MT-101 Quantitative Reasoning-I

Numerical Literacy

Number system and basic arithmetic operations; Units and their conversions, area, perimeter and volume; Rates, ratios, proportions and percentages; Types and sources of data; Measurement scales; Tabular and graphical presentation of data; Quantitative reasoning exercises using number knowledge.

Fundamental Mathematical Concepts

Basics of geometry (lines, angles, circles, polygons etc.); Sets and their operations; Relations, functions, and their graphs; Exponents, factoring and simplifying algebraic expressions; Algebraic and graphical solutions of linear and quadratic equations and inequalities; Quantitative reasoning exercises using fundamental mathematical concepts.

Fundamental Statistical Concepts

Population and sample; Graphical presentation of the data; Summarizing data; Measures of central tendency, dispersion and their applications; Rules of counting (multiplicative, permutation and combination); Basic concept of probability; Applications of a priori and relative frequency approach. Quantitative reasoning exercises using fundamental statistical concepts.

Textbook(s)

1. C, William Briggs, Using & Understanding Mathematics: A Quantitative Reasoning Approach (7th Edition) Pearson Education, Inc. (2019).

Reference Book(s)

1. Eric Zaslow, Quantitative Reasoning: Thinking in Numbers, Cambridge University Press (2020)
2. Paul A. Calter, Michael A. Calter, Technical Mathematics, John Wiley & Sons, (2011)