

**FAST National University of Computer and Emerging Sciences**  
**Spring 2023**

**MT-2005 Probability and Statistics**

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**Course Content for Mid-Term 1 Exam**

<b>Contents/Topics</b>	<b>Question set</b>
<b>Statistics</b> and its types, Basic terms, summation notation, Organizing and graphing qualitative data. (Frequency distribution table, Bar graphs and Pareto chart)	1.6,1.9,1.10,1.19, 1.37-1.39, 2.3-2.7
<b>Organizing and graphing quantitative data.</b> (FDT, Less-Than Method for Writing Classes, Histogram, polygon, frequency curve, Single-Valued Classes, Cumulative Frequency Distribution, Shapes of Histograms) <b>Stem-and-Leaf display</b> , split stem-and-leaf display <b>Measures of the center of ungrouped data.</b> (Mean, Median, Mode, Unimodal, Multimodal data, Trimmed Mean, Weighted Mean, Relationships Among the Mean, Median, and Mode)	2.11 - 2.22, 2.26 - 2.30, 3.10 - 3.21, 3.22, 3.27, 3.32 - 3.45
<b>Measure of Dispersion of ungrouped data.</b> (Range, Variance and Standard Deviation, deviation of the x value from the mean, Coefficient of Variation, Population Parameters and Sample Statistics) <b>Mean, Variance and standard deviation for grouped data.</b> <b>Use of standard deviation.</b> (Chebyshev's theorem, Empirical Rule) <b>Measure of position.</b> (Quartiles and Interquartile Range, Percentiles and Percentile Rank) <b>Box-and-Whisker plot.</b>	3.46 - 3.53, 3.56 - 3.64, 3.69 - 3.73, 3.75 - 3.80

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Experiment, Outcome, Sample space <b>Calculating Probability</b> , Marginal Probability, Conditional Probability and related concepts, Union of events and addition rules, Intersection and Multiplication rules <b>Counting rule</b> , factorial, combination, and permutation.	4.4 - 4.10, 4.16 - 4.28, 4.34 - 4.42, 4.47 -4.65] 4.68 - 4.82, 4.83 - 4.93
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