MATH – MAZE

A Subject Based Yearly News Letter

ALGEBRA

ISSUE XI (2017 - 2018)

Released by

PG Department of Mathematics

VELLALAR COLLEGE FOR WOMEN (Autonomous)

"College with Potential for Excellence"

(Reaccredited with 'A' Grade by NAAC and Affiliates to Bharathiar University, Coimbatore)

Thindal, Erode – 638012, Tamil Nadu.

CONTENTS

❖ Solutions to the problems are invited, at the earliest. The names of the readers who turn out first in providing answers to the problems will be published and the solutions will be published in the forthcoming issue.

FROM THE EDITORIAL DESK

The Department of Mathematics has been established in the year 2003. It offers B.Sc., Mathematics with Computer Applications, B.Sc., Mathematics, M.Sc., Mathematics and M.Phil Programme.

The Department has to its credit, two National Seminars, two National Conferences, an Intercollegiate meet and International seminar organized on 11th& 12th August 2005, 30th& 31th August 2007, 9th January 2014, 9th February 2017, 13th September 2011 and 10th January 2018 respectively. It has celebrated National Mathematical Year on 24th August 2012. On memorial of Ramanujan's birthday Math Expo has been organized by the Department since 2013.

The Department is enriched with twenty one faculty members having wide knowledge in their specializations like Differential Equations, Fuzzy Set Theory, Intuitionistic Fuzzy Set, Graph Theory and Operations Research. The Department has completed two minor research projects funded by UGC. The Department has produced 53 M.Phil Research Scholars from 2009 onwards.

The Department adds one more feather by publishing a Subject Based Yearly News Letter incorporating History of Mathematicians, Crossword Puzzles, Cross out Crossword Puzzles, Solutions to the Problems of Previous issue, Departmental Activities and Placement details of the Students of Mathematics.

We welcome the suggestions and criticisms for improvement in the content and presentation of materials of "MATH-MAZE".

EDITORIAL DESK

HISTORY OF ALGEBRA

Algebra is a branch of Mathematics, emerged at the end of the $\mathbf{16}^{th}$century in Europe, with the work of Francois Viete. Algebra can essentially be considered as doing computations similar to those of arithmeticbut with non-numerical mathematical objects. The word algebra is a Latin variant of the Arabic word *al-jabr*. This came from the title of a book, Hidab al-jabrwal-muqubala, written in Baghdad about 825 A.D. Eventually the Muqabalah was left behind, and this type of Mathematics became known as algebra in many languages.

ETYMOLOGY

The word "algebra" is derived from the Arabicword الجبر*al-jabr*, and this comes from the treatise written in the year 830 AD by the medieval Persian Mathematician, who was Muhammad Ibn Musa al -Khwarizmi, whose Arabic title, *Kitab al-muhtasarfihisab al-gabrwa-l-muqabala*, can be translated as *"The Compendious Book on Calculation by Completion and Balancing"*. The treatise provided for the systematic solution of linearand quadratic equations.

According to the history, it is not certain just what the terms *al-jabr* and *muqabalah* mean, but the usual interpretation is similar to that implied in the previous translation. The word *'al-jabr'* presumably meant something like 'restoration' or 'completion' and seems to refer to the transposition of subtracted terms to the other side of an equation.After long time of al-Khwarizmi is found in *Don Quixote*, where the word 'algebrista' is used for a bone-setter, that is, a 'restorer'. The term is used by al-Khwarizmi to describe the operations that he introduced, "reduction" and "balancing".

If people do not believe the mathematics is simple, it is only because they do not realize how complicated life is.

- John Von Neumann

STAGES OF ALGEBRA

The stages in the development of symbolic algebra are approximately as follows:

- **Rhetorical algebra**, in which equations are written in full sentences. Rhetorical algebra was first developed by the ancient Babylonians and remained dominant up to the 16^{th}century.

- **Syncopated algebra**, in which some symbolism is used, but which does not contain all of the characteristics of symbolic algebra. Syncopated algebraic expression first appeared in Diophantus *Arithmetica* (3^{rd}centuryAD), followed by Brahmagupta's *Brahma Sphuta Siddhanta*(7^{th}century).

- **Symbolic algebra**, in which full symbolism is used. Early steps towards this can be seen in the work of several Islamic Mathematicianssuch as Ibn Al-Banna (13^{th}-14^{th}centuries) and Al-Qalasadi (15^{th}century), although fully symbolic algebra was developed by Francois Viete (16^{th}century). Later, Rene Descartes (17^{th}century) introduced the modern notation and showed that the problems occurring in geometry can be expressed and solved in terms of algebra (Cartesian geometry).

In between the rhetorical and syncopated stages of symbolic algebra, a **geometric constructive algebra** was developed by classical Greek and Vedic Indian Mathematicians in which algebraic equations were solved through geometry.

INDIAN ALGEBRA

The Indian Mathematicians were active in studying about number systems. The earliest known Indian Mathematical documents are dated to around the middle of the first millennium BC. The recurring themes in Indian Mathematics are determinate and indeterminate linear and quadratic equations, simple mensuration and Pythagorean triples.

Brahmagupta was an Indian mathematician who authored Brahma Sphuta Siddhanta. In his work Brahmagupta solves the general quadratic equation for both positive and negative roots.

Mathematics is the most beautiful and most powerful creation of the human spirit.

-Stefan Banach

Bhaskara II (1114- c.1185) was the leading mathematician of the 12th century. In Algebra, he gave the general solution Pell's equation. He is the author of Lilavati and Vija-Gantia, which contain problems dealing with determinate and indeterminate linear and quadratic equations and Pythagorean triples. Also he fails to distinguish between exact and approximate statements.

Important Developments in the History of Algebra

- 240 BC - Eratosthenes uses his sieve algorithm to quickly isolate prime numbers.
- 370 BC - Eudoxus states the method of exhaustion for area determination.
- 550 BC - Brahmagupta gave zero a numeral representation in the positional notation of Indian Numeral System.
- 1761 - Thomas Bayes proves Baye's theorem.
- 1762 - Joseph Louis Lagrange discovers the divergence theorem.
- 1895 - Henri Poincare publishes paper "Analysis Situs" in which the concept of modern topology is stated.
- 1912 - Luitzen Egbertus Jan Brouwer presents the Brouwer fixed-point theorem.
- 1929 - Emmy Noether introduces the first general representation theory of groups and algebras.
- 2009 - Fundamental lemma (Langland's program) had been proved by Ngo Bao Chau.
- 2015 - Terence Tao solved The Erdos Discrepancy Problem.

Algebra is identified with the theory of equations, the Greek Mathematician Diophantushas traditionally been known as the "Father of Algebra" but in more recent times there is much debate over whether al-Khwarizmi, who founded the discipline of *Al-Jabr*, deserves that title instead. Those who support Diophantus point to the fact that the algebra found in *Al-Jabr* is slightly more elementary than the algebra found in *Arithmetica* and that *Arithmetica* is syncopated while *Al-Jabr* is fully rhetorical. They also point to his treatment of an equation for its own sake and in a generic manner, and it does not simply emerge in the course for solving the problem, but is specifically called onto in defining an infinite class of problems.

Mathematicians are born, not made.

–Henri Poincare

ALGEBRA – BASIC DEFINITIONS

ABSTRACT ALGEBRA

The subject of *abstract algebra* is concerned with the many different algebraic structures such as groups, rings and fields involving sets of elements with particular operations satisfying certain axioms.

LINEAR ALGEBRA

The topics of linear equations, matrices, vectors of the algebraic structures are known as a vector space is intimately linked and this area of Mathematics is known as *linear algebra.*

SET

A set is a collection of distinct objects, considered as an object in its own right. For example, the numbers 2,4, and 6 are distinct objects when considered separately, but when they are considered collectively they form a single set of size three, written as{2,4,6}.

DISJOINT

Two sets are said to be disjoint if their intersection is empty, that is the null set.

MATRIX

A matrix is a rectangular array of numbers, symbols or expressions, arranged in rowsand columns. For example, the dimensions of the matrix below are 2 × 3 (read "two by three"), because there are two rows and three columns:

$$\begin{bmatrix} 1 & 3 & 4 \\ 2 & 6 & 5 \end{bmatrix}$$

SQUARE MATRIX

A matrix that has the same number of rows and columns.

Life is good for only two things, discovering mathematics and teaching mathematics.

-Simeon Poisson

FUNCTION

A *function* (or map or mapping) f from A to B (written as f: A $\rightarrow$B) to each $a \in$A exactly and one element $b \in$B, b is called the value of the function at a or the image of a and is usually written as $f(a)$.

ONE-ONE MAPPING

A *one-to-one* function is a function that preserves distinctness: it never maps distinct elements of its domain to the same element of its co-domain. In other words, every element of the function's co-domain is the image of at most one element of its domain

ON-TO MAPPING

The function is *onto* if each element of the co-domain is mapped to by at least one element of the domain. (That is, the image and the co-domain of the function are equal.) A surjective function is a surjection. Notationally:

$\forall\, y \in Y, \exists x \in X$ such that $y = f(x)$

HOMOMORPHISM

A mapping $\varphi: \mathrm{R} \rightarrow \mathrm{R}'$ is said to be a *homomorphism* if

1) $\varphi\,(a+b) = \varphi(a) + \varphi\,(b)$

2) $\varphi(ab) = \varphi(a).\varphi(b)\ \forall\ a,b \in \mathrm{R}$.

AUTOMORPHISM

A one-to-one correspondence, between the elements of a set onto itself, is said to be *automorphism.*

ISOMORPHISM

A homomorphism of R into R'' is said to be an *isomorphism* if it is a one-to-one.

