International Conference on Mathematics and Mathematics Education
(ICMME) 2023

Workshop for School Teachers
Resource Centers: Postgraduate Institute of Science (PGIS), University of Peradeniya and Ministry of Education, Sri Lanka
Venue: PGIS
Number of Participants: 100 (In-person)
Date: 04th November 2022 **Duration:**
8:00 a.m. – 4:30 p.m.
Medium of Instruction: Sinhala/English
Topics covered

I.   Use of *GeoGebra* Software for School Mathematics
Instructor: Prof. Wasantha Daundasekera

Outline

Installation Instruction of *GeoGebra* Classic 5.0

Introduction to *GeoGebra* Interface

Graphics View
    Geometry
    Coordinate Geometry
    Vectors
    Polynomial functions
    Piecewise functions
    Rational functions
    Trigonometric functions
    Exponential functions
    Logarithmic functions

Algebra View   Quadratic equations
    Partial fractions
    Series
    Binomial expansion
    Complex numbers

Note: Some topics in Applied Mathematics
Computer Algebra System (CAS) View

    Algebra
    Calculus
    Symbolic computations

Spreadsheet View

    Pictures of data
    Descriptive statistics
    Probability calculations
    Matrix operations

3D Graphics View

    Plane
    Sphere
    Cylinder
    Cone
    Pyramid
    Tetrahedron
    Cube
    Surface rotation

II.   Statistical Data Analysis for School Education

Instructor: Dr. Sachith Abeysundara

Outline

An Overview of Educational Research
- Basic Research, Applied Research, Action Research
- Quantitative, Qualitative
- Experimental, Non-Experimental

Basic Concepts
- Variables
- Measurement Scales
- Methods of Sampling
- Descriptive and Inferential

Describing Distributions of Data
- Organizing data
  - Summarizing score as Tables
  - Using graphs/charts to summarize data
- Summarizing data: Measures of Center and Measures of Variability
  - What would be appropriate measure to describe the center of data
  - What would be appropriate measure to describe the deviation of data
- Standardized Test scores
  - Comparing scores obtained from two different subjects

Measuring Relationships
- Scatter plots and Correlation

Comparing groups