 15, 22, 48, 41 JAVA: 23, 34, 18, 43, 27, 38 i) Examine the average number of expert students from these two programing language? ii) Compare which programing language is more consistent in its strength?	[Marks-7]	CLO-3 *Level-4*