ISOMORPHIC

Two rings are said to be *isomorphic* if there is an isomorphism of one onto the other.

Mathematics is written for Mathematicians.

–Nicolaus Copernicus

FIELD

A **field** is a set on which addition, subtraction, multiplication and division are defined, and behave as when they are applied to rational and real numbers. A field is thus a fundamental algebraic structure, which is widely used in algebra, number theory and many other areas of mathematics.

VECTOR SPACE

A non-empty set V is said to be a *vector space* over a field F, if V is an abelian group under an operation which we denote by '+', '.', subject to the following conditions.

i) $\alpha(v + w) = \alpha v + \alpha w)$

ii) $(\alpha + \beta)v = \alpha v + \beta v$

iii) $\alpha(\beta v) = (\alpha\beta)v$

iv) 1. $v = v \; \forall \; \alpha, \beta \in F, v, w \in V$

BASIS

A set of elements in a vector space V is called a **basis**, or a set of basic vectors, if the vectors are linearly independent and every vector in the vector space is a linear combination of the set.

ORTHOCENTRE

A point in a triangle that is the point of intersection of the perpendicular lines from vertex to the opposite sides.

ORTHOGONAL BASIS

A basis for a vector space in which the components of the basis are mutually orthogonal is known as **orthogonal basis**.

CANONICAL BASIS

The set of orthogonal unit vectors which form the simplest basis n-dimensional Euclidean space. In 3-dimensional space the vectors i, j, k in the directions ox, oy and oz form the **canonical basis**.

Pure mathematicians just love to try unsolved problems - they love a challenge.

-Andrew Wiles

PERMUTATION

Permutation refers to the different ways of arranging a set of objects in a sequential order.

ODD PERMUTATION

A permutation $f \in S_n$ is called ***odd*** if and only if it can be written as a product of an odd number of transpositions.

EVEN PERMUTATION

The *rearrangement* of the original ordering which can be obtained by an even number of exchanges of pairs of elements.

The only way to learn mathematics is to do Mathematics.

- *Paul Halmos*

KNOW YOUR MATHEMATICIAN

RENE DESCARTES

Rene Descartes, French Mathematician and Philosopher were born in 1596. It was partly because of his contribution that western philosophy and Mathematics flourished. In recognition of his contribution, he is often referred as "**Father or founder of modern philosophy**". He is also considered as precursor of rationalist school of thought.

In Mathematics, his contribution lies chiefly in geometry, so he is known as **Father of analytical geometry**. His main achievement was to bridge the gulf between algebra and geometry. With regard to algebra, he explained in detail that how algebraic equations can be expressed and explained through use of geometrical shapes. His major contribution lies in bringing forth coordinate system that also bears his name. This Cartesian coordinate system tended to explain the algebraic equations through geometrical shapes. He "**Invented the convention of representing unknowns in equations by x, y and z**". It was his work on calculus and later it was used by **Newton**, thus evolving a new branch of Mathematics. Besides that, he also invented rule of signs to establish **the positive and negative roots of polynomial.** He died in **1650** in Stockholm, Sweden.

Perfect numbers like perfect men are very rare.

- Rene Descartes

JOSEPH FOURIER

Joseph Fourier was a French Mathematician and Physicist born in Auxerre and best known for initiating the investigation of Fourier series and their applications to problems of heat transfer and vibrations. The Fourier transform and Fourier's law are also named in his honour. Fourier is also generally credited with the discovery of the greenhouse effect.

In Mathematics, Fourier claimed that any function of a variable, whether continuous or discontinuous, can be expanded in a series of sines of multiples of the variable. Though this result is not correct without additional conditions, Fourier's observation that some discontinuous functions are the sum of infinite series was a breakthrough. The question of determining when a Fourier series converges has been fundamental for centuries. **Joseph-Louis Lagrange** had given particular cases of this (false) theorem, and had implied that the method was general, but he had not pursued the subject. **Peter Gustav Lejeune Dirichlet** was the first to give a satisfactory demonstration of it with some restrictive conditions. This work provides the foundation for what is today known as the Fourier transform. He died on **May 16, 1830** in Paris.

Mathematics compares the most diverse phenomena and discovers the secret analogies that unite them.

- Joseph Fourier

NIELS HENRIK ABEL

Niels Henrik Abel was born in 5th August 1802 and was a **Norwegian Mathematician** who made pioneering contributions in a variety of fields. His most famous single result is the first complete proof demonstrating the impossibility of solving the **general quintic equation** in radicals. This question was one of the outstanding open problems of his day, and had been unresolved for 250 years. He was also an innovator in the field of **elliptic functions**, discoverer of **Abelian functions**. Despite his achievements, Abel was largely unrecognized during his lifetime; he made his discoveries while living in poverty and died at the age of 26.

Abel showed that there is no general algebraic solution for the roots of a **quintic equation**, or any general **polynomial equation** of degree greater than four, in terms of explicit algebraic operations. To do this, he invented (independently of **Galois**) a branch of Mathematics known as **group theory**, which is invaluable not only in many areas of Mathematics, but for much of **physics** as well. Abel sent a paper on the unsolvability of the quintic equation to **Carl Friedrich Gauss**, who proceeded to discard without a glance what he believed to be the worthless work of a crank. At the age of 16, Abel gave a rigorous proof of the **binomial theorem** valid for all numbers, extending **Euler**'s result which had held only for **rationals**.

Mathematics reveals its secrets only to those who approach it with pure love, for its own beauty.
- Archimedes

Abel wrote a fundamental work on the theory of **elliptic integrals**, containing the foundations of the theory of **elliptic functions.** While travelling to Paris, he published a paper revealing the double periodicity of elliptic functions, which **Adrien-Marie Legendre** later described to **Augustin-Louis Cauchy** as "a monument more lasting than bronze" (borrowing a famous sentence by the Roman poet **Horatius**). The paper was however, misplaced by Cauchy.

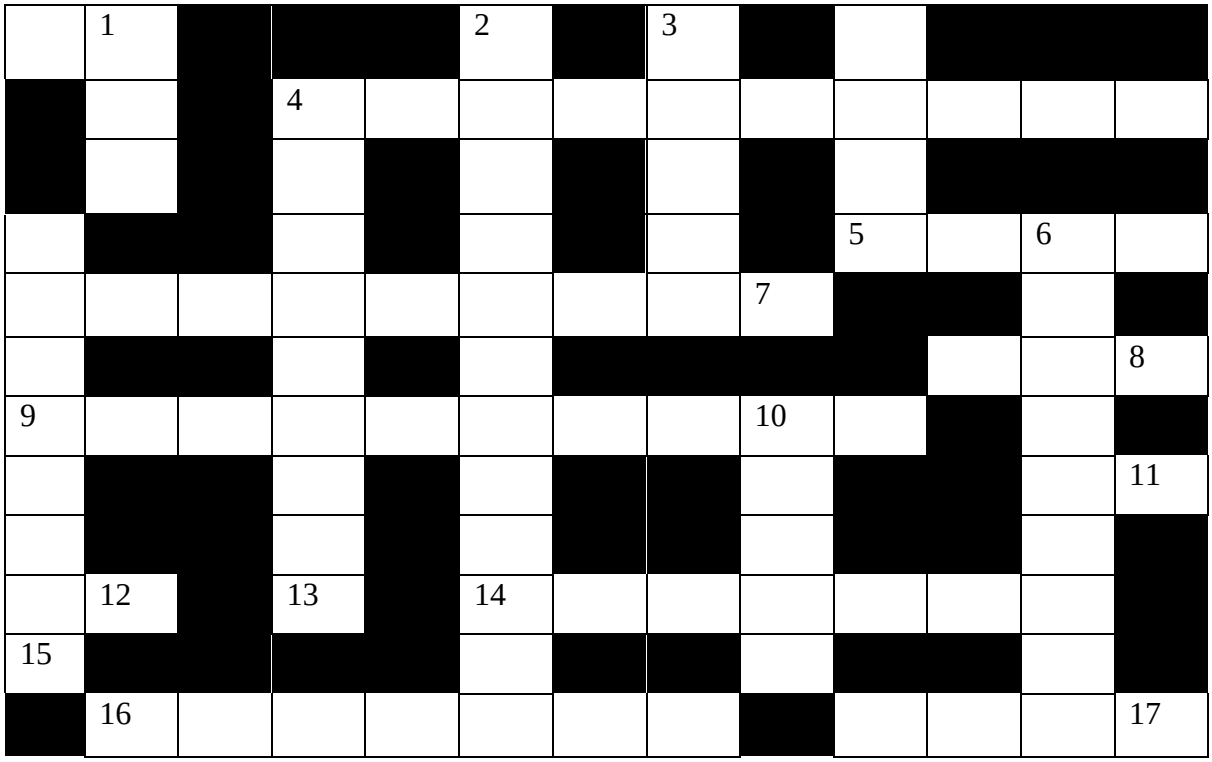
While in abroad, Abel had sent most of his work to Berlin to be published in the Crelle's Journal, but he had saved what he regarded as his most important work for the French Academy of Sciences, a theorem on addition of algebraic differentials. The theorem was put aside and forgotten until his death. While in Freiberg, Abel did research in the theory of functions, particularly, **elliptic, hyper elliptic**, and a new class known as **abelian functions.**

In 1823, Abel wrote a paper titled "a general representation of the possibility to integrate all differential formulas" (*Norwegian: en alminnelig Fremstilling af Muligheten at integrere allemulige Differential-Formler).* He applied for funds at the university to publish it. However the work was lost, while being reviewed, never to be found thereafter Abel said famously of **Carl Friedrich Gauss**'s writing style, "He is like the fox, which effaces his tracks in the sand with his tail". He died in **1829**, Paris.

I have hardly ever known a mathematician who was able to reason.

