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Mr. Zafar Sobhan  
Editor, Dhaka Tribune

**ANNOUNCEMENT OF NUMO 2016**

Bangladesh Mathematical Society (BMS), founded in 1972, is the sole organization of professional mathematicians of all levels of Bangladesh. Every year it publishes one volume of a research journal “GANIT” Journal of Bangladesh Mathematical Society ISSN 1606-3694 in English, 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, workshops on specialized topics, the Society arranges every two years an international mathematics conference. BMS also holding Undergraduate Mathematics Olympiad annually since 2009. The aim of the Mathematics Olympiad is to create opportunity for our young talented students in the country to shine and show their mathematical and analytical ability and to create a nationwide awareness for the development of math skills.

In 2014, BMS has enhanced the scope for the participation in Olympiad by holding six regional mathematics Olympiads where top ten participants from each regional Olympiad took part in the national Olympiad centrally arranged at the department of Mathematics, University of Dhaka. The holding of these Olympiads on an annual basis is a challenge for BMS which intends to meet with full determination and commitment. Likewise last year, A F Mujibur Rahman Foundation (A charity dedicated to education) has promised to support BMS financially in conducting the 8<sup>th</sup> National Undergraduate Mathematics Olympiad 2016(NUMO16). The Olympiad Committee has decided to hold **six** Regional Olympiads at **six** locations throughout the country. Top ten (including a female) contestants from these Regional Olympiads will participate in the National Olympiad to be held at the Department of Mathematics, BUET in December 2016. Salient features of the 8<sup>th</sup> NUMO16 are:

**Benefits of the participants:**

- ‘Certificates of excellence’, Prize money of Tk. 10,000 and a Crest" will be given to each of the top ten participants in the final round.
- ‘Certificates of appreciation’ will be given to the top ten participants in each regional NUMO16.
- Certificates of participation" will be given to all the remaining participants in NUMO16.
- Lunch packet, T- shirt, folder and pen will be served to all the participants.
- Every contestant can participate in a question/answer session with famous mathematicians / professionals of the country.



**8<sup>th</sup> National Undergraduate Mathematics Olympiad 2016**

Office: Department of Mathematics, A. F. Mujibur Rahman Ganit Bhaban, University of Dhaka  
E-mail: [bdmathsec@yahoo.com](mailto:bdmathsec@yahoo.com); website: [www.bdmathsociety.org](http://www.bdmathsociety.org)

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AFM Rahman Foundation

Mr. Zafar Sobhan  
Editor, Dhaka Tribune

**Venues, dates & contact persons for the NUMO:**

**Chittagong Region:** 2<sup>nd</sup> December, 2016

Department of Mathematics,  
Chittagong University of Engineering & Technology (CUET)  
Convener: Prof. Dr. Md. Yeakub Ali  
email: [ali69cuets@gmail.com](mailto:ali69cuets@gmail.com), Cell. 01713109932

**Rajshahi Region:** 5<sup>th</sup> December, 2016

Convener: Prof. Dr. M. Wazed Ali Pramanik  
email: [wazedali822@yahoo.com](mailto:wazedali822@yahoo.com), Cell: 01745498911

**Dhaka South Region:** 25<sup>th</sup> November, 2016

Department of Natural Sciences,  
Daffodil International University  
Prof. Dr. Md. Fokhray Hossain  
email: [drfokhray@daffodilvarsity.edu.bd](mailto:drfokhray@daffodilvarsity.edu.bd), Cell: 01713493250

**Dhaka North Region:** 12<sup>th</sup> November, 2016

Department of Mathematics and Natural Sciences  
BRAC University

**Member Secretary:** Dr. Mir Mozibor Rahman  
email: [mirmozib@bracu.ac.bd](mailto:mirmozib@bracu.ac.bd), Cell: 01713049086

**Sylhet Region:** 9<sup>th</sup> December, 2016

Department of Mathematics  
Shahjalal University of Science & Technology (SUST)  
Convener: Prof. Dr. M. Anowarul Islam, Cell # 01919064555  
Email: [mislam32@gmail.com](mailto:mislam32@gmail.com)

**Khulna Region:** 9<sup>th</sup> December, 2016

Mathematics Discipline  
Khulna University, Khulna  
Convener: Prof. Dr. M. H. Ali Biswas, Cell # 01711948396  
Email: [mhabiswas@yahoo.com](mailto:mhabiswas@yahoo.com)

**Final Round:** 23<sup>rd</sup> December, 2016

Department Mathematics  
Bangladesh University of Engineering & Technology  
Convener: Prof. Dr. Md. Abdul Alim  
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Editor, Dhaka Tribune

## 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 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. Planes and straight lines in three dimensions.
- 2. Algebra:** Complex numbers. DeMoivre's theorem and applications. Polynomials and algebraic equations. Summation of algebraic and trigonometric 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)

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