



Principal's Message



I am glad to know that the Department of Mathematics is bringing out a Newsletter. I am sure that this will further strengthen the academic ambience of the college. I wish all the best for the endeavour.

Dr. P.C. Aniyankunju
PRINCIPAL

UGC Sponsored National Seminar

The Department of Mathematics hosted a UGC sponsored National Seminar on "Emerging Trends in Graph Theory and its Applications" from 21st to 23rd January 2015. The seminar was inaugurated by Prof. A.Vijayakumar, CUSAT. The inaugural function was presided over by Very Rev. Fr. John Manakkunnel, the Manager. Dr. P.C. Aniyankunju the Principal, Prof. Ancy Peter the HOD, Dr. Kuriachen George the Staff Association President, Dr. Jochan Joseph the UGC Cell Convenor and Sri. Josekutty Sebastian the alumnus delivered felicitation addresses. Dr. Indulal G., Seminar Convenor welcomed the delegates and Dr. Jubin Antony, Joint-convenor proposed vote of thanks.

There were 9 invited talks by experts of national and international fame in Graph Theory. The seminar witnessed a good participation from faculty and students both research and PG of nearby and distant colleges.



Very Rev. Fr. John Manakkunnel, the College Manager delivers presidential address in the inaugural function of the National Seminar

From the Editor's Desk

Welcome to the first issue of the 'MASA' for 2014-15. This Newsletter aims to give a glimpse of the various activities of the department and also aims to encourage the information seeking aptitude of the students. Therefore in addition to the news, we have also included some relevant articles in the Newsletter.

Hope you all will enjoy the first issue of our "MASA".

Dr. Jubin Antony
Editor

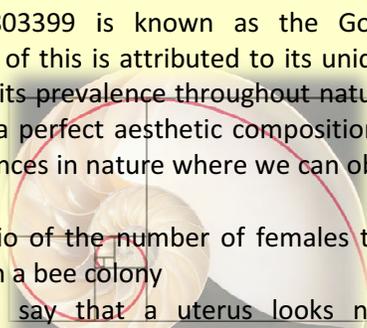
Golden Ratio OR Divine Proportion

Ms. Neha Prasad, 2nd MSc

$\Phi = 1.61803399$ is known as the Golden Ratio. The importance of this is attributed to its unique mathematical properties, its prevalence throughout nature, and its ability to achieve a perfect aesthetic composition. Here are some of the instances in nature where we can observe the golden ratio

- The ratio of the number of females to the number of males in a bee colony
- Doctors say that a uterus looks normal based on whether its dimensions approx the golden ratio
- Each finger is larger than the preceding one by roughly the ratio of phi
- The shape of Nautilus shells, Hurricane Katrina and the distribution of planets follow golden ratio

The dimensions of the Parthenon in Athens, built in 440BC and Great Pyramid of Giza believed to be 4,600 years old follows golden ratio. Leonardo Da Vinci called it the "divine proportion" and featured it in many of his paintings.



Where Can Mathematics Take Me?

Being a Mathematics student you may say that Mathematics is challenging and creative. But if you happened to say to a person you meet on public that you are a maths student, you may hear a different story. Then you are most likely to be greeted with comments about his failure in high school math or comments like how you are studying this dry subject. Is our subject dry and only meant to teaching job aspirants?

The Mathematicians in quality control lab of an automobile production unit use the 'lines of best fit' to judge whether the critical dimensions fell outside the 'design tolerances'. In banking, Mathematicians use probability to predict the default rate and cash flow. In insurance sector specialized Mathematicians called actuaries are responsible for developing new products and services tailored to specific clients. Recently IBM reported that they are the world's largest employer of PhD Mathematicians. These companies need people with Mathematics background to analyse the data they collect from every electronic data capturing devices. The facebook and Google we are addicted to, also employ Mathematicians and they are the ones behind its complex search algorithm.

In all these places Mathematicians earn higher salary compared to others. What we need to do is to equip ourselves with sound theoretical and applied knowledge and gain computer expertise.

Google OR Googol!

Mr.Chuchu Viswanath, 2nd MSc

The name of the search engine 'Google' came from the word 'Googol' meaning a very large number, $(10)^{100}$ to be exact.

Message from HOD

Department level publications like Newsletters are helpful in increasing the creativity of students. This will arouse love towards the subject among students. Searching for information will sow the seed of research in them.

I congratulate the efforts of the editorial team in bringing out the Newsletter. I hope the students will welcome this new initiative and will take a leading role for the upcoming issues.

Prof. Ancy Peter, HOD

News



Prof. Manjul Bhargava, Indian origin Mathematician currently working in Princeton University, US was awarded Fields Medal considered as the Nobel Prize in Mathematics. He is known for his contributions to Number Theory.

Be Proud to be an Aloysian!

One more reason for all of us to be proud to be an Aloysian. Our Principal, **Dr. P.C. Aniyankunju** got **Dr. Sam Higginbottom Award** for the Best Principals of India.