- Stephen Hawking

ALGEBRA CROSS WORD PUZZLES



RIGHT TO LEFT:

1._____equations are necessary condition for a complex function to be analytic.

7. A matrix that is equal to its own conjugate transpose is called_____.

8. Rectification of a curve is used to determine the length of an irregular_____(Shuffled).

11. _____is an irrational number.

12. _____is one of the decomposition method for solving matrix in which lower and upper triangular matrix are formed.

17. The term_____is also used to refer to the identity element of the ring.

Mathematics is the art of giving the same name to different things.

-Henri Poincare

LEFT TO RIGHT:

4. _____is always specified relative to an ordered basis.

5. $A = \bar{A}$ (Conjugate of A) is possible only when A is _____(Shuffled).

9. If an isomorphism exists between two functions then they are_____.

14. This is a function that interchanges the dependent and independent variables of another function_____.

16. An_____element which is not smaller than any other element in the set.

UP TO DOWN:

1. Real part of $e^{i\theta}$ can also be written as θ_____.

2. _____is a structure preserving a map between two algebraic structures of the same type such as two groups, two rings and two vector spaces.

3. A_____is necessarily an integral domain. (Shuffled)

6. The_____algorithm is an efficient method for computing the GCD of two numbers.

10. In a ring theory, _____ is a special subset of a ring. (Shuffled)

DOWN TO UP:

5. A commutative ring is a _____ in which multiplication operation is commutative.

13. If A is a square matrix with $A = A^T$, then A is _____

15. _____ring is also called as residue class ring.

Mathematics is the alphabet in which god has written the universe.

–BoreMe

CROSS OUT CROSSWORD PUZZLES

1. Integration is a form of _____.
2. A variable with its _____ gives the real part of the corresponding variable.
3. Inverse of A is called the _____ of A.
4. Trigonometric functions, exponential functions, complex functions are one of the elementary_____functions.
5. Inverse of logarithm is_____.
6. A term which contains both numerator and denominator is called_____.
7. Which function is used to get '$i\theta$' by using $e^{i\theta}$?

Mathematics is the music of reason.

- James Joseph Sylvester

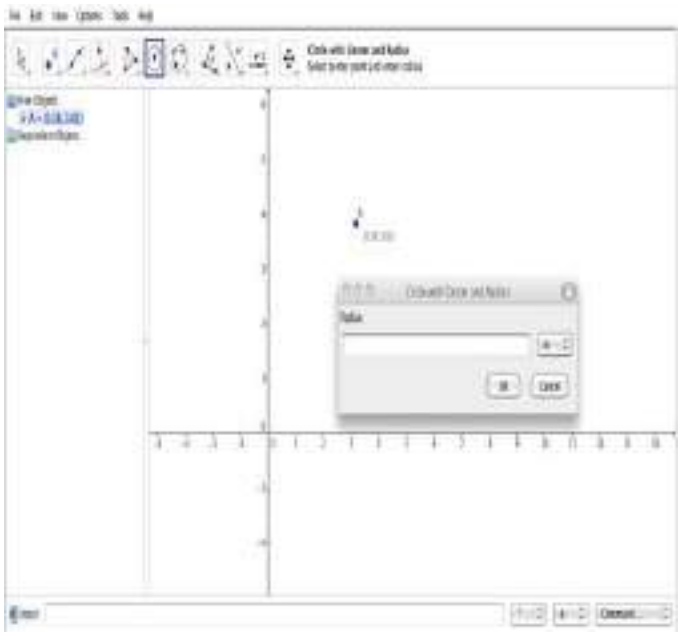
8. The inverse of addition is_____.
9. Abu Ja'far Muhammad ibn Musa-al-Khwarizmi is the father of_____.
10. When an equal sign is added to an expression, it becomes an_____.
11. Complement of irrational number is_____number.
12. Higher order degree equations are called _____.
13. By adding complementary function and particular integral, we get the general_____.
14. An operator which is used in fraction is_____.
15. _____of positive divisors of n is denoted by $\tau(n)$.

A Mathematician who is not also something of a poet will never be a complete mathematician.

- Karl Weierstrass

FOSS FOR ALGEBRA

GEOGEBRA

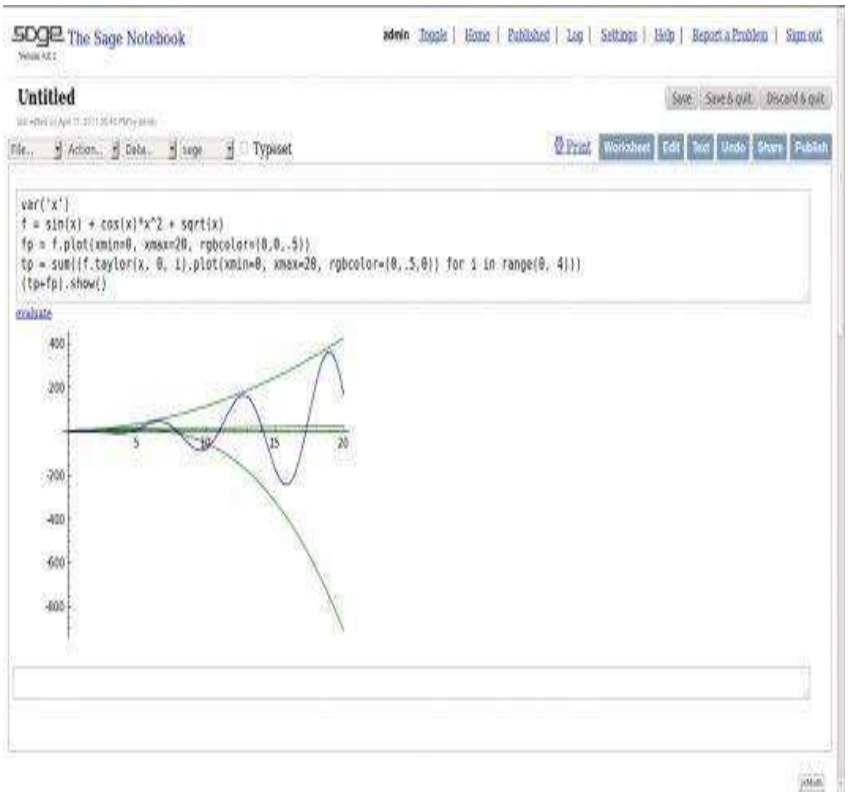


Geogebra is a powerful platform that helps students learn math effectively and solve math problems on different topics that include vectors, calculus, linear programming, algebra, complex numbers and statistics. Geogebra allows us to directly enter and manipulate equations and coordinates, enabling us to plot functions, work with sliders to investigate parameters; find symbolic derivatives and use powerful commands like Root or Sequence.

Mathematicians stand on each other's shoulders.

-Carl Friedrich Gauss

SAGEMATH

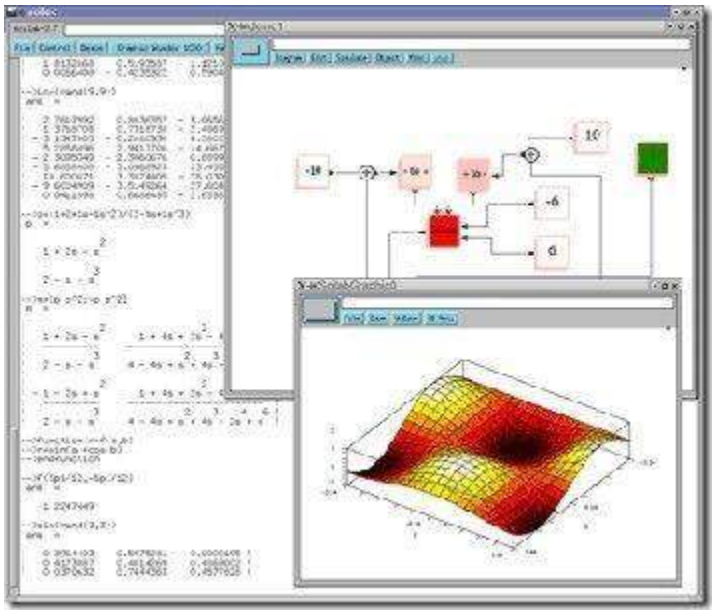


Sagemath is an open source and free software that helps students with general, applied, advanced and pure mathematics. This includes topics like calculus, cryptography, algebra, advanced number theory and more. Sagemath uses many software packages and smoothly assimilates their features for a common usage. It is more suited for research, studies and education.

*Mathematics is the door and key to the sciences***.**

-Roger Bacon

SCILAB



Scilab is free and open source software which provides a platform for numerical computation. It features a top-class programming language that is used for the progressive data structure and 2D & 3D graphical options. It includes a wide variety of functionalities such as optimization, control, signal processing, simulation and more along with hybrid dynamic systems modeler and simulator.

Mathematics is a Queen of science.

-Gauss

WOLFRAM ALGEBRA COURSE ASSISTANT

Wolfram Algebra course assistant can most certainly support and assist in many algebra topics, it's geared for high school algebra and early college level algebra. All the main topics in Algebra are addressed and its a powerful homework helper.

ALGEBRA GENIE

It addresses the main algebraic topics expressions, exponents, linear relations, Pythagorean Theorem, function basics, functions, quadratic functions, absolute function, square root function, exponentials and logarithms, factoring, systems of equations, conics. **Algebra Genie** was developed by teachers. There are over 200 lessons suitable for high school students.

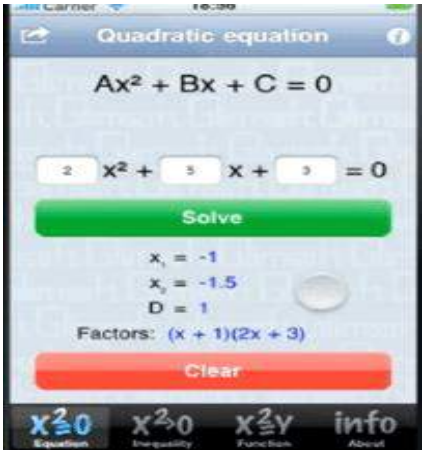
Mathematics is the abstract key which turns the lock of the physical universe.

-John Polkin Ghome

ALGEBRA BOOT CAMP

Algebra Boot Camp is really like the book and find that this app is like a textbook turned into app. This app has some basic pre-algebra like fractions, exponents, basic equations but it does lead into quadratic equations, matrices, radical and polynomials. It comes from the authors of the book '**Effortless Algebra**' and the app follows the book for the most part.

QUADRATIC MASTER

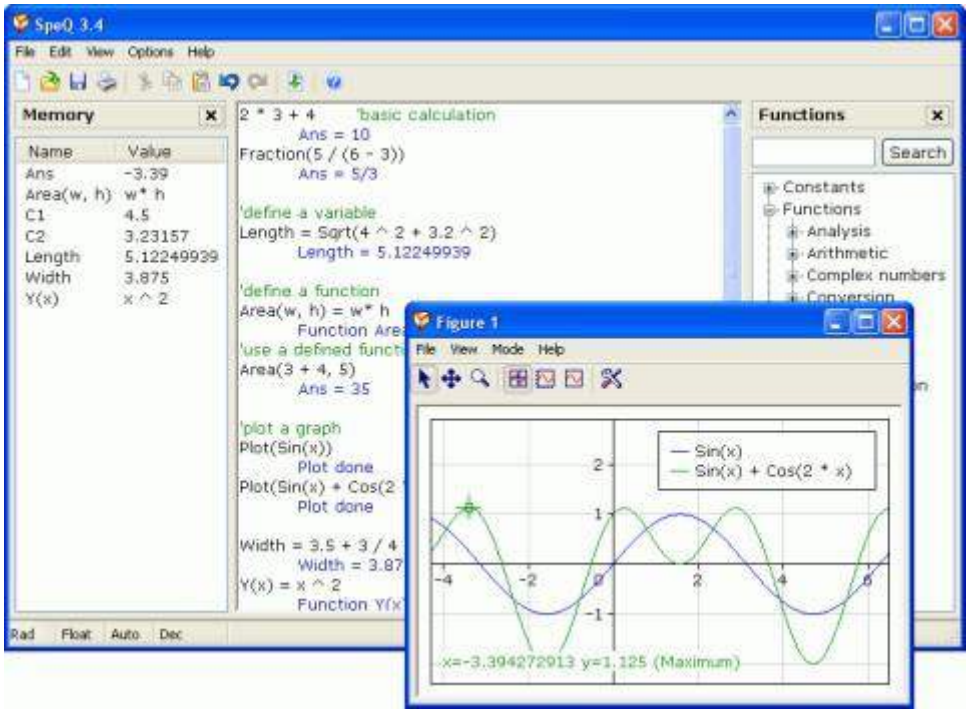


It is used to solve **quadratic equations**, inequalities and functions. Again, it's a great practice tool but students should have a basic understanding of quadratics. This app helps to build mastery.

All mathematics is symbolic logic.

-Bertrand Russell

SpeQ Mathematics



SpeQ is a small, extensive mathematics program with a simple, intuitive interface. All calculations are entered in a sheet. SpeQ supports all common functions, constants and units. Furthermore, the custom variables and functions can be defined also the graphs can be plotted for the given functions.

SpeQ is useful for simple, brief calculations as well as working out sheets with extensive variable definitions, functions and complex calculations.

I have hardly ever known a Mathematician who was capable of reasoning.

-Plato

USEFUL RESEARCH LINKS

BOOKS

http://libgen.io

http://gen.lib.rus.ec/

http://libgen.pw/

http://b-ok.org/

http://en.bookfi.net/

http://www.scribd.com/

http://www.avaxhome.co/

http://www.ebook3000.com/

http://www.freebookspot.es/

LINKS

https://www.youtube.com/watch?v=VE0xIpf11Qo

http://nptel.ac.in/courses/111102011/module1/lect1.pdf

https://www.youtube.com/watch?v=ZK3O402wf1c

https://www.youtube.com/watch?v=AqXOYgpbMBM

https://www.youtube.com/watch?v=fNk_zzaMoSs

https://www.khanacademy.org/math/linear-algebra/vectors-and-spaces/vectors/v/vector-introduction-linear-algebra

https://www.youtube.com/watch?v=gAbadNuQEjI

https://www.youtube.com/watch?v=zvRdbPMEMUI

WEBSITES

- https://www.khanacademy.org
- https://www.coolmath.com
- https://www.mathgames.com
- https://www.purplemath.com
- https://www.ixl.com
- https://www.brightstorm.com
- https://www.mathway.com
- https://www.math-play.com
- https://www.freemathhelp.com
- https://www.mangahigh.com
- https://www.homeschoolmath.com
- https://www.wyzant.com
- https://www.mathhelp.com
- https://www.mathisfun.com
- https://www.intmath.com
- https://www.brilliant.org
- https://www.shmoop.com
- https://www.mathopolis.com
- https://www.fortlewis.edu
- https://www.softschools.com
- https://www.algebra.com
- https://www.code.org
- https://www.serpmedia.org
- https://www.mathscareers.org.uk
- https://www.wis.kuleuven.be
- https://www.mathsbitsnotebook.com
- https://www.cms.azed.gov
- https://www.kristakingmath.com
- https://www.pinterest.com
- https://www.apiic.in
- https://www.accessmaths.co.uk

FRANK NELSON COLE

Frank Nelson Cole (September 20, 1861 – May 26, 1926) was an American Mathematician, born in Ashland, Massachusetts, and educated at Harvard, where he lectured on mathematics from 1885 to 1887. Cole published a number of important papers, including *The Diurnal Variation of Barometric Pressure* (1892). In 1893 in Chicago, his paper *On a Certain Simple Group* (the group is PSL (2, 8)) was read (but not by him) at the International Mathematical Congress held in connection with the World's Columbian Exposition. Cole died alone in New York City at the age of 64. The American Mathematical Society's Cole Prize was named in his honor.

About this Prize

The **Frank Nelson Cole Prize**, or **Cole Prize** for short, is one of two prizes awarded to Mathematicians by the American Mathematical Society, one for an outstanding contribution to algebra and the other for an outstanding contribution to number theory. The prize is named after Frank Nelson Cole, who served the Society for 25 years. The Cole Prize in algebra was funded by Cole himself, from funds given to him as a retirement gift; the prize fund was later augmented by his son, leading to the double award.

To be eligible for the Cole prize, the author must be a member of the American Mathematical Society or the paper should appear in a recognized North American journal. The first award for algebra was made in 1928 to L. E. Dickson, while the first award for number theory was made in 1931 to H. S. Vandiver.

The study of mathematics, like the Nile, begins in minuteness but ends in magnificence.

-Charles Caleb Cotton

FRANK NELSON COLE PRIZE IN ALGEBRA

S.NO	YEAR	PRIZE WINNER	CITATIONS
1	1928	Leonard E. Dickson	Algebren und ihre Zahlentheorie
2	1939	Abraham Adrian Albert	Construction of Riemann matrices
3	1944	Oscar Zariski	Algebraic varieties
4	1949	Richard Brauer	Artin's L-series with general group characters
5	1954	Harish-Chandra	Representations of semisimple Lie algebras and groups
6	1960	Serge Lang & Maxwell A. Rosenlicht	Unramified class field theory over function fields in several variables & Generalized Jacobian varieties and a universal mapping property of generalized Jacobians
7	1965	Walter Feit & John G.Thompson	Solvability of groups of odd order
8	1970	John R. Stallings & Richard G. Swan	On torsion – free groups with infinitely many ends & Groups of cohomological dimension one
9	1975	Hyman Bass & Daniel G. Quillen	Unitary algebraic K-theory & Higher algebraic K-theories
10	1980	Michael Aschbacher & Melvin Hochster	A characterization of Chevalley groups over fields of odd order & the homological theories of commutative rings
11	1985	George Lusztig	The representation theory of finite groups of Lie type
12	1990	Shigefumi Mori	Classification of algebraic varieties
13	1995	Michel Raynaud & DavidHarbater	Solution of Abhyankar's conjecture

14	2000	AnderiSuslin & Aise Johan de Jong	Motivic cohomology&the resolution of singularities by generically finite maps
15	2003	Hiraku Nakajima	Representation theory and Geometry
16	2006	Janos Kollar	Theory of rationally connected varieties and for his illuminating work on a conjecture of Nash
17	2009	Christopher Hacon & James McKernan	Higher dimensional birational algebraic geometry
18	2012	Alexander S. Merkurjev	The essential dimension of groups
19	2015	Peter Scholze	Perfectoid spaces which has led to a solution of an important special case of the Weight- mondromy conjecture of Deligne
20	2018	Robert Guralnick	Representation theory, cohomology, and subgroup structure of finite quasi-simple groups, and the wide-ranging applications of this work to other areas of mathematics

MATH GLOSSARY

Decade

A decade is a period of 10 years.

Decagon

A polygon with ten sides.

Deciles

Deciles are the technique of separating set of ranked data into 10 equally big subsections.

Decimal

Decimal number is a number which contains a decimal point and is written using the base-10 number system. For example, 32.7, 0.321.

Decimal fraction

A fraction expressed by using decimal representation, as opposed to a vulgar fraction. Example: $\frac{3}{4}$ is a vulgar fraction, 0.75 is a decimal fraction.

Decimeter

Decimeter is a unit of measurement of length used in the metric unit. Symbol of decimeter is *dm*. One Decimeter is equal to one tenth of a meter.

Denary Number

Denary number is the base 10 number system. It is a standard number system used throughout the world, commonly known as decimal number. It uses numbers 1,2,3,4,5,6,7,8 and 9. Examples of denary numbers are 5,67,789,4543 etc.

Diameter

A line segment that contains the center and has it's endpoints on the circle. Also, the length of this segment.

Perfect numbers like perfect men are very rare.

-Rene Descartes

Dilation

Dilation is one among the two basic operations that deals with the areas like Mathematical morphology and erosion. It is a process of resizing the geometric figure into larger or smaller size around the fixed centre point.

Dimensions

On the most basic level, this term refers to the measurements describing the size of an object. For example, length and width are the dimensions of a rectangle.

Dimensional Consistency

If the dimension of the quantities is equal on both sides of the equation, then it is said to be dimensionally consistent.

Directly Proportional

A relationship between two variables in which one is a constant multiple of the other. In particular, when one variable changes the other changes in proportion to the first.

Discrete Data

Discrete data has a set of data that holds only certain standard values. This data can have only countable number of values which cannot be subdivided further.

Discrete Random Variable

A discrete random variable is one which takes only a countable number of distinct values such as $0,1,2,3,4\ldots$ discrete random variables are usually counts. If a random variable can take only a finite number of distinct values, then it must be discrete.

Discriminant

The Discriminant of an equation gives an idea of the number of roots and the nature of roots of the equation.

Pure mathematics is, in its way, the poetry of logical ideas.

-Albert Einstein

Distributive Law

If same answer is obtained while multiplying a number by set of numbers added together, as when we multiply each number separately and add them together is known as distributive law.

Divergent Series

A divergent series is an infinite series that is not convergent, meaning that the infinite sequence of the partial sums of the series does not have a finite limit.

Divisibility Rule

Divisibility rule is a rule that helps to determine whether a given number is divisible by divisor before performing the entire operation. The divisibility rule varies for each number.

Divisor

A number that divides the integer exactly (no remainder). In other words the division works perfectly with no fractions involved. For example:12 ÷ 3 = 4, here 3 is the divisor.

Domain

The set of values of the independent variable(s) for which a function or relation is defined. Typically, this is the set of *x*-values that give rise to real *y*-values. For example: $f(x) = x^2$, the domain of this is all real numbers.

An equation means nothing to me unless it expresses a thought of god.

-Srinivasa Ramanujan

SOLUTIONS TO THE PROBLEMS OF THE PREVIOUS ISSUE

PUZZLES – BIOSTATISTICS

ANSWERS

LEFT TO RIGHT

1. Probability
2. Mean absolute
3. Simple

RIGHT TO LEFT

4. Combined
5. Random
6. Life
7. Held
8. Vital
9. U-test

BOTTOM TO TOP

10. Linear
11. Extreme
12. Variable
13. Population

TOP TO BOTTOM

14. Standard
15. Nature

CROSSWORDS-BIOSTATISTICS

1. Sample
2. Cluster
3. Class
4. Midpoint
5. Relative
6. Cumulative
7. Mean
8. Negative
9. Chi-square
10. Kendall
11. Pearson
12. Multiple
13. Availability Sampling
14. Subjective
15. Null

Mathematicians are like managers- they want improvement without change.

-Edsger Diijkstra

CONGRATULATIONS

Congratulations to the following readers who turn out first in providing answers to the problems of the previous issue:

CROSSWORD PUZZLE

R.T. Ranchitha	III B.sc., (Biochemistry)
G. Dharani	I B.sc., (Zoology)
S. Kiruthika	III B.sc., (Biochemistry)

CROSSOUT CROSSWORD PUZZLE

S. Suganya	III B.sc., (Botany)
L.P. Sangeetha	III B.sc., (Physics)
A. Mythili	II B.sc., (Chemistry)

Congratulations to the following students for their Art work in this issue.

V. Gobika	I B.sc., (Mathematics A)
T. Kamali	I B.sc., (Mathematics A)
G. Dhana Priya	I M.sc., (Mathematics A)

DEPARTMENT ACTIVITY 2017-2018

CA. S.V. Hari Kesavan B.Sc., F.C.A, Global Guide, Heartfulness Institute, Palayapalayam, Erode was the resource person in the Special Meeting on **International Yoga Day** (21.06.2017) addressed on the topic **"Connect, Integrate, Become One Through Meditation".**

As a part of **Bridge Course,** the fresher's were acquainted with "**Fundamentals of Mathematics**" on 30.06.2017, to test and improve their knowledge. The aim of the entry level test is to enable them to cope with the transform from school to college level. Basic skills of students was tested through entry level test, which carries questions from the topics Trigonometry, Differentiation and Integration, Statistics, Complex Analysis and Vector Analysis.

The final year UG and PG Students and Staff members of the Department visited three and half days **trip** to **Bangalore, Mysore and Coorg** on 11.08.2017 to 14.08.2017. The students enjoyed the first day trip at Lal park, BAMUL(Bangalore Milk Cooperation Union), Visvesvaraya Industrial and Technological Museum, Siva Temple, HAL(Hindustan Aeronautical Limited), Iskon Temple and Majestic Mall in Bangalore. The second day, students exalted at Thalacauveri, Thiruveni Sangamam and Golden Temple in Coorg. Finally they adored Samundeshwari Temple, Mysore Maharaja Palace, Zoo and shopping in Mysore.

In the Faculty Development Program on 10.08.2017, **Peeyush Chandra**, Professor (Retired), Department of Mathematics & Statistics, Indian Institute of Technology, Kanpur shared his ideas on **"Art of writing research proposal"**.

On 11.08.2017, **Dr. S. Somasundaram**, Professor, Department of Mathematics, Manonmaniam Sundaranar University, Tirunelveli was the chief invite for the Guest Lecture on **"Introduction to Analysis"**.

In One day Workshop on **Differential Equations** (30.08.2017), the chief guests were, **Dr. P.Kandaswamy FNASC,** (Formerly of Bharathiar University, Coimbatore), Visiting Fellow, Energy Conservation Research Centre, Doshisha University, Kyoto, gave the lecture on "Biological Applications of Differential Equations" and **Dr. Ramajayam Sahadevan, M.Sc., Ph.D.,** UGC Emeritus Fellow, Ramanujan Institute for Advanced Study in Mathematics,

University of Madras, Chennai delivered a lecture on "Non-Linear Differential Equation and their Applications".

Guest Lecture programme was organized on 05.12.2017 in the topic **"Controllability and Inverse Problems on PDEs"** with **Dr. K. Sakthivel**, Assistant Professor, Indian Institute of Space Science and Technology, Trivandrum, Kerala.

To render respectful accolades to the Math icon Ramanujam, **"MATH EXPO – 17"** was organized on 28.12.2017 for his 130th birthday celebration, **Dr. P. Senthilkumar**, Assistant Professor, Department of Mathematics, Government Arts and Science college, Kangeyam was the chief guest.

One day International Seminar on **Introduction to Number Theory** was held on 10.01.2018. **Prof. Taekyun Kim,** Kwangwoon University, South Korea gave the lecture on "Euler's Criterion on Quadratic Residue" in the morning session. **Prof. Seog-Hoon Rim,** Department of Mathematics, Kyungpook National University, South Korea delivered a talk on "Diophantine Equation in Number Theory" in the afternoon session.

On 18.01.2018, the Workshop on **"Introduction to Maple"** was organized to broaden the learner's knowledge about Maple software, **Dr. Ramajayam Sahadevan,** Director, Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Chennai, was the chief guest.

The UG & PG students created Math models to facilitate easy learning of mathematics to the students of Panchayat Union School, Sengodampalayam, on 30.01.2018, as a part of **Extension Activity**.

A Special Meeting was organized on 31.01.2018, **Dr. Ramesh Venkadachalam Palani,** Assitant Professor, School of Mathematics, Central University of Tamilnadu, Neelakudi, Thiruvarur, dealt in detail on **"Mathematics for Researchers"**.

Association Competitions like Math Quiz, Math Sketching, e-invitation making and Math Connections were conducted by the Department of Mathematics on **14.02.2018 & 15.02.2018** to activate the interest of the students.

Faculty Achievements

1. Research activities of the faculty

- Ph.D Awarded - Dr. G. Thamizhendhi,
  Assistant Professor & Head,
  PG Department of Mathematics

  Dr. K. K. Myithili
  Assistant Professor,
  PG Department of Mathematics
- SET Qualified - R. Akilandeswari
  Assistant Professor,
  PG Department of Mathematics
- M.Phil Produced - 1

2. Details of Conference/Seminars/Workshops/Symposium – Resource Person / Presented / attended by the staff members

S.No	Type of Programme	Number of Faculty Resource Person/ Presented/Attended	2017-2018		
			State Level	National	International
1	Conference	Resource person	-	-	-
		Presented	-	-	4
		Attended	-	-	-
2	Seminar	Resource person	1	-	-
		Presented	-	2	-
		Attended	1	-	-
3	Workshop	Attended	21	4	-
4	Guest Lecture	Resource person	1	-	-

3. Faculty Recharging strategies (FDP/Orientation/Refresher/Retraining) attended by the staff members

FDP Attended - 3

4. Research Publications by the Staff members.

S. No	Name of the Staff	Title of the paper	Name of the Journal/Book	Journal /Book Volume no.	Month & Year, PP	ISBN/ ISSN
1	G.Thamizhendhi	Some Types of Domination in Intuitionistic Fuzzy Graphs	International Journal of Mathematical Archive	Volume 9, No. 1 (Special Issue)	Jan- 2018, PP 245-250	ISSN – 2229-5046
2	K.K.Myithili	Intersecting Intuitionistic Fuzzy Directed Hypergraphs	International Journal of Mathematical Archive	Volume 9, No. 1 (Special Issue)	Jan-2018, PP 238-244	ISSN – 2229-5046
3	K.K.Myithili	An Application of Transversals of Intuitionistic Fuzzy Directed Hypergraphs	The Journal of Fuzzy Mathematics	Volume 26, No. 1	2018, PP 35-49	ISSN – 1066-8950
4	R.Prahalatha	Existence of Solution of Global Cauchy Problem for Some Fractional Abstract Differential Equation	International Journal of Pure and Applied Mathematics	Volume 116, No. 22	2017, PP 163-174	ISSN – 1311 – 8080 (printed version) ISSN -1314 – 3395 (on-line version)
5	R.Prahalatha	Existence of Extremal Solution for Integral Boundary Value Problem of Non Linear Fractional Differential Equations	International Journal of Pure and Applied Mathematics	Volume 116, No. 22	2017, PP 175-185	ISSN – 1311 – 8080 (printed version) ISSN – 1314 – 3395 (on-line version)
6	R.Prahalatha	Existence of Solution for Boundary Value Problems of Fractional Differential Equations with Global Boundary Conditions	Global Journal of Pure and Applied Mathematics	Volume 13, No. 5	2017, PP 196-207	ISSN – 0973 – 1768

STUDENT ACTIVITIES

(i) Participation in Seminar / Conference / Workshop/Symposium **- 146**

S. No.	Student participation		Title of Seminar/ Conference/ Workshop/ Symposium	Presented/ Attended	Organizer	Title of the Paper	Date(s)	Remark (Award/ Prize etc.)
	Name &Class	Numbers						
1	A.V.Ghowsigaa II-M.Sc., Maths(A)	13	Science Academies Lecture Workshop on Real Analysis	Attended	Vellalar College for Women	-	22.6.2017& 23.6.2017	-
2	V.Kanjana Devi II-M.Sc., Maths(A)							
3	K.Nandhini II-M.Sc., Maths(A)							
4	B.Gopika II-M.Sc., Maths(A)							
5	R.Bhuvaneshwari II-M.Sc., Maths(A)							
6	R.Shribhavadharrany II-M.Sc., Maths(B)							
7	R.K.Nivedhaa II-M.Sc., Maths(B)							
8	S.Soundarya II-M.Sc., Maths(B)							
9	M.Sathananthy II-M.Sc., Maths(B)							
10	V.Sudha II-M.Sc., Maths(B)							
11	M.Deepa M.Phil							
12	M.Dharini M.Phil							
13	T.Hemalatha M.Phil							
14	P.Dharani II M.Sc., Maths(A)	8	National Conference on Pure and Applied Mathematics	Presented	P.K.R Arts College for Women, Gobi	Nuffman Coding Tree in Graph Theory & Its Application	1.8.2017	-
15	C.Bhavanandhini II M.Sc., Maths(A)							
16	B.Dhanu II M.Sc., Maths(A)					Detection of Heart Disease by Data Mining		
17	V.Dhivya II M.Sc., Maths(A)							
18	R.A.HemaNandhini II M.Sc., Maths(A)					Fuzzy logic in Aircraft Landing Control		
19	S.Brindhadevi II M.Sc., Maths(A)							
20	S.Abirami II M.Sc., Maths(A)					Fuzzy logic in Waste Management		
21	R.Bhuvaneshwari II M.Sc., Maths(A)							

22	R.A.HemaNandhini II M.Sc., Maths(A)	2	Workshop Solstice - 17	Presented	Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore	Fuzzy logic in Aircraft Landing Control	4.8.2017	-
23	S.Brindhadevi II M.Sc., Maths(A)							
24	K.M.Vasminfarzana II M.Sc., Maths(B)	4	CSIR Sponsored National Conference on "Mathematical Modeling in Engineering Sciences"	Presented	Excel Engineering College	Application of Graph Theory in Finger Print Recognition	17.8.2017& 18.8.2017	-
25	D.Subatra II M.Sc., Maths(B)							
26	K.Hemalatha II M.Sc., Maths(A)					Scheduling Exam Time Table by Using Graph Coloring		
27	M.Kanchanadevi II M.Sc., Maths(A)							
28	P.Dharani II M.Sc., Maths(A)	8	National Conference on Optimization Techniques & Its Applications	Presented	Bharathidasan College of Arts and Science, Erode	Application of Graph Theory in Traffic Management	17.8.2017& 18.8.2017	-
29	S.Menaga II M.Sc., Maths(A)							
30	A.Jasmin II M.Sc., Maths(A)					Intiuitionistic Fuzzy Multisets and Its Application in Medical Diagnosis		
31	V.Kanjanadevi II M.Sc., Maths(A)							
32	R.Renuga II M.Sc., Maths(B)					Page Rank Using Matrix Representation		
33	K.Pavithra II M.Sc., Maths(B)							
34	V.Parimalam II M.Sc., Maths(B)					Impacted Organ Detection Using Fuzzy Soft matrices		II
35	V.Sudha II M.Sc., Maths(B)					Impacted Organ Detection Using Fuzzy Soft matrices		II
36	R.Dharane II M.Sc., Maths(A)	8	International Conference on Recent trends in Mathematical Modelling	Presented	Bharathidasan College of Arts and Science, Erode	Guarding an Art Gallery by Graph Colouring	28.08.2017	-
37	G.Kiruthika II M.Sc., Maths(A)							
38	S.Geethanjali II M.Sc., Maths(A)					Sudoku Game Solution Using Graph Solutions		
39	D.Kiruthika II M.Sc., Maths(A)							
40	K.Selvapriya II M.Sc., Maths(B)					Fuzzy Rule Based Diagnostic System to Detect the Lung Cancer		
41	S.Ponsuryadevi II M.Sc., Maths(B)							
42	B.Ramya I M.Sc., Maths (B)					Cryptography		III
43	K.R.Sanjhanaa I M.Sc., Maths (B)							

44	E.Vaishnavi III- B.Sc., Maths(CA)	15	DBT Sponsored Workshop on Differential Equation and their Applications	Attended	Vellalar College for Women	-	5.12.2017 & 6.12.2017	-
45	N.Akshaya III- B.Sc., Maths(CA)							
46	R.Pavithra III- B.Sc., Maths(CA)							
47	K.M.Akila III- B.Sc., Maths(CA)							
48	V.C.Sowndarya III- B.Sc., Maths(CA)							
49	M.Abi III- B.Sc., Maths A							
50	V.Geetha III- B.Sc., Maths A							
51	C.Hema III- B.Sc., Maths A							
52	L.Janani III- B.Sc., Maths A							
53	D.Dharani III- B.Sc., Maths A							
54	G.Mythili III- B.Sc., Maths B							
55	C.Nandhini Devi III- B.Sc., Maths B							
56	D.Nikkitha III- B.Sc., Maths B							
57	K.Ponramila III- B.Sc., Maths B							
58	A.Nandhini III- B.Sc., Maths B							
59	K.Hemalatha II-M.Sc., Maths A	6	National Seminar Sponsored by (CSIR) on Numerical Techniques for Partial Differential Equation	Participated	Erode Sengunthar Engineering College	-	22.12.2017& 23.12.2017	-
60	M.Kanchanadevi II-M.Sc., Maths A							
61	M.Nivetha M.Phil							
62	A.Jayashree M.Phil							
63	S.Nandhini M.Phil							
64	P.Saranya M.Phil							
65	S.Deepika I-M.Sc., Maths A	8	Science Academy Lecture Workshop on "Linear Algebra and its Application" (SALW-2018)	Participated	Sri SaradaNiketan College of Science for Women, Karur-639005	-	1.1.2018 to 3.1.2018	-
66	B.Kaviyadharsini I-M.Sc., Maths A							
67	P.Harini I-M.Sc., Maths A							
68	S.S.Lalitha I-M.Sc., Maths A							
69	P.Jayasuriya I-M.Sc., Maths A							
70	C.Nandhini I-M.Sc., Maths B							
71	P.Pavithra I-M.Sc., Maths B							
72	A.Shobanapriya I-M.Sc., Maths B							

73	B.Priyadharshini II-M.Sc., Maths B	6	National Level Seminar on 'New Horizon on Mathematics	Presented	Rathinam College of Arts and Science	Application of Graph Theory on Football Game	3.1.2018 & 4.1.2018	-
74	R.Ragahvi II-M.Sc., Maths B							
75	R.Preethi II –M.Sc., Maths B					Application of Necual Network in fingerprint Recognition		
76	S.Vedhanayaki II-M.Sc., Maths B							
77	S.Sasikala II-M.Sc., Maths B					Temperature Control System and Techniques in Fuzzy Logic		
78	E.Shobana II-M.Sc., Maths B							
79	M.Sowndarya II-M.Sc., Maths B	6	National Seminar on Innovative Trends in Mathematics and its Application	Presented	Sengunthar Arts and Science College, Namakkal	Transportation in Operations Research	2.2.2018	-
80	V.Archana II-M.Sc., Maths A							
81	M.Sandhiya II-M.Sc., Maths A					Application of Differential Equation for Analyzing the spread of Ebola Virus		
82	N.Sivanandhini II-M.Sc., Maths A							
83	K.Nandhini II-M.Sc., Maths A					Temperature Control Using Fuzzy Logic		
84	A.L.Azhagammai II-M.Sc., Maths A							
85	G.Deepika I-M.Sc., Maths A	2	Inter CollegiateMeet TILTA'18' Paper Presentation	Presented	Sree Amman Arts and Science College, Erode	Sir Model for Spread of Disease	2.2.2018	-
86	R.T.Divya I -M.Sc., Maths A							
87	M.Nivetha M.Phil	2	Paper Presentation	Presented	PSGR Krishnammal College for Women	Applications on Intutionistic Fuzzy Sets in Carrier Determination	21.2.2018 & 22.2.2018	-
88	S.Nandhini M.Phil					An Approach on Solving Time table Scheduling Problem using Graph Colouring Algorithm		

89	P.Abinaya II-M.Sc Maths A	10	National Workshop on Applications of Graph Theory in Communicatio n Networks	Participated	Vellalar College of Engineering and Technology	-	22.2.2018	-
90	R.Bhuvaneshwari II-M.Sc Maths A							
91	R.Dharane II-M.Sc Maths A							
92	G.Kiruthika II-M.Sc Maths A							
93	S.Meena II-M.Sc Maths A							
94	V.Priyanga II-M.Sc Maths A							
95	S.Ramya II-M.Sc Maths B							
96	S.Sabarina II-M.Sc Maths B							
97	E.Shobana II-M.Sc Maths B							
98	D.Thenmozhi II-M.Sc Maths B							
99	P.Asha II-M.Sc.,Maths A	35	Workshop on Discrete Mathematics and its Application	Participated	Vellalar College for Women	-	21.02.2018 - 22.02.2018	-
100	R.A.HemaaNandhini II-M.Sc.,Maths A							
101	S.Brindhadevi II-M.Sc.,Maths A							
102	B.Dhanu II-M.Sc.,Maths A							
103	A.V.Ghowshigaa II-M.Sc.,Maths A							
104	P.Dharini II-M.Sc.,Maths A							
105	V.Dhivya II-M.Sc.,Maths A							
106	G.MohanaPriya II-M.Sc.,Maths A							
107	C.Bavanandhini II-M.Sc.,Maths A							
108	B.Gobika II-M.Sc.,Maths A							
109	K.Hemalatha II-M.Sc.,Maths A							
110	M.Kanchanadevi II-M.Sc.,Maths A							
111	K.Nandhini II-M.Sc.,Maths A							
112	A.L.Azhagammai II-M.Sc.,Maths A							
113	A.Jasmine II-M.Sc.,Maths A							
114	V.Sudha II-M.Sc.,Maths B	35	Workshop on Discrete Mathematics and its Application	Participated	Vellalar College for Women	-	21.02.2018 22.02.2018	-
115	R.Shribavadharrany II-M.Sc.,Maths B							
116	V.Parimalam II-M.Sc.,Maths B							
117	K.Selvapriya II-M.Sc.,Maths B							

118	R.Ramya II-M.Sc.,Maths B	35	Workshop on Discrete Mathematics and its Application	Participated	Vellalar College for Women	-	21.02.2018 22.02.2018	-
119	S.Ponusuryadevi II-M.Sc.,Maths B							
120	M.Sathanathy II-M.Sc.,Maths B							
121	B.Priyadharshini II-M.Sc.,Maths B							
122	R.Preethi II-M.Sc.,Maths B							
123	S.Sowntharya II-M.Sc.,Maths B							
124	K.Pavithra II-M.Sc.,Maths B							
125	M.Sandhya II-M.Sc.,Maths B							
126	G.Vinodhini II-M.Sc.,Maths B							
127	K.M.YasminFarzana II-M.Sc.,Maths B							
128	S.Sasikala II-M.Sc.,Maths B							
129	M.Nivetha M.Phil							
130	S.Nandhini M.Phil							
131	P.Saranya M.Phil							
132	A.Jayashree M.Phil							
133	E.Leelavathi M.Phil							
134	E.Leelavathi M.Phil	3	National Seminar on New Trends in Mathematical Modeling	Presented	Sri Sarada College for Women	Hybrid Control on Uncontrolled Gene Regulatory Network	26.2.2018	-
135	A.Jayashree M.Phil							
136	P.Saranya M.Phil					Applications of Vertex and Edge Magic total Labeling		
137	M.KarthiNivetha I – M.Sc., Maths A	4	Science Academies Lecture Workshop on Mathematical Modeling in Biology	Participated	Bharathidasan College of Arts and Science	-	01.03.2018 – 02.03.2018	-
138	P.Jayasuriya I – M.Sc., Maths A							
139	S.Deepika I – M.Sc., Maths A							
140	S.Gowthami I – M.Sc., Maths A							

141	S.S. Lalitha I – M.Sc., Maths A	6	Science Academies Lecture Workshop on Mathematical Modeling in Biology	Participated	Bharathidasan College of Arts and Science	-	01.03.2018 – 02.03.2018	-
142	K.Priyanka I – M.Sc., Maths B							
143	M.Yasotha I – M.Sc., Maths B							
144	V. Sowmiya I – M.Sc., Maths B							
145	E.Leelavathi M.Phil							
146	A.Jayashree M.Phil							

ii) Participation in MTTS/Training Programme : 10

S. No	Name of the Student	Class	Date of the event	No of days	Organizer	Name of the Training Programme	Prize/ Awarded
1	R.Bhuvaneshwari	II-M.Sc Maths(A)	10.05.2017 & 30.05.2017	20	Ramanujam Institute for advanced study in Mathematics, University of Madras, Chennai-600005	9th Summer Training	–
2	R.K.Nivedhaa	II-M.Sc Maths(B)					–
3	S.Menaga	II-M.Sc Maths(A)	03.07.2017 & 04.07.2017	2	The Institute of Mathematical Sciences, Chennai-600113	Facets 2017-A	–
4	R.K.Nivedhaa	II-M.Sc Maths(B)					–
5	R.Shribhavadharrany						–
6	S.Vedhanayagi						–
7	A.Nandhini	III-B.Sc Maths(B)					–
8	C.Nandhini Devi						–
9	P.ShreeMathi						–
10	V.Poornima	II-B.Sc Maths(B)	07.08.2017 to 12.08.2017	5	Central University of Tamil Nadu &Nandha Arts and Science College, Erode	Summer School in Mathematics to the Memory of Dr.Harish Chandra Nurture 2017	–

(iii) Co-curricular, Cultural and Sports activities – (Furnish details of only those students who won prizes)

S. No	Name and Class of the student	Event/ Programme	Date	Organizer	Award/ Prize/ Position
1	N.DharaniPriya III B.Sc.,Maths(A)	Bharathidasan A Poetry Oral Competition	05.08.2017	Erode TherkkuMavattaManagara D.M.K EllakiyaAni	Cash Award Rs.1500
2	S.Vasuki II M.Sc.,Maths(B)	State Level Intercollegiate meet - Paper Presentation	23.08.2017	Dr.N.G.P Arts and Science College, Coimbatore	Cash Award Rs.350
3	R.Ramya II M.ScMaths(B)				Cash Award Rs.350
4	T.Harini I M.Sc.,Maths(A)	State Level Intercollegiate meet - Poster Presentation			Cash Award Rs.300

5	K.Janaki II B.Sc.,Maths (CA)				Cash Award Rs.300
6	A.Dharanisri I M.Sc.,Maths(A)	State Level Intercollegiate meet – Quiz			Cash AwardRs. 500
7	T.Kamali I B.Sc.,Maths(A)	State Level Intercollegiate meet - Math Modeling			Cash Award Rs.350
8	N.MohamoodaHasmathNaseera I B.Sc.,Maths (A)				Cash Award Rs.350
9	P.Hemalatha I M.Sc.,Maths (A)	Chess-women (Single)	03.08.2017& 04.08.2017	BharathiarUniversity, Coimbatore	III
10	P.Hemalatha I M.Sc.,Maths (A)	Chess-women (Single)			VIII
11	P.Mythilipriya III B.Sc.,Maths(CA)	Chess-women			III
12	P.Surya III B.Sc., Maths (B)	Football	16.09.2017	BharathiarUniversity, Coimbatore	Winner
13	K.Vijayakumari III B.Sc., Maths (B)				
14	E.Vidhya III-B.Sc., Maths (CA)	Math Modeling	28.12.2017	Vellalar College For Women	I
15	M.Parimaladurga III-B.Sc., Maths (CA)				
16	V.Nandhini III-B.Sc., Maths (CA)				II
17	V.Dharani III-B.ScMaths (CA)				
18	M.Bharathi II-B.Sc., Maths(A)				II
19	N.Kiruthiga II-B.Sc., Maths(A)				
20	T.Kamali I-B.Sc.,Maths(A)				III
21	M.MohamoodaHasmathNaseera I-B.Sc.,Maths(A)				
22	M.S.Mahima I-B.Sc.,Maths(CA)				III
23	P.Priyadhrashini I-B.Sc.,Maths(CA)				
24	V.Dhivya II-M.Sc.,Maths(A)	MathModeling	28.12.2017	Vellalar College For Women	III
25	G.Mohanapriya II-M.Sc.,Maths(A)				
26	M.Nazreenbanu I-B.Sc.,Maths(B)	Intercollegiate meet –Miming	23.1.2018	Erode Arts and Science College	III
27	M.C.Tharanimathi I-B.ScMaths(B)				
28	T.Sriponkaviya I-B.Sc.,Maths(B)				
29	S.Sureka I-B.Sc.,Maths(B)				

30	J.Viswabharathi I-B.Sc.,Maths(B)				
31	V.Deepika III-B.Sc.,Maths(CA)	Intercollegiate meet - Group Dance	23.1.2018	Erode Arts and Science College	I
32	M.Parimaladurga III-B.Sc.,Maths(CA)				
33	V.Narmatha III-B.Sc., Maths(CA)				
34	K.K.Elamathi I-B.Sc.,Maths(CA)				
35	R.Dharini I-B.Sc.,Maths(CA)				
36	N.Ramya I-B.Sc.,Maths(B)	National Level Intercollegiate Meet Variety Entertainment(Silambam)	25.1.2018	Kamadhenu Arts and Science College	II
37	T.Kamali I-B.Sc.,Maths(A)	Math GALOper'18 an Intercollegiate meet - Math Modeling	30.1.2018	Kongunadu Arts and Science College(Autonomous),Coimbatore	III
38	M.MohamoodHasmathNaseera I-B.Sc.,Maths(A)				
39	P.Vaishnavi I-M.Sc.,Maths(B)	Intercollegiate meet “TILTA 18” - Paper presentation	2.2.2018	Sree Amman Arts and Science College,Erode	I
40	M.Parimalajothi I-M.Sc.,Maths(B)				
41	V.Dharani III-B.Sc.,Maths(A)	Intercollegiate meet “TILTA 18” –Quiz	2.2.2018	Sree Amman Arts and Science College,Erode	III
42	V.Gowsalya III-B.Sc., Maths(A)				
43	K.Vijayakumari III-B.Sc., Maths(B)	Amusement Game	08.02.2018	Vellalar College For Women	II
44	R.Srimathi I-B.Sc.,Maths(B)				I
45	K.M.Akila III-B.Sc.,Maths(CA)				I
46	M.Paviyadharshini I-B.Sc.,Maths(CA)	Long Jump			III
47	S.Keerthika II-B.Sc.,Maths(A)	March Past			I
48	N.Shanmathi II-B.Sc.,Maths(B)				
49	R.Sneha II-B.Sc., Maths(CA)				
50	C.Parkavi II-B.Sc., Maths(CA)				
51	D.M.Pavithra II-B.Sc., Maths(CA)				
52	T.Nivedhitha II-B.Sc., Maths(B)				
53	S.LaxmiPrabha II-B.Sc.,Maths(A)				

54	R.Kiruba II-B.Sc.,Maths(A)	March Past	08.02.2018	Vellalar College For Women	I
55	S.Harini I-B.Sc., Maths(CA)				
56	M.Rithika I-B.Sc.,Maths(CA)				
57	R.Lishagobika I-B.ScMaths(CA)				
58	R.Rajalakshmi I-B.Sc.,Maths(CA)				
59	T.Kayalvizhi I-B.Sc.,Maths(CA)				
60	S.Ramyadharshini I-B.Sc.,Maths(CA)				
61	C.Ishwaryalakshmi I-B.Sc.,Maths(A)				
62	S.Janani I-B.Sc.,Maths(A)				
63	B.SubhaPriya I-B.Sc.,Maths(B)				
64	M.Nitharshna I-B.Sc.,Maths(B)				
65	B.Sindhuja I-B.Sc.,Maths(B)				
66	T.Pavithra I-B.Sc.,Maths(B)				
67	C.Vaishnavi I-B.Sc.,Maths(B)				
68	K.Niranjini I-B.Sc.,Maths(B)				
69	M.Naveena Sri I-B.Sc.,Maths(CA)				
70	S.Sindhuja II-B.Sc.,Maths(B)				
71	K.K.Sowmiya I-B.ScMaths(B)	Shot-Put			II
72	K.Sivabharathi III-B.Sc., Maths(B)	400 metres(Athletics)			III
73	S.Roshini III-B.Sc.,Maths(B)	Kho-Kho			II
74	R.VishnuPriyaa III-B.Sc.,Maths(B)				
75	K.Sivabharathi III-B.Sc.,Maths(B)				
76	S.Nithya III-B.Sc.,Maths(B)				
77	V.Gowsalya III-B.S., Maths(A)				
78	K.Poornima I-B.Sc.,Maths(CA)				
79	N.Nandhini II-B.Sc.,Maths(B)				
80	P.Gomathi II-B.Sc.,Maths(A)				
81	V.Vinothini III-B.Sc.,Maths(CA)				

82	T.R.Indhumathi II-B.Sc.,Maths(A)	Hand Ball	08.02.2018	Vellalar College For Women	I
83	M.Dhivya II-B.Sc.,Maths(A)				
84	P.Surya III-B.Sc.,Maths(B)				
85	K.Vijayakumari III-B.Sc.,Maths(B)				
86	N.Dharanipriya III-B.Sc.,Maths(A)				
87	S.Roshini III-B.Sc.,Maths(B)				
88	R.VishnuPriyaa III-B.Sc.,Maths(B)				
89	R.Moushikaa II-B.ScMaths(B)	Swimming(Single)			II
90	R.Moushikaa II-B.ScMaths(B)	Swimming(Relay)			II
91	R.Gopika III-B.Sc.,Maths(CA)				
92	V.Vindhini III-B.Sc.,Maths(CA)				
93	K.S.Mithra I-B.Sc.,Maths(A)				
94	P.Surya III-B.Sc.,Maths(B)	Foot Ball	08.02.2018		I
95	K.Vijayakumari III-B.Sc.,Maths(B)				
96	S.Roshini III-B.Sc.,Maths(B)				
97	R.VishnuPriyaa III-B.Sc., Maths(B)				
98	K.Varsha III-B.Sc.,Maths(B)				
99	S.Vasumathi III-B.Sc.,Maths(B)				
100	R.V.Swathi III-B.Sc.,Maths(B)				
101	N.KanihaVishwa I-B.Sc.,Maths(A)				
102	T.Harini I-M.Sc.,Maths(A)	Intercollegiate meet “EQUATE 18” - Math Sketching	9.2.2018	Kaamadhenu Arts and Science College Sathyamangalam	II
103	K.Janaki II-B.Sc.,Maths(CA)				
104	E.Vidhya III-B.Sc.,Maths(CA)	Intercollegiate meet “EQUATE 18” - Math Modeling			I
105	M.Parimaladurga III-B.Sc.,Maths(CA)				
106	S.Kaviya III-B.Sc.,Maths(A)	Intercollegiate meet - Ads-Zap	15.2.2018	Builders Engineering College	III
107	V.Gowsalya III-B.Sc.,Maths(A)				
108	R.Indhu III-B.Sc.,Maths(A)				
109	J.Mohanapriya III-B.Sc.,Maths(A)				
110	S.Anusha III-B.Sc.,Maths(A)				

111	R.VishnuPriyaa III-B.Sc.,Maths(B)	Enviro Club Quiz	24.2.2018		II
112	V.Dharani III-B.Sc.,Maths(A)	ZOOPPA 2017-18 Intra Collegiate Feast Group Dance	27.2.2018 - 28.2.2018	Vellalar College for Women	I
113	R.Indhu III-B.Sc.,Maths(A)				
114	S.Kaviya III-B.Sc.,Maths(A)				
115	C.Hema III-B.Sc.,Maths(A)				
116	K.S.GokulaPriya III-B.Sc.,Maths(A)				
117	R.Kowsalya III-B.Sc.,Maths(A)				
118	E.Vaishnavi III-B.Sc.,Maths(CA)	ZOOPPA 2017-18 Intra Collegiate Feast Brain Storm(Quiz)			I
119	K.M.Akila III-B.Sc.,Maths(CA)				
120	R.VishnuPriyaa III-B.Sc.,Maths(B)	ZOOPPA 2017-18 Intra Collegiate Feast Photography			I

PLACEMENT DETAILS

We feel proud to convey that our students have been placed in the following reputed Institutions.

S.NO	Name of the student	Class	Company Name
1	A.V. Ghowsigaa	II- M.SC (Mathematics)-A	IDBI and Federal Insurance
2	K. Hemalatha	II- M.SC (Mathematics)-A	IDBI and Federal Insurance
3	V. Archana	II- M.SC (Mathematics)-A	IDBI and Federal Insurance
4	M. Sandiya	II- M.SC (Mathematics)-B	IDBI and Federal Insurance
5	S. Sowmiya	II- M.SC (Mathematics)-B	IDBI and Federal Insurance
6	B. Priyadharsini	II- M.SC (Mathematics)-B	IDBI and Federal Insurance

SNAPSHOTS

BRIDGE COURSE

Enhancing "**Fundamentals of Mathematics"** for the first year students.

INDUSTRIAL VISIT

Functional Exposure: Visit to **HINDU NEWSPAPER,** Mangalore.

FACULTY DEVELOPMENT PROGRAM

A Faculty Development Program on **"Art of Writing Research Proposal"** with Prof. Peeyush Chandra.

GUEST LECTURE

A wonderful lecture on **"Introduction to Analysis"** by Dr. S.Somasundaram.

WORKSHOP

A workshop on **"Biological Applications on Differential Equations"**by Dr.P.Kandaswamy.

A summit on **"Non-Linear Differential Equation and their Applications"** by

Dr. Ramajayam Sahadevan.

Exploration on **"Controllability and Inverse Problems on PDE"** by Dr.K.Sakthivel.

MATH EXHIBITION

Applications of Mathematics in real life has been exhibited through models at **130th Ramanujam's Birthday Celebration, "MATH EXPO 2017"**.

The chief guest rewarded the prizes for the winners of **Math Expo 2017**

INTERNATIONAL SEMINAR

Interactive forum on **"Euler's Criterion on Quadratic Residue"** by Prof. Taekyun Kim.

Effective convention by Prof. Seog-Hoon Rim on **"Diophantine Equation in Number Theory"**.

WORKSHOP

A tremendous workshop on **"Introduction to Maple"** by Dr. RamajayamSahadevan.

SPECIAL MEETING

An inspirational speech by Dr. Ramesh VenkadachalamPalani on **"Mathematics for Researchers"**

EXTENSION ACTIVITY

Special Moment for the Young Learners in Government School.