Bangladesh Mathematical Society - A F Mujibur Rahman Foundation

১৬তম জাতীয় স্নাতক গণিত অলিম্পিয়াড ২০২৫

ঢাকা মহানগর (উত্তর) অঞ্চল

16th National Undergraduate Mathematics Olympiad 2025

Dhaka Mohanagor (North) Region

Daffodil International University (DIU)

Faculty of Science and Information Technology (FSIT)

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Modality of the Olympiad

The competition is planned for students completing their first, second, third, or fourth year of university for regional education with a maximum age of participants being 23 years of age at the time of the competition, although exceptions can be made. There is no minimum age limit. Problems are from the fields of Algebra, Analysis (Real and Complex), Analytic Geometry, and Combinatorics. The working language is English. The short course contents are as follows:

1. **Algebra:** Real & Complex Number Systems; Polynomials and algebraic equations; Summation of algebraic and trigonometric series; Inequalities; Application of DeMoivre's theorem; Linear Algebra (Matrices and determinants, Basis and Dual spaces, Linear transformations, Eigen system, Annihilators, Ad joints, Operators, Applications); Groups, Rings, and Fields.
2. **Analysis (Real and Complex):** Infinite series; Convergence; Complex Integration; Bilinear forms; Theorems using variable Calculus, Multivariable Calculus, and Vector Calculus (Theorems of Green, Gauss, Stokes) and their applications (Differentiation and Integration of functions of single and higher order differential equations); Special functions.
3. **Analytic Geometry:** Coordinate systems; Planes and straight lines in 3D; Conics; Second-order surfaces.
4. **Combinatorics:** Permutations and Combinations; Primes, Arithmetic functions, Congruence; Recurrence relations; Generating functions; Complexity.

Questions Setting & Evaluation:

1. There will be 8 problems for the Regional Olympiad, each carrying 10 marks respectively.
2. All questions are to be answered. The time allotted for each Regional Olympiad is 120 minutes.
3. The students' work will be evaluated by the Script Evaluation Committee using criteria provided by the NUMO committee.