College News

National Assessment and Accreditation Council (NAAC) team is scheduled to visit our campus in the month of February to evaluate and accredit the college.

Congratulations!

UGC has approved the Minor Research Project proposal of **Prof. KochuThressiamma Joseph** and **Prof. Jijo Joy** of our Department.

Do you know?

Do you know the meaning of the word Dyscalculia? Dyscalculia means difficulty in learning arithmetic, such as difficulty in understanding numbers and learning maths facts. Einstein, the Mathematician and Physicist who changed this world with the eqn. $E=mc^2$ too had this difficulty.

Congratulations!

Ms. Sruthi S. of 2nd BSc Maths got the Best Cadet award in the Annual Training Camp of the NCC Naval wing held at Govt.College Kottayam.

Sequential Input of Numbers with 8

Ms.VishnuPriya S., 1st MSc

$$\begin{aligned} 1 \times 8 + 1 &= 9 \\ 12 \times 8 + 2 &= 98 \\ 123 \times 8 + 3 &= 987 \\ 1234 \times 8 + 4 &= 9876 \\ 12345 \times 8 + 5 &= 98765 \\ 123456 \times 8 + 6 &= 987654 \\ 1234567 \times 8 + 7 &= 9876543 \\ 12345678 \times 8 + 8 &= 98765432 \\ 123456789 \times 8 + 9 &= 987654321 \end{aligned}$$

Puzzle

Ms. Geethu R. Nair, 3rd BSc

Johny has a chicken farm. On a certain day, Johny calculates in how many days he will run out of chicken-food. He notices that if he would sell 75 of his chickens, he could feed the remaining chickens 20 days longer with the chicken-food he has, and that if he would buy 100 extra chickens, he would run out of chicken-food 15 days earlier. How many chickens Johny have? Ans.300

Unlucky 13!

Ms. Divya K. Joseph, 1st MSc

In many cultures number 13 is considered unlucky. Well there are many myths around it. One is that in some ancient European religion there were 12 Good Gods and 1 Evil God. The evil God was called the 13th God. Other superstition goes back to the last supper. There were 13 people at the meal including Jesus Christ and Judas was thought to be the 13th guest.

HaHaHa = 555!

The number '5' is pronounced as 'Ha' in Thai language. In some local slang the number '555' is pronounced as 'HaHaHa'.

Computer Lab

A computational lab with MATLAB and MATHEMATICA software is set open for the PG students of our dept. Dr. Mary George gives instructions in MATLAB.

Quiz Competition

Mathematics Association conducted an inter-class quiz competition for UG students. **Ms.Anju Arjun** and **Ms. Christy Varghese** of the 2ndBSc secured the first place. **Mr. Arjun H.** and **Mr. Abhijit S.** of 2ndBSc and **Ms. Christy Thomas** and **Ms. Anumol Thomas** of 3rdBSc secured 2nd and 3rd place respectively.

Birthday Paradox

Dr. Jubin Antony

Have you noticed the instance of two pupils in your class with same birthday? This can be explained using probability and is called Birthday paradox.

Intuitively you may think that the chance of 2 students with same birthday is pretty small in a class of 30 or 40 students as there are 365 days in a year. However, in a room of just 23 people there is a 50-50 chance of two people having identical birthday. In a room of 75 there is 99.9% chance of two people with matching birthday.

To calculate the probability that two members have a common birthday, first evaluate the probability that two people in the group do not share the same birthday. In a group of 3, the probability that there will not be an identical birthday is $(365 \times 364 \times 363) / 365^3$. Now take a paper and calculator and find out the probability of 2 people having same birthday for your class!

Ms. Irene Mary Mathew Memorial Elocution Competition for +2 Students

Mathematics Association and Debating Club jointly organized an elocution competition for the +2 students of nearby schools. Students from 12 schools participated in the event. **Ms. Elizabeth George** of St. Joseph's HSS Pulincunnu school secured first prize. **Ms. Swetha Sara Babu** and **Master Joseph Mathew** of St. Aloysius HSS Edathua received 2nd and 3rd places respectively. Principal **Dr. P.C. Aniyankunju** presented the cash award and certificates to the winners. The association is grateful to the parents of **Ms. Irene Mary Mathew** for instituting an award in memory of their daughter.

Mathematics Association Inauguration

Activities of the Mathematics Association for the year 2014-15 was inaugurated by **Dr. Joseph Mathew**, former HOD of Mathematics SB College Changanacherry. **Dr. Indulal G.** welcomed the guests. The meeting was presided over by Association President **Prof. Jijo Joy**. **Dr. P.C. Aniyankunju** the Principal and **Prof. Ancy Peter** the HOD delivered felicitation addresses. **Ms. Stessy Elsa Xavier** proposed vote of thanks. After the inauguration **Dr. Joseph Mathew** led a seminar on "Importance and History of π ".

Tour of Final Year BSc Students

Final year students of our department went to Mysuru, Coorg and Waynad as part of their annual study tour. 36 students under the guidance of **Prof. Ancy Peter** and **Dr. Jubin Antony** participated in the tour.

