

QR 101- Quantitative Reasoning –I

Exploring Quantitative Skills

Course Outline

- Beauty and power of Mathematics, Importance of quantitative reasoning skills, history of Mathematics and Mathematics in daily life.
- Introduction to problem solving skills using mathematical modelling and unit analysis.
- Types of numbers, Absolute value and Inequalities.
- Introduction of sets, Union, Intersection, Difference, Complement, Venn diagrams and their applications.
- Percentage, and its use in different social, economic, and professional scenarios.
- Notions of estimation, scientific notation, absolute & relative errors, and their applications.
- Ratio, Direct proportion, Inverse proportion, and their related problems.
- Functions
- Linear functions: Applications of linear equations, Solving system of linear equations.
- Graphing tools and their applications in different disciplines.
- Algebraic expressions, linear and quadratic equations in one variable and their use in practical problems, Solving word problems involving linear equations.
- Geometry through architecture, Triangles, Quadrilaterals, Pentagon, etc.
- Perimeter and area of some geometrical figures and their applications.
- Trigonometric Functions, Inverse trigonometric functions, Trigonometric ratios and their applications.
- Mean Median and Mode.

Recommended Books:

1. Bennett, J. & Briggs, W. (2015). Using and understanding mathematics (6th Edition). Pearson Education, Limited.
<http://xn--webducation-dbb.com/wp-content/uploads/2019/09/Jeffrey-Bennett-William-Briggs-Using-Understanding-Mathematics -A-Quantitative-Reasoning-Approach- Pearson-2015.pdf>
2. Blitzer, R. (2014). Precalculus. (5th Edition). Pearson Education, Limited.
https://www.ilearnacademy.net/uploads/3/9/2/2/3922443/precalculus_edition_5f.pdf