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Editor, Dhaka Tribune

Announcement of the 6th NUMO 2014

Bangladesh Mathematical Society (BMS), founded in 1972, is the sole organization of professional mathematicians of all levels of Bangladesh. Every year BMS publishes one volume of a research journal **GANIT Journal of Bangladesh Mathematical Society**, whose authorship is open to all and which is regularly reviewed in Mathematical Reviews (USA). The Society also publishes every year one volume of an educative journal **Ganit Parikrama** for teachers and students of Mathematics.

In addition to arranging occasional symposia, seminars and workshops on specialized topics, the Society arranges every two years an International Mathematics Conference. BMS has been holding Undergraduate Mathematics Olympiads annually since 2009. The aim of the undergraduate Mathematics Olympiad is to create opportunity for our young talented students throughout the country to shine and show their mathematical and analytical ability and to create a nationwide awareness of the importance of Mathematics and to foster the development of mathematical skills.

In 2013, with financial support of A F Mujibur Rahman Foundation (A charity dedicated to education), BMS enhanced the scope of the Undergraduate Mathematics Olympiad by holding five Regional Olympiads; top ten participants from each Regional Olympiad took part in the National Olympiad held at Independent University Bangladesh (IUB) in Dhaka. The holding of these Olympiads on an annual basis is a challenge which BMS it intends to meet with determination and commitment. This year also A F Mujibur Rahman Foundation has come forward to support BMS financially in conducting the 6th National Undergraduate Mathematics Olympiad 2014. The Olympiad Committee has decided to hold **six** Regional Olympiads at **six** locations throughout the country. Top ten contestants from each Regional Olympiad will participate in the National Olympiad to be held in Dhaka.

Registration fee: Tk. 100/- per participant.

Benefits of the participants:

- Certificates of Excellence, Prize money and a Crest will be given to the top ten participants of the National Olympiad.
- Certificates of Appreciation will be given to the top ten contestants of each Regional Olympiad.
- Certificates of Participation will be given to all other contestants.
- Lunch packet, T-shirt, Folder, Pen will be given to all participants.
- All participants will have the opportunity to participate in a question/answer session with reputed mathematicians/professionals of the country.



Bangladesh Mathematical Society - A F Mujibur Rahman Foundation

৬ষ্ঠ জাতীয় স্নাতক গণিত অলিম্পিয়াড ২০১৪

6th National Undergraduate Mathematics Olympiad 2014

Office: Department of Mathematics, University of Dhaka, Dhaka-1000

E-mail: bdmathsec@yahoo.com; website: www.bdmathsociety.org, <http://www.buet.ac.bd/math/>



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Mr. Zafar Sobhan
Editor, Dhaka Tribune

The dates, venues and contact persons are as follows

Khulna Regional Olympiad: 14th November, 2014

Mathematics Discipline, Khulna University.

Contact person: **Prof. Md. Rafiqul Islam** (sfahmmed@yahoo.com)

Cell: 01914066279

Rajshahi Regional Olympiad: 15th November, 2014

Department of Mathematics, Begum Rokeya University, Rongpur.

Contact person: **Dr. Md. Tajul Islam** (tajul000@yahoo.com)

Cell: 01793932569

Dhaka North Regional Olympiad: 21st November, 2014

Department of Mathematics, DUET, Gazipur.

Contact person: **Prof. Md. Shirazul Hoque Mollah** (mollah@duet.ac.bd)

Cell: 01715091879

Chittagong Regional Olympiad: 28th November, 2014

Department of Mathematics, University of Chittagong.

Contact person: **Prof. Md. Ashraful Islam** (islamashraful38@yahoo.com)

Cell: 01712152014

Dhaka South Regional Olympiad: 29th November, 2014

Department of Mathematics, Jagannath University, Dhaka.

Contact person: **Prof. Md. Rezaul Karim** (rrezaul@yahoo.com)

Cell: 01715333373

Sylhet Regional Olympiad: 29th November, 2014

Department of Mathematics, Shahjalal University of Sci. & Tech.

Contact person: **Prof. Md. Rashed Talukder** (rashed_math@yahoo.com)

Cell: 01712239309

Final Round : 12th December, 2014

Department of Mathematics, A. F. Mujibur Rahman Ganit Bhaban

University of Dhaka.

Contact person: **Prof. A. C. Mandal** (acmdumath@gmail.com)

Cell: 01912517699

Eligibility for participation

Students pursuing an undergraduate course in Mathematics up to or any related subject in Science, Engineering or Technology are eligible to participate.

Media Partner : Dhaka **Tribune**



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Modality of the Olympiad

The time allotted for each Regional Olympiad, as well as the Final Round of the Olympiad, is 90 minutes. There will be two types of problems: broad and short. There will be 6 broad problems each carrying 10 marks, and 8 short problems each carrying 5 marks. All questions are to be answered. Contents of the questions will not exceed second year level in mathematics. The problems will be set from among the topics comprising the subject areas as listed below.

1. **Vector and Analytic Geometry:** Vectors in two and in three dimensions. Scalar product. Vector product. Applications to plane geometry. General equation of second degree: Conic section. Coordinates in three dimensions: Direction cosines. Plane and straight lines in three dimensions.
2. **Algebra**
Complex numbers. DeMoivre's theorem and applications. Polynomials and algebraic equations. Summation of series. Basic knowledge of groups, rings and fields. Elementary number theory.
Vector spaces. Linear independence: Basis and Dimension. Linear transformations. Linear equations, Matrices and determinants.
3. **Calculus of one variable:** Functions and their graphs, limits, continuity, differentiation and application, integration and applications, fundamental theorems and applications. Convergence of infinite sequences and series:
4. **Calculus of several variables:** Differentiation and integration of vector functions. Line, surface and volume integrals. Cylindrical polar and spherical polar coordinates. Theorems of Green, Gauss, Stokes and their applications.

(Dr. Md. Manirul Alam Sarker)

Member Secretary,

National Undergraduate Mathematics Olympiad Committee 2014-2015

and

Professor & Head, Department of Mathematics, BUET, Dhaka-1000.

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