LOYOLA COLLEGE (AUTONOMOUS)

CHENNAI-600034

LUCEAT LUX VESTRA

DEPARTMENT OF MATHEMATICS
(SHIFT–II)

ANNUAL REPORT

2022 - 2023

CONTENTS

DEPARTMENT OF MATHEMATICS (SHIFT-II)

In the academic year 2022–2023, the Department of Mathematics (Shift–II) had 9 faculty members and 170 students. The department aimed to provide its students with possibilities and a holistic education; hence, it arranged events and programs for students to foster the department's expansion. All the faculty members were qualified and two third of them were Ph.D. holders. The research areas of the faculty members were functional analysis, graph theory and fuzzy theory. In addition to the regular teaching service, the faculty members had the following responsibilities in the department.

Faculty members	Responsibilities in the department
1. Dr. J. Janet Sheeba	Coordinator of the department
2. Dr. T. Bharathi	Class faculty
3. Dr. S. Iruthaya Raj	President of Loyola Mathematics Association & IQAC extended member
4. Mr. F. R. Emmanuel	Innovation mentor of the department
5. Mr. A. Christopher	Staff in-charge for placement cell
6. Mr. D. Kumanan	Staff in-charge for sports activities & IQAC extended member
7. Dr. J. Geno Kadwin	ERP in-charge
8. Dr. S. Ruth Julie Kavitha	Staff in-charge for library
9. Dr. S. Maria Jesu Raja	Staff in-charge for remedial classes

Class representatives

The following students elected by their fellow classmates served as the class representatives for the academic year 2022-2023.

Class	Class faculty	Class representative
I B.Sc.	Mr. D. Kumanan	22-UMT-205 STEVE JONES K
II B.Sc.	Mr. F. R. Emmanuel	21-UMT-216 DHANUSH S T
III B.Sc. A	Mr. A. Christopher	20-UMT-218 BOGA NANDA KISHORE
III B.Sc. B	Dr. T. Bharathi	20-UMT-302 SYED SHAHID ALI

FACULTY MEMBERS OF THE DEPARTMENT

Dr. J. Janet Sheeba

Dr. T. Bharathi

Dr. S. Iruthaya Raj

Mr. F. R. Emmanuel

Mr. A. Christopher

Mr. D. Kumanan

Dr. J. Geno Kadwin

Dr. S. Ruth Julie Kavitha

Dr. S. Maria Jesu Raja

STUDENTS OF THE DEPARTMENT
DEPARTMENT OF MATHEMATICS (SHIFT-II)

B. SC. MATHEMATICS – THIRD YEAR – SECTION A
(2020-2023 BATCH)

SL. NO.	DEPT. NO.	NAME OF THE STUDENT
1	20-UMT-201	RONALDIN ARAVIND J
2	20-UMT-202	SAHIL A
3	20-UMT-204	ALYN BIJU SAHARIYA S
4	20-UMT-205	OM PRAKASH S
5	20-UMT-206	NOVASHERWIN J
6	20-UMT-207	SAHAYA JEON RONALDO S
7	20-UMT-209	JERIN BOSE
8	20-UMT-210	JOEL VIRGIN D
9	20-UMT-212	ANIRBAN SEN
10	20-UMT-213	SIBIVENDHAN K
11	20-UMT-214	VIDHYADHAR S ADASUL
12	20-UMT-215	PRAMATH SUBRAMANIAN
13	20-UMT-216	ARAVINTH S
14	20-UMT-218	BOGA NANDA KISHORE
15	20-UMT-219	RAGHAVAN B
16	20-UMT-220	SHAKTHI VEL R
17	20-UMT-221	MADHAVAN S
18	20-UMT-222	CHAITANYA SOMANI
19	20-UMT-223	CLARIDON KENNET B
20	20-UMT-225	HARISH J
21	20-UMT-226	DHANUSH D
22	20-UMT-227	VIVILIA VASAN V
23	20-UMT-228	KAILASH R
24	20-UMT-230	BALAJI N
25	20-UMT-232	CHINNADURAI M
26	20-UMT-233	GOPINATH S
27	20-UMT-235	SESHAN AVINAS D L
28	20-UMT-236	SREE VETRIVEL S
29	20-UMT-237	PRABHU K
30	20-UMT-238	PREM SAI D
31	20-UMT-239	VIGNESHKRISHNA S
32	20-UMT-240	DHILIP S
33	20-UMT-241	VIGNESH K
34	20-UMT-242	SAMUEL AARON R
35	20-UMT-243	JORDAN ANDREWS EBANAZER J
36	20-UMT-244	AGILAN A
37	20-UMT-245	JOHN ALEXANDER J
38	20-UMT-246	PERUMAL V
39	20-UMT-247	GOVARDHAN S
40	20-UMT-248	VISHAL P

DEPARTMENT OF MATHEMATICS (SHIFT-II)
B. SC. MATHEMATICS – THIRD YEAR – SECTION B
(2020-2023 BATCH)

SL. NO.	DEPT. NO.	NAME OF THE STUDENT
1	20-UMT-302	SYED SHAHID ALI S
2	20-UMT-304	ANTO JOVIN T
3	20-UMT-306	GANESH E
4	20-UMT-307	SAM JOEL F
5	20-UMT-308	GOVINDAVASAN P
6	20-UMT-310	SOURAV KONDASSERY RAJEEV
7	20-UMT-311	BAIPUREDDI LOKESWARA SURYA TEJA
8	20-UMT-312	KARTHIK P NATH
9	20-UMT-313	PUGAZHENTHI R S
10	20-UMT-314	SANJAY J
11	20-UMT-315	JAGANNATHAN P
12	20-UMT-316	ABISHEK K
13	20-UMT-319	HARIHARAN P
14	20-UMT-320	CHANDRASHEKAR IYER S
15	20-UMT-321	NAVEEN SIVAKUMAR G J
16	20-UMT-322	AKASH ANIL KUMAR
17	20-UMT-323	ISSAC SURYA G
18	20-UMT-325	SANJAY M
19	20-UMT-326	SAM THANGARAJ LAWRANCE S
20	20-UMT-330	ARCHISMAN PANDA
21	20-UMT-332	ABISHEK T
22	20-UMT-334	MICHAEL I DHURAIRAJ
23	20-UMT-335	BARATH R
24	20-UMT-336	VIJAYA SANKAR V
25	20-UMT-337	ELAVARASAN M
26	20-UMT-338	GOWSHIK E
27	20-UMT-339	SHRUTHI K
28	20-UMT-340	DHANUSH V J
29	20-UMT-341	GLEN
30	20-UMT-342	THARUN BALAJI K
31	20-UMT-343	ABISHEK ROSHAN J
32	20-UMT-344	RAHUL P
33	20-UMT-345	FRANKLIN JESUDOSS L
34	20-UMT-346	MONISHWAR S
35	20-UMT-347	KEERTHIVARMAN S

DEPARTMENT OF MATHEMATICS (SHIFT-II)
B. SC. MATHEMATICS – SECOND YEAR
(2021-2024 BATCH)

SL. NO.	DEPT. NO.	NAME OF THE STUDENT
1	21-UMT-202	D ANDREW IGNATIOUS SAMUEL
2	21-UMT-203	ABHINAV M
3	21-UMT-207	KISHORE KUMAR M V
4	21-UMT-210	SARAVANAN P
5	21-UMT-214	SHANE RONALDO N
6	21-UMT-216	DHANUSH S T
7	21-UMT-217	NATHEESH SELVA K
8	21-UMT-218	AJIBALA B
9	21-UMT-221	ARJUN V S
10	21-UMT-222	PRANAV ROY
11	21-UMT-224	PIRAVIN B
12	21-UMT-225	KALANITHI D
13	21-UMT-227	S. M. KIRAN GURUV
14	21-UMT-228	CHANDRU K
15	21-UMT-229	YOGESWARAN R
16	21-UMT-234	AGILAN G V
17	21-UMT-235	DINESH. R
18	21-UMT-236	SANGEETH NARAYANAN M S
19	21-UMT-237	BHARATH I
20	21-UMT-238	CHARLUS A
21	21-UMT-240	LOITONGBAM THOUNGAMBA MEITEI
22	21-UMT-241	NIRMAL RAJ M
23	21-UMT-243	MUTHUMANI A
24	21-UMT-301	KARTHIK GANESH.S
25	21-UMT-302	GOKUL K
26	21-UMT-303	ARJUN M
27	21-UMT-304	POORTHEEP B
28	21-UMT-305	PRASANNA S
29	21-UMT-306	ASAN RAHIB P
30	21-UMT-307	SAMRAJAMANI R
31	21-UMT-308	PUGAZHARASAN P
32	21-UMT-309	KRISHNAKANTH S
33	21-UMT-310	SAIRAJ. D
34	21-UMT-312	TAMIL SELVAN B
35	21-UMT-313	PAVITHRAN S
36	21-UMT-314	SIDDHARTH M S
37	21-UMT-315	SAHIL KUMAR JAIN
38	21-UMT-316	INBATHAMIZHAN N
39	21-UMT-317	SAJITH SEELAN J
40	21-UMT-318	PRIYADHARSAN A
41	21-UMT-319	MICHAEL SAHAYA DALTON.A
42	21-UMT-321	RAGUL R V
43	21-UMT-323	ASWIN KUMAR J
44	21-UMT-324	HEMAKKUMAR P
45	21-UMT-325	GOVARDHAN B K
46	21-UMT-326	MAGESHWARAN V
47	21-UMT-329	SRIDHAR D
48	21-UMT-330	PRAVEEN RAJ V
49	21-UMT-331	MANIVANNAN N
50	21-UMT-332	YOGA SUTHAN A
51	21-UMT-333	CHANDRAMOULI S
52	21-UMT-334	PREM KUMAR K
53	21-UMT-336	SAIKAM GOUTHAM ANAND
54	21-UMT-337	KAARTHIC RAJ S
55	21-UMT-339	VISHWA V

DEPARTMENT OF MATHEMATICS (SHIFT-II)
B. SC. MATHEMATICS – FIRST YEAR
(2022-2025 BATCH)

SL. NO.	DEPT. NO.	NAME OF THE STUDENT
1	22-UMT-201	DEV VERMA Y
2	22-UMT-204	ALVIN C A
3	22-UMT-205	K STEVE JONES
4	22-UMT-207	RAFICRAY A
5	22-UMT-208	AHMAD ZAIN
6	22-UMT-209	VISHWA
7	22-UMT-210	BARATH S
8	22-UMT-211	SARANGTHEM JAYAMAND MEITEI
9	22-UMT-212	SRI DHARSHAN
10	22-UMT-213	KARTHIK G
11	22-UMT-214	ROHITH KANNA
12	22-UMT-215	RISHI KUMAR G S
13	22-UMT-218	AYUSH ROUT
14	22-UMT-220	S MUTHUGANAPATHY
15	22-UMT-222	NITHISH A
16	22-UMT-223	DEVAPRAKASH V
17	22-UMT-224	HUSSAIN SHARIFF S
18	22-UMT-226	NAVEEN BHARATH L
19	22-UMT-227	R DIPAK REDDY
20	22-UMT-228	ANBU SELVAN V
21	22-UMT-230	TANMAY RUDOLF TIGGA
22	22-UMT-231	VIJESH KUMAR ROHITH J A
23	22-UMT-303	J JENISH PRAYEDSON RAJ
24	22-UMT-304	BHARATHRAJ R
25	22-UMT-305	DINESH.G
26	22-UMT-306	AUSTIN M.J.
27	22-UMT-307	NAEEM SADIQUE SHERULE
28	22-UMT-309	ABISHEK C
29	22-UMT-310	PARITHI SHIVA SIDDHAN R L
30	22-UMT-311	FAZIL AL AASIF S.H
31	22-UMT-312	ARUN KUMAR M
32	22-UMT-313	KIESHORE MS
33	22-UMT-315	J HARSHANTH
34	22-UMT-316	RAKESH B
35	22-UMT-317	ASHOK A
36	22-UMT-319	ALWIN JEBARAJ D
37	22-UMT-323	DHEENA DHAYALAN B
38	22-UMT-325	VINOTH N
39	22-UMT-326	AAKASH SAHAJ P
40	22-UMT-327	T PRADEEP

DEPARTMENT OF MATHEMATICS (SHIFT-II)
MENTORS AND MENTEES

(2022-2023)

Mentoring, in which each college student (mentee) was paired with a faculty member (mentor), was one of the student-centric techniques used at Loyola. Assigned mentors will oversee, mentor, and guide the mentees. Academic mentoring and personal mentorship were the two types of mentoring. Mentees often have academic mentors from their parent department who will guide them academically; however, personal mentors can come from other departments as well and are willing to guide their mentees on a more personal level. The following was the assignment of mentees to the academic mentors in the department in the academic year 2022-2023.

Class	Mentor	Mentees assigned
I B. Sc. Mathematics	Mr. D. Kumanan	22-UMT-201 to 22-UMT-231
I B. Sc. Mathematics	Dr. J. Geno Kadwin	22-UMT-303 to 21-UMT-327
II B. Sc. Mathematics	Mr. F. R. Emmanuel	21-UMT-202 to 21-UMT-305
II B. Sc. Mathematics	Dr. S. Ruth Julie Kavitha	21-UMT-306 to 21-UMT-339
III B. Sc. Mathematics	Mr. A. Christopher	20-UMT-201 to 20-UMT-232
III B. Sc. Mathematics	Dr. S. Iruthaya Raj	20-UMT-233 to 20-UMT-314
III B. Sc. Mathematics	Dr. T. Bharathi	20-UMT-315 to 20-UMT-347

STUDENTS INDUCTION PROGRAMME

Date	:	03-08-2022 to 05-08-2022
Time	:	1.30 pm – 6.30 pm
Venue	:	Fr. Vion Smart Room (JF-24)
Speakers	:	Mr. F. R. Emmanual, Assistant Professor (Mathematics)
		Mr. A. Christopher, Assistant Professor (Mathematics)'
		Dr. T. Bharathi, Assistant Professor (Mathematics)
		Dr. S. Ruth Julie Kavitha, Assistant Professor (Mathematics)
		Dr. Tanya Pereira, Assistant Professor
		(Plant Biology and Biotechnology)

REPORT

Objective

To make the first-year student familiar with the institution's regulations and academic standards, to acquaint the students with their classmates and to learn about the other institutional members that will help students succeed.

Summary

- The orientation program was conducted for 3 days and the students learnt a lot about the college and the various activities of the department and the college.

- Students actively participated in the program.

- Students learnt about the general rules and regulation of the college.

- They were also informed about the regulations to be followed in the department.

- The history and developments of the department, about the faculty members, about the alumni of the department and the details of placement were also let to the students know.

- Students also learnt choice-based credit system, the examination pattern and also about the other activities in the department.

- Alumni and freshers' interaction was also organized by the department and some alumni members of the department of mathematics (Shift-II) were invited to take part in the programme, and as an outcome the freshers knew about the Loyola Alumni Association, Annual Alumni meet etc.

- The invited alumni members motivated the freshers from their own experiences in Loyola.

Image gallery

Orientation by Dr. T. Bharathi
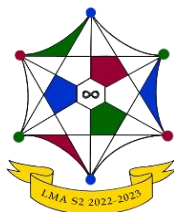

Orientation by Mr. A. Christopher

Orientation by Dr. S. Ruth Julie Kavitha

Orientation by Dr. Tanya Pereira

LOYOLA MATHEMATICS ASSOCIATION SHIFT 2
(LMA S2 2022-2023)

The Loyola Mathematics Association Shift 2 (LMA S2) for the academic year 2022–2023 was inaugurated on September 19, 2022, following the election of the association's office bearers on August 5, 2022. The newly elected members were formally charged after being introduced to the public. The association during the 2022–2023 academic year was made up of the following members.

Coordinator   :   Dr. J. Janet Sheeba, Assistant Professor

President   :   Dr. S. Iruthaya Raj, Assistant Professor

Vice President   :   Mr. A. Christopher, Assistant Professor

Office bearers   :

1.	Mr. S. Sahaya Jeon Ronaldo	(20-UMT-207)	Secretary
2.	Mr. J. Aswin Kumar	(21-UMT-323)	Joint Secretary (19/9/2022 – 31/10/2022)
3.	Mr. V. Mageshwaran	(21-UMT-326)	Joint Secretary (From 1/11/2022)
4.	Mr. R. Barath	(20-UMT-335)	Cultural Secretary
5.	Mr. D. Dhanush	(20-UMT-226)	Sports Secretary

Programmes organized

The association has successfully organized the following events to the students to strengthen their skills and holistic growth.

1. Inauguration of Loyola Mathematics Association (LMA S2) on 19 September 2022.
2. A guidance programme on How to crack interviews on 22 September 2022.
3. Workshop on MATLAB on 28 October 2022.
4. Guest lecture programme on "Math Vocabulary – A key to excel in Math Proficiency" in commemoration of National mathematics day (Birth Anniversary of Srinivasa Ramanujan) on 22 December 2022.
5. Christmas celebration on 22 December 2022.
6. Pongal celebration on 13 January 2023.
7. Intercollegiate department festival "Factoria-2023" on 27 January 2023.
8. Invited talk on "Limit supremum and limit infimum" in commemoration of Pi Day on 14 March 2023.
9. Valedictory function on 31 March 2023.

INAUGURATION OF LOYOLA MATHEMATICS ASSOCIATION (2022-2023)

Date	:	19-09-2022
Time	:	5.35 pm - 6.30 pm
Venue	:	Lawrence Sundaram Hall
Chief guest	:	Dr. B. Antline Nisha, Assistant Professor, Department of Mathematics, St. Joseph's Institute of Technology, Chennai-600119

Objective

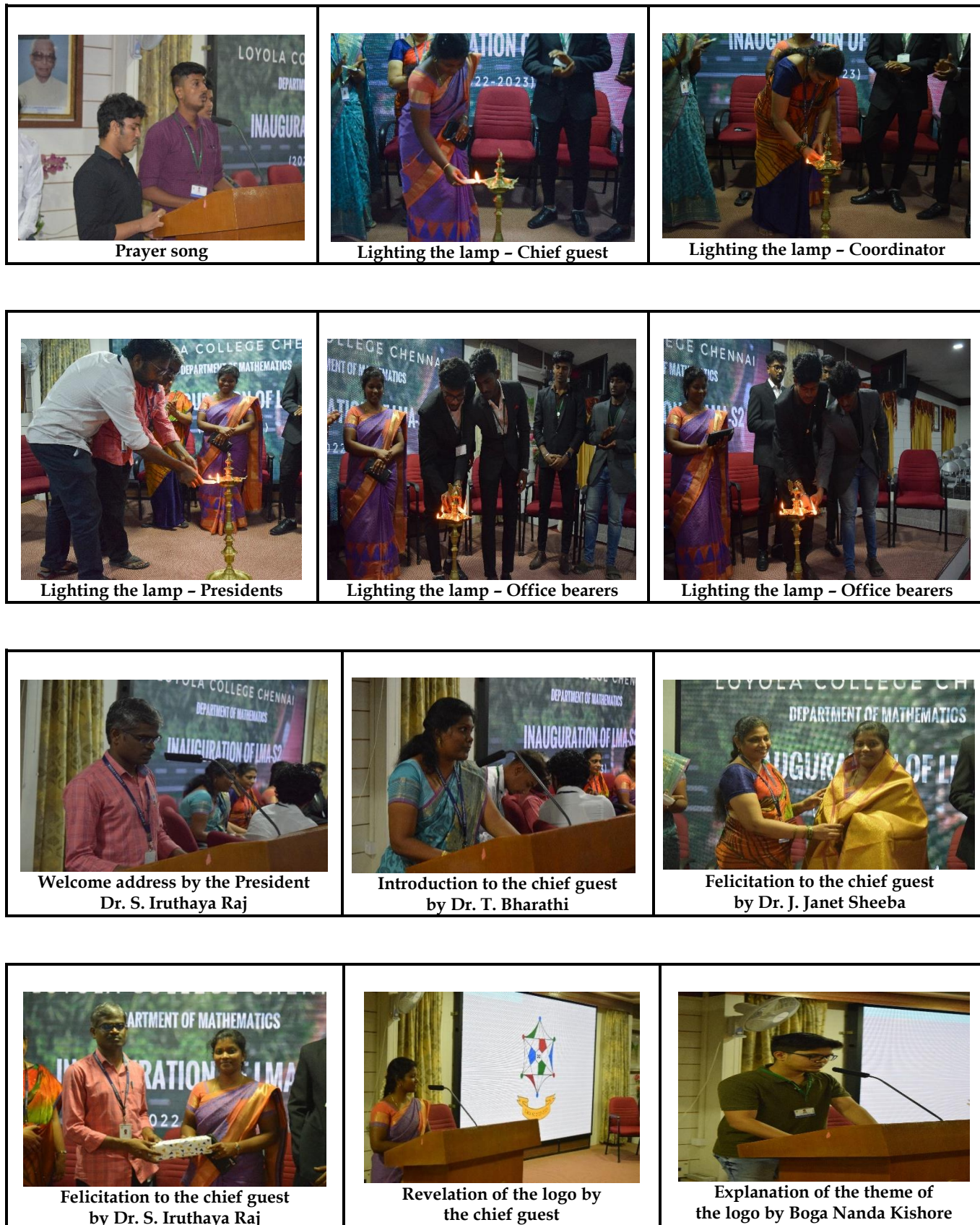To inaugurate the Loyola Mathematics Association Shift 2 (LMA S2) for the academic year 2022-2023.

Summary

- All the staff members and students of the department of mathematics (Shift-II) participated in the function.
- Dr. S. Iruthaya Raj, the president of the association welcomed the chief guest, the coordinator and faculty members of the department, office bearers of the association and the students.
- The chief guest was introduced by Dr. T. Bharathi and felicitated by the coordinator and the president.
- The chief guest revealed the logo of the association which was designed by Mr. T. Anto Jovin (20-UMT-304).
- The theme of the logo was explained by Mr. Boga Nanda Kishore (20-UMT-218), the class representative of 3rd year A section.
- The team of office bearers of the association was introduced and honoured with badges by the chief guest in the presence of the coordinator of the department, president and vice president of the association.
- The office bearers took oath led by Prof. A. Christopher, the Vice president of the association.
- The coordinator in her address insisted on the importance of learning mathematics and making use of various opportunities to be given by the department of mathematics through the association LMA S2.
- The chief guest of the function gave the inaugural address. She outlined various ways to learn mathematics, and said that by utilizing various opportunities given by the Loyola mathematics association a student could get motivation to do research and get various opportunities in upcoming days. She also pointed out that students need not be panic to learn mathematics, but have to spend time to understand it by solving more problems.
- Finally, the vote of thanks was proposed by Mr. Sahaya Jeon Ronaldo, the secretary of the association.

Programme outcome

Students of the department will have the opportunity to participate in various events, programmes and competitions to be organized by the Loyola Mathematics Association LMA S2 in the academic year 2022-2023.

Image gallery

Prayer song

Lighting the lamp – Chief guest

Lighting the lamp – Coordinator

Lighting the lamp – Presidents

Lighting the lamp – Office bearers

Lighting the lamp – Office bearers

Welcome address by the President Dr. S. Iruthaya Raj

Introduction to the chief guest by Dr. T. Bharathi

Felicitation to the chief guest by Dr. J. Janet Sheeba

Felicitation to the chief guest by Dr. S. Iruthaya Raj

Revelation of the logo by the chief guest

Explanation of the theme of the logo by Boga Nanda Kishore

Secretary – Sahaya Jeon Ronaldo

Joint Secretary – Aswin Kumar

Cultural Secretary – Barath

Sports Secretary – Dhanush

Oath led by Prof. A. Christopher

Oath taken by the Office bearers
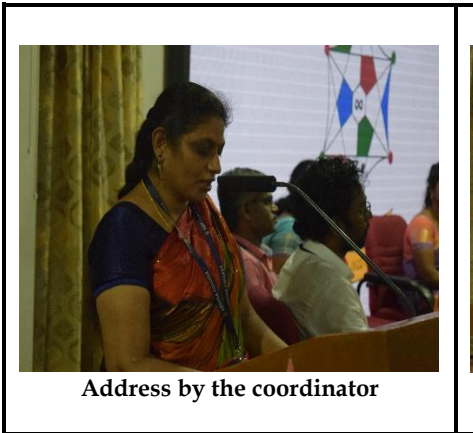
Address by the coordinator

**Inaugural address by the
Chief guest Dr. Antline Nisha**

**Vote of thanks by the
Secretary**

MC – Syed Shahid Ali

Participants

Participants

Faculty members & office bearers with the chief guest

Faculty members with the chief guest

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-34
DEPARTMENT OF MATHEMATICS, SHIFT-II

You are cordially invited to the
Inaugural function of

Loyola Mathematics Association Shift 2
(2022-2023)

Chief Guest

Dr. B. ANTLINE NISHA
Assistant Professor
Department of Mathematics
St. Joseph's Institute of Technology
Chennai-600119

Monday, September 19th, 2022
LS Hall @ 5.30 pm - 6.30 pm

Mr. S. Sahaya Jeon Ronaldo   Prof. A. Christopher
Secretary   Vice President

Dr. S. Iruthaya Raj   Dr. J. Janet Sheeba
President   Coordinator

15

A GUIDANCE PROGRAMME ON HOW TO CRACK INTERVIEWS

Date	:	22-09-2022
Time	:	4.30 pm - 5.30 pm
Venue	:	Yedanapalli Hall, Chemistry Block, Loