Department of Mathematics

One of the first departments that was established in the year 1951. The demand for the Mathematics course is always on the increase. To meet the demands of the society, the college has introduced B. Sc. Mathematics with Computer Application in the year 2003. Subsequently one more section in the self financed course was introduced in 2015.

With the help of dedicated faculty, the department aims to enrich the students with a strong foundation in Mathematical concepts and its applications which in turn will help them to find placement in the job market and also equip them for research. At present, the department has 500 students and 17 dedicated faculty members. Our alumnas are spread all over the world and shine and excel in various fields.

Every year, our students participate in inter-collegiate competitions and bring laurels to the college by winning overall shields.

Mathematics club provides a platform for the students to exhibit their academic talents and their leadership qualities by participating in and conducting competitions.

This newsletter gives a glimpse of the activities and achievements of the students and the faculty of the department.

History of the Mathematics Department

- B. Sc Mathematics in 1951
- An additional section of B. Sc. Mathematics with computer application in 2015.

The Mathematics Faculty

(Standing: left to right): Dr. Nirmala Rebecca Paul, Mrs. A. Parveen Banu, Mrs. Evangeline Jeba, Mrs. S. Gokila, Mrs. J. Sakila, Mrs. S. Kavitha, Mrs. Sylvia Isaac, Mrs. J. Chitra. (Sitting; Left to Right) Mrs. Evangeline Christine Lily, Mrs. Felicia Shirley, Mrs. Priscilla Paul, Dr. Mary Sunithi Vijayan, Dr. Carmel Richard, Mrs. Narmada, Mrs. Esther Daniel.
Our students participated in various competitions and won the following prizes.

- **Over-all shield** in the intercollegiate competitions held at Jeyaraj Annapackiam College on 12/12/2014.
- **Overall Shield** at S. Velachamy Nadar College on 19/12/2014.
- **Over-all shield** in the intercollegiate competitions held at American College on 4/2/2015.
- **Over-all shield** at Jacob Memorial Christian college, Dindigul on 11/2/1015
- **Over-all shield** at Sri Meenakshi Government Arts College for Women, on 23/2/2015 & 24/02/2015.
- **Over-all shield** at Sri Velachamy Nadar College on 19/12/2014.
- **Over-all shield** at American College on 4/2/2015.
- **Over-all shield** at Jacob Memorial Christian college, Dindigul on 11/2/1015
- **Over-all shield** at Sri Meenakshi Government Arts College for Women, on 23/2/2015 & 24/02/2015.
- **Over-all shield** at Sri Velachamy Nadar College on 19/12/2014.
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- **Over-all shield** at Jacob Memorial Christian college, Dindigul on 11/2/1015
- **Over-all shield** at Sri Meenakshi Government Arts College for Women, on 23/2/2015 & 24/02/2015.
- **Over-all shield** at Sri Velachamy Nadar College on 19/12/2014.

Our faculty, of both streams (Aided and SF) constantly update themselves by participating and presenting papers in various workshops and conferences.

- Mrs. J. Chitra presented a paper on “Saturation Index of Permutation by Graphs” at M. D. T Hindu College on 26th March and 27th March 2015.
- Mrs. Felicia Shirley, Mrs. J. P. Jeya Kokila and Mrs. S. Kavitha participated in a “Workshop on Matlab”, held at Fathima College on January 21st, 2015.
- Mrs. J. Sakila Devi and Mrs. S.P. Jeya Kokila participated in the International conference on Graph Algorithms High Performance implementations and applications at CIT, Coimbatore from December 17th-19th, 2014.
- Mrs. J. Sakila Devi participated in the International Conference on Theoretical Computer Science and Discrete Mathematics held at SSN College of Engineering, Chennai on 8th and 9th December, 2014. She also participated in an International conference on Mathematical Methods and Computation held at Jamal Mohammed College, Tiruchy on January 22nd, 2015.
- Evangeline Jeba participated in a National seminar on discrete Mathematics and its applications held at Thiagarajar College of Engineering, Madurai on October 15th, 2014.
- Mrs. J. Sakila Devi and Mrs. S.P. Jeya Kokila participated in the International conference on Recent innovations in Engineering, Science and technology, held at ICRISET–Pune, on 9th November, 2014.
- Mrs. Evangeline Jeba and Mrs. J. Chitra participated in the International Workshop on Parallel Computing held at VIT, Chennai on December 11th, 2014.
Faculty achievements (continued)

- Mrs. Evangeline Jeba participated in the International Conference on Mathematics and its applications, held at University college of Engineering, Villupuram from 15th to 17th December, 2014.
- Mrs. J. Chitra, Mrs. Esther Daniel and Mrs. Jeya Kokila availed two years leave under the Faculty Development Programme of UGC to pursue their PHD in March 2015.
- Mrs. Carmel Richard had her PhD viva-voce on August 14th, 2014.

Departmental News/Activities

The department of Mathematics has conducted a workshop on “Applications of Mathematics” on 10th October, 2014, for the faculty and post graduate students . Dr. Sujatha from SSN College of Engineering gave a lecture on the topic “Applications of Fuzzy Mathematics”.
- Dr. C. Vijayalakshmi from VIT, Chennai gave a lecture on types of projects related to Operations Research.
- Through video conference, Dr. Indra Rajsingh from VIT, Chennai gave a lecture on “Applications of Graph Theory”.
- The final lecture was given by Mr. Senthil Kumar from EVR College, Tiruchy on “Statistics and its applications”.
- A faculty seminar was organized by the department of Mathematics on 15.12.2014. Mr. Senthil Kumar from A.P. Periyar E. V. R college, Tiruchy delivered a lecture on “Learn 6σ for Quality Improvement”
- Three faculties Dr. D. Vidhya, Dr. Narmada Devi and Dr. Evangeline Prathibha joined the department under the Faculty improvement programme at the end of March 2015.

Mathematics Carnival 2014-2015

The Mathematics Carnival was conducted with much fanfare and grandeur on 20th January 2015.
A total of 143 students from 11 colleges in and around Madurai participated. The competitions conducted for this year were paper presentation, quiz, model presentation, dumb charades and rangoli. The overall shield was won by Ayya Nadar Janaki Ammal College, Sivakasi.
Mathematics Club Valedictory Celebration

Dr. Nirmal honoured us with his presence for the Maths Club Valedictory. In his valedictory address, he shared his memories of his beloved wife Dr. Nalinakshi Nirmal.

Dr. Nalinakshi Nirmal was a professor from Madras Christian College. Dr. Nirmal said that his wife Dr. Nalinakshi loved Mathematics and was extremely efficient in balancing her profession and her role in family. He further recalled an incident where in one of her papers was accepted for publication but later was not done so. She was bold enough to fight against the journal claiming justice.

In memory of Dr. Nalinakshi Nirmal, Mr. Nirmal contributed Rs. 50000 to the department of Mathematics towards Dr. Nalinakshi Nirmal Memorial Endowed Scholarship. The citation for the scholarships is as follows:

1. Dr. Nalinakshi Nirmal memorial endowed scholarship for a needy III B. Sc. (Aided) Mathematics student with minimum of 80% in Part III.

2. Dr. Nalinakshi Nirmal memorial endowed scholarship for a needy II M. Sc. (Aided) Mathematics student with a minimum of 70% in major and also undertakes a project in Graph Theory.

Adieu to our beloved HOD

It was indeed a sad occasion for the department when its HOD of two years, Mrs. Sylvia Isaac retired in May 2015. The former HOD was known for her patience and endearing personality. It is impossible to recall if she had ever lost her temper in any occasion. She is also admired for her quiet, unassuming behaviour, mathematical skills and perseverance. The faculties of the department have learnt a lot from her and although it is impossible to replicate all her beautiful qualities, it is something that is worth trying.

Mrs. Sylvia Issac was always humble and generous. So it indeed with heavy hearts that the department bid adieu to the much loved HOD by having a farewell party on 28th April 2015. She shall be fondly remembered and sorely missed.

A beautiful mind passes away

Prof. John Forbes Nash, the great mathematician whose life inspired the book by Sylvia Nasar and the Oscar winning movie “A beautiful mind” passed away on May 23rd, 2015 in a car crash on the New Jersey Turnpike. His wife Alicia Nash also passed away in the accident. It was only a few days before, that John Nash received the Abel Prize for his seminal contributions to the field of non-linear partial differential equations.

Prof. Nash is well known for his pioneering work in Game theory and Nash equilibrium. His theories are used in economics, computing, evolutionary biology, artificial intelligence, accounting, computer science, games of skill, politics and military theory. In 1994, he received the Nobel Prize for Economic sciences, which he shared with game theorists Reinhard Selten and John Harsanyi. His sudden death comes as a shock to the mathematics world which was plunged into grief. As always Prof. Nash is an inspiration and will forever be remembered for his beautiful mind.
Educational Tour September 2014

The department arranged an Educational tour to Bangalore and Mysore for the III year UG (Aided and SF) and the II PG students on 12th and 13th September, 2014. Dr. Nirmala Rebecca Paul, Dr. Mary Suniti Vijayan, Mrs. Esther Daniel, Mrs. Felicia Shirley, Mrs. Sakila and Mrs. Evangeline Jebra also participated and escorted the students. The students enjoyed the trip and it was an opportunity to mingle with each other.

First woman to win Field’s Medal

The Field’s medal is one of the most prestigious prizes awarded to a mathematician for excellence in research. It is awarded to researchers who are less than 40 years of age. In 2014, Maryam Mirzakhani, 37, became the first woman to win the Field’s medal for her seminal work in Weil Petersson volumes of Moduli spaces of bordered Riemann surfaces. She did her Ph. D in Harvard University in 2004. At school, she was involved in Math Olympiads and she is the first Iranian to score the perfect score. She did her graduate studies and PhD in Harvard. She is currently a professor of Mathematics at Stanford University and predominantly works on geometric surfaces and their deformations.

From the Editor’s desk

It is quite a task to compile a year’s worth of achievements into a single newsletter but I have tried my level best, to give a truthful picture of what happens in the Department of Mathematics. I was ably assisted by our Office assistant Mrs. Devi and many student volunteers. I am thankful to Miss. Subathra, Miss. Rooblekha and Miss. Shobana of III UG(SF) for helping me with the newsletter compilation. I am deeply grateful to all the faculty members of the department for helping me with the information and offering me a helping hand whenever I needed it.

The cover picture on the title head of the newsletter is a drawing by our student Miss. Uma Chithra of I UG (S.F ‘B’) Mathematics. The Student’s corner is a purely the handwork of our students and I was deeply impressed by their drawings and articles.

It is therefore a joy and an honor to present this year’s newsletter for public view.

Dr. M. Evangeline Prathibha
Assistant Professor,
Department of Mathematics,
Lady Doak College.
IT IS MAGIC UNTIL YOU UNDERSTAND IT, AND IT IS MATHEMATICS THEREAFTER. - BHARATI KRISHNA
ART FROM OUR STUDENTS

M. Grace Vijista
IM.Sc MATHS
15PGM012

R.SWATHI
III B.Sc MATHS WITH C.A
13MATE044
P. Archanaa
I B.Sc MATHS
WITH C.A
15MATE047

S. Dharaani
III B.Sc MATHS
WITH C.A
13MATE006
V. Revathi

III B.Sc MATHS WITH C.A

13MATE031
Fun with maths

Can an elephant become equal to an ant???
Let the weight of an elephant be \( x \)
Let the weight of an ant be \( y \)
Let the total weight be \( 2v \)

Therefore, \[ x + y = 2v \] \( (1) \)
\[ x = 2v - y \] \( (2) \)
\[ y = 2v - x \] \( (3) \)

Multiply equation \( (3) \) by \(-1\)
\[ -y = -2v + x \] \( (4) \)

Multiply equation \( (4) \) by \( x \)
\[ -xy = -2vx + x^2 \]

Put value of \( x \) in LHS
\[ y(2v - y) = -2vx + x^2 \]
\[ -2vy + y^2 = -2vx + x^2 \]

Adding \( v^2 \) on both sides
\[ x^2 - 2vx + v^2 = y^2 - 2vy + v^2 \]
\[ (x - v)^2 = (y - v)^2 \]

Taking square root on both sides \( (x - v) = (y - v) \)
\[ x = y - v + v \]
\[ x = y \]

weight of an elephant = weight of an ant
Hence proved
WHAT MAKES OUR LIVES HAPPY??

We all always want the happy moments of our lives to freeze or pause forever. Everyone in this world craves for a happy life. There is no definition or a formula for happiness. It differs from person to person. For some happiness is name, glory, comfort, money or family. Even good health and contentment are not enough. Everyone is not satisfied with their present state, they always want more than what they have. For example a poor man loves to have a hut for shelter whereas a middle-class man would like to have a beautiful bungalow with two or three cars and a rich man would want to own a house in Paris and so on. But all this money and luxury are not the only criteria for a true happy life.
The ideal happy man is the one who does right things, never ever hurts a person’s heart and is a God fearing person. If our actions are really true and good then it will naturally lead us to a beautiful happiness. We are always showered with lots of love from God and our family or our loved ones and we should always be content with our life to cherish the happy moments.

According to Shakespeare, “NOTHING IS GOOD OR BAD BUT THINKING MAKES IT SO.” Everything appears to be pleasant to a happy mind and unpleasant to an unsatisfied mind. WE SHOULD ALWAYS BE HAPPY AND ALSO MAKE PEOPLE AROUND US HAPPY.

S.NIKISHA
I M.Sc. MATHS
15PGM025
காணிக்கிறீர்கள் என்று போற்றம்

அவள் அவள் அவள்

காணிக்கிறீர்கள் எல்லாளும் எல்லாம்

நாள்வர்கள் நாள்வர்கள் நாள்வர்கள்

நூற்றாண்டு முழுவதும் முழுவதும்

நூற்றாண்டு நூற்றாண்டு நூற்றாண்டு

நவி பிற்பக்தம் அவள் தினமே

காணிக்கிறீர்கள் எவ்வகை தினமே

அண்டசபேப் பொருளாண்டசபேப் அண்டசபேப்

கிைத்தக்கு எவ்வு எவ்வு

நூற்றாண்டு காணிக்கிறீர்கள் பல்கலைக்கழகம்

நூற்றாண்டு எவ்வு நூற்றாண்டு எவ்வு

அுமாம்! அுமாம்! நூற்றாண்டு போர்க்கு

நூற்றாண்டு? நூற்றாண்டு பொருளாண்டு எவ்வு

அங்கிருந்த மிகுத்தான் பார்க்கிறீர்கள்

நூற்றாண்டு பொருளாண்டு போர்க்கு

நூற்றாண்டு மிகுத்தான் எவ்வு

அமிர்ம்ம! அமிர்ம்ம! நூற்றாண்டு போர்க்கு

அமிர்ம்ம! அமிர்ம்ம! நூற்றாண்டு போர்க்கு

நூற்றாண்டு மிகுத்தான் எவ்வு
கிைஸ் அருங்களில் கீழ்த்தியத்தின்
காரணக்குறிக்கு இருந்த உண்மையை அறிவிக்கிறோம்
காண்டுப் பெற்று கருதுகிறேன்
வண்டிய தரும் மின்னாழ்ந்து மீண்டும்
முற்ப் பிள்ளை காரணியில் இல்லை
இல்லை என்று அனுமானம் செய்யவரை
காரணத்தின் காரணியில் இல்லை
காரணியின் நேர்? காரணியின் நேர்?
ஏற்பட்டுமையில் மரபுகளே
அதன் மேல்பாச்சு நேர்?
கேள்ள செய்த குழாற்களை நான்
நேரம் பிள்ளை காரணியில் இல்லை

மா.குருத்து
13MATE042

முற்ப் பிள்ளையார் குறிப்பிட்டுகிறான கருதுநூற்றாண் மாணவின்;
சிவா சந்தோஷமாக கல்வியை.
Are You A Winner? or a Loser?

Let’s check

A winner has always a Programme
A loser has always an excuse.

A winner says, ‘let me do it for you’,
A loser says, ‘It’s not my work’.

A winner sees answer for every problem
But a loser sees a problem in an answer.

A winner says
‘It may be difficult but possible’.

A loser says
‘It may be possible but difficult’.

A winner feels responsible about his job
A loser says ‘I’m the only one who works here’

Now decide who ARE YOU?

A WINNER OR A LOSER ????

by
J. Shangunthala Devi
B.Sc Maths with CA.

J. SHANGUNTHALA DEVI
III B.Sc MATHS WITH C.A
15MATE082
ர்.முத்துமாரி
I M.Sc MATHS
15PGM023
Mathematical Invitation

Mr. Algebra and Mrs. Geometry

Solicit the presence of your company on the wedding of their daughter

P. Trigonometry

to

P. Analytic Geometry

[ Son of Mr. Mrs. Integral Calculus ]

At rectangular Kalyanamandapam

Triangle avenue, circle Nagar, Trapezium.

Bus route 70° 85° radian

"Mukurtham between Sin 45° and Cos 45° and the Reception there after at 15:00hrs onwards"

Special invites: Mr. Pythagoras (zero millionaire)

Dance performance: Handy and Newton (gravity dance)

Orchestra: Arithmetic Progression

Play back Singers: Mr. Ramanujam and Mrs. Shakundala Devi

Seedling children: +, - , x , ÷.

With Best Compliments

by

J. Shangunthala Devi

III B.Sc MATHS with C.A

15MATE082
பொறியம்புப்பாத்து சிற்பநக்து

நோய் நாடு தலைச்சியான புனிதம ஒன்றான 2 பாண்டியவர்

சீரம சதுரத்தின் ரோசார் பிரித்

சோகம் சுப்பிரமணியன் பிரித்

பாண்டிய்மின் விளையாட்டில் பார்த்த

சோழநாதன் சாத்யாதாரா பிரித் அதுக்கு

சிறந்த ராசியின் பிரித் நூற்றாண்டு 2 பார்த்த

சுற்றும் நூற்றாண்டு பாவநாதர்

- A. Divya Praba
13MAT018
III - B.Sc. Maths.
S. NANDHINI

II B.Sc MATHS WITH C.A
15MATE064
S. NANDHINI
II B.Sc. MATHS WITH C.A