



**United International University**  
**School of Science and Engineering**

CT-04 Trimester: Fall-2020 Section: B

Course Title: Probability and Statistics

Course Code: Stat 205 Marks: 20 Time: 30 Mins

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**(Answer all the questions)**

**1. Consider the following frequency distribution table for the following questions.**

Class	43-45	46-48	49-51	52-54	55-57
Frequency	9	11	7	13	10

- (i) Sketch the cumulative frequency polygon. Hence, locate the  $D_7$  and  $Q_1$ . [4]
- (ii) Find the median and mean deviation from the median. [5]
- (iii) Find the geometric mean. [4]

**2. If the correlation coefficient of the two variables  $x$  and  $y$  is  $0.87$  and regression coefficient of  $x$  on  $y$  is  $1.45$ . Also,  $\bar{x} = 37.5$  and  $\bar{y} = 51.6$ . [7]**

- (i) Find the regression coefficient of  $y$  on  $x$ .
- (ii) Find and sketch the regression line  $y$  on  $x$ .
- (iii) Predict the value of  $y$  when  $x$  is  $41$ . Also, verify your result graphically.