

GOLAGHAT COMMERCE COLLEGE
RAMANUJAN

DEPARTMENT OF MATHEMATICS
&
STATISTICS
YEAR 2015-16
VOL-I

!! From Principals Desk!!

I am very much happy to know that the department of Mathematics of our College is going to publish a departmental bulletin which would contain different types of write ups of the students and teachers of the department. This is in deed a praiseworthy work and I am sure this act would be an inspiring force for other department also. I feel honoured to offer my heartfelt thanks to everybody of the department.

Dr. Jatindra Nath Saikia

!!Message from Head, Dept. of Mathematics & Statistics!!

From this year, our Dept. is going to publish a Departmental bulletin for the benefits of the students. I am thankful to the Principal, faculties of the Dept. and students who helped in completing the bulletin.

T. K. Saikia

Attribute To-
LATE - DEBESWAR BARUAH
HEAD, DEPARTMENT OF
MATHEMATICS
AND
STATISTICS



WHAT IS MATHEMATICS

Mathematics may be defined as the study of relationships among quantities, magnitudes and properties and also of the logical operations by which unknown quantities, magnitudes and properties may be deduced.

Historically, mathematics was regarded as the science of quantity. Now a days, mathematics covers number theory, Algebra, Geometry, Analysis (calculus), Mathematical logic and set theory, probability theory and Statistics, group theory, order theory, knot theory, Sheaf theory, Topology, Differential geometry, graph theory, Chaos theory, Singularity theory, Model theory, category theory, Game theory, Complexity theory and many more.

Dr. Karabi Devi
Asst. Professor

Dept. of Mathematics And Statistics



SRINIVASA RAMANJAN IYENGER



Ramanujan was born on 22 December 1887 in Erode, Madras Presidency at the residence of his maternal grand parents. His father, K. Srinivasa Iyenger, worked as clerk in a sari shop and hailed from the district of

Thanjavur. His mother, Kamalatammal, was a housewife.

Ramanujan had no formal training in pure mathematics but he made extraordinary contributions to mathematical analysis, number theory, infinite series and continued fractions. Ramanujan initially developed his own mathematical research in isolation, it was quickly recognized by Indian mathematicians. When his skills became apparent to the wider mathematical community, centred in Europe at the time he began a famous partnership with the English Mathematician G.H. Hardy. He rediscovered previously known theorems in addition to producing new work.

Name : Miss Borshajyoti Borah
Class : B.Com 5th Semester



RUBIK'S CUBE

Rubik's cube is a 3D combination puzzle invented in 1974 by Hungarian Sculptor and Erno Rubik. The Rubik's cube consists of six faces and nine stickers on each. There are three different kinds of pieces in the Rubik's cube : corners, edges and centers. The corner and edge can move while the center pieces keep static. First Rubik's cube world championship was held in Budapest, June 5, 1982. Speedcubing is the practice of trying to solve a Rubik's cube in the shortest time possible. The first world championship organized by the Guinness Book of world records was held in MUNICHON March 13, 1981. All cubes were moved 40 times and lubricated with petroleum jelly. The world cube Association maintains a history of world records. Rubik's cube is widely considered to be the world's best selling puzzle game toy.

Banshree Duarah
Roll No. :- 56 (A)
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IMPORTANCE OF MATHEMATICS

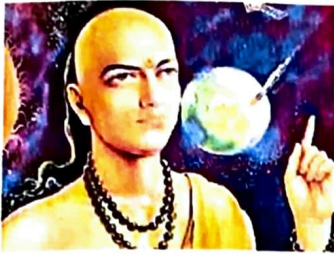
At the beginning, I must pay my gratitude to Sri T.K Saikia sir and Dr. Karabi Devi for their beautiful idea of publishing a bulletin from mathematics and statistics department of Golaghat commerce college. Today, Mathematics education is most important for all people. Without the knowledge of mathematics a student can not compete in a competitive examination. Whether he comes from science or arts or commerce background. In every step of our life mathematics play a virtual role. In medical science, Engineering, Astronomy, Commerce, Economics, Mathematics play major role. Without any concern, we do mathematics from morning to night. So I think every one should love mathematics. I hope each student of Golaghat commerce college adopt the slogan 'I love mathematics'. I love it because of its thrill and excitement. I love its great theorems and proofs. I love its wonderful applications and above all I love its great magic and miracles. I will be glad if this bulletin help students to know about importance of mathematics.

Mrs. Tulumoni Gogoi.
Asst. Professor

Department of Mathematics & Statistics



ARYABHATA



Aryabhata was born in India around 476 AD. Though it's difficult to say exactly where the state of mathematics in India were before Aryabhata, it is safe to assume that India had

been affected by the Hellenistic world that had followed Alexander the great in the fourth century. India was also influenced by trade with the Roman Empire that followed it up through the fifth century. Through them both, he was probably familiar with the famous western mathematics and astronomers of Greece and Rome- Pythagoras and Euclid among many others Aryabhata's contributions.

Aryabhata published his first book when he was 23. In it he not only wrote about advance ideas in mathematics and astronomy, but he wrote in the tight poetry meters of Hindu Philosophical texts time.

Aryabhata's work, from his first book, was groundbreaking for many reasons. For one, there was his motion of time, which he divided into eons, half-eons, and ages, which varied in length and extended from a few thousand years up to millions of years. He determined some of this through his work with the rising of Zodiacal Signs on the horizon and other astronomical work. His divisions were heavily influenced by his religion, but they were remarkably accurate.

He suggested other and smaller measurements of time along with explorations into the seven day week and intercalary month, a month inserted in to a year to make the calendar align with the seasons. He also wrote analyses on sandial measurement so that time could be measured more accurately.

Dibyoyoti Talukdar
B.Com 5th Sem



HISTORY OF MATHEMATICS IN INDIA-THE INDIAN CONTRIBUTION

The Contribution to Mathematics by India can be divided into the Categories :

1. Zero and the place - value notation for numbers.
2. Vedic Mathematics and arithmetical operations
3. Geometry of Sulba Sutras
4. Jain Contribution to Fundamentals of numbers

5. The anonymous Bakshali manuscript.
6. Astronomy
7. Classical contribution to Indeterminate Equations and Algebra
8. Indian Trigonometry
9. Kerala contribution to Infinite series and Calculus
- 10 Modern contribution : Srinivasa Ramanujan Onwards

Dhoritri Gogoi
B.Com 5th Sem



SHAKUNTALA DEVI



Shakuntala Devi (4 November, 1929-21 April, 2013) was an Indian writer and mental calculator, popularly known as the "human computer". A child prodigy, her talents eventually earned her a place in the 1982 edition of the "Guinness Book of world

Records" As a writer, Devi wrote a number of books, including novels as well as books about mathematics, puzzles and astrology. Some of her books includes :-

- i) Astrology for you.
- ii) Book of number.
- iii) Fingering : The Joy of Number
- iv) In the wonderland of Numbers
- v) Mathability : A waken the Math Genius in your child.
- vi) More Puzzles to Puzzle you
- vii) Perfect Murder
- viii) Puzzles to Puzzle you.
- ix) Super Memory
- x) The world of Homosexuals

In April 2013, Devi was admitted to a hospital in Bengaluru with respiratory problem. Over the following two weeks she suffered from complication of the heart and kidneys. She died in the hospital on 21 April 2013. She was 83 years old then. On 4 November 2013 Devi honoured with a "Google Doodle"

Manshi Lohia
Roll no - 33



Unsolved Problem in Mathematics

Albert Einstein

An unsolved problems in mathematics does not refer to the kind of problem found as an exercise in a text book , but rather to the answer to a major questions on a general method that provides a solution to an entire class of problems . Prizes are often awarded for the solution to a long standing problems and lists of unsolved problems receive considerable attention . This article reiterates the list of millennium prize problems of unsolved problems in mathematics (includes problems of physics and computer science) as of August 2015 , and lists further unsolved problems in algebra , additive and algebraic number theories , analysis , combinatorics , algebraic , discrete , and Euclidean Geometrics , dynamical system , partial differential equations and graph, group, model, number, set and Ramsey theories as well as miscellaneous unsolved problems.

Albert Einstein 14 March 1879 - 18 April 1953 was a theoretical physicist. He developed the general theory of relativity one of the two pillars of modern physics. Einstein work is also known for its influence on the philosophy of science . Einstein is best known for his popular mass-energy equivalence formula $E=mc^2$ (which has been described " The world's most famous equation ") . He received the 1921 Nobel prize in physics for his " services to theoretical physics " , in particular his discovery of the laws of the photoelectric effect , in evolution of quantum theory.

List	Number of problems	Proposed by	Propose in
Hilbert's problems	23	David Hilbert	1900
Landau's problems	4	Edmund Landau	1912
Taniyama's problems	36	Yutaka Taniyama	1955
Smale's problems	18	Stephen Smale	1998
Millennium Prize problems	7	Clay Mathematics Institute	2000
Unsolved problems	22	Jair Minoro Abe Shataro Tanaka	2001
DARPA'S math challenges	23	DARPA	2007

He was visiting United states when Adolf Hitler came to the power in 1933. Einstein published more than 300 scientific papers along with over 150 non-scientific works . On 5th December 2014 , universities and archives announced the release of Einstein papers , comprising more than 30,000 unique documents . His intellectual achievements and originality have made the word "Einstein " synonymous with "genius"

Miss Gayatri Bhattacharya
B.Com 5th Sem
Roll No - 94 (B)

Girish Bora
B.Com 5th Semester

Stephen Hawking

Stephen Willam Hwaking was born on 8 January 1942 in Oxford England. His parents house was in North London but during the second world war, oxford was considered a safer place to have babies. When he was 8 years his family move to St. Albans, a town about 20 miles north of London. At the age of eleven, Stephen went to St. Alban's School and then on to University College, Oxford Stephen wanted to study Mathematics, although his father would preferred medicine. Mathematics was not available at University College so he pursued Physics instead. After three years and not very much work, he was awarded a first class honours degree in Natural Science.

Stephen then went on Cambridge to do research in Cosmology, there being no one working in that area in Oxford at the time . His supervisor was Denis Sciana, although he had hoped to get Fred Hoyle who was working in Cambridge . After gaining his Ph.D he become first a Reasearch Fellow and later a professional Fellow at Gonville and Caius College. After leaving the Institute of Astronomy in 1973, Stephen came to the Department of Applied Mathematics and Theoretical Physics in 1979 and held the post of Lucasian Professor of Mathematics from 1979 until 2009.

Stephen Hawking has worked on the basic laws which govern the universe. With Roger Penrose he showed that Eirstein's General Theory of Relativity implied space and time would have beginning in the Big Bang and end in black holes. These results indicates that it was necessary to unify General Relativity with Quantum Theory the other great scientific development of the first day of 20th Century. One consequence of such a unification that his discover was the black holes are not completely black, but rather emit radiation and eventually evaporate and disappear.

Professor Hawking has twelve honorary degree. He was awarded the CBE in 1982, and was made a Companion of Honour in 1989. He is the recipient of many awards, madels and prizes, is a Fellow of Rogal Society and a Member of the US Nation Academic of Science.

Name -Deepak Singh
Roll no - 6 (A) B.5th Sem

Editorial Board

T. K. Saikia, Dr. Karabi Devi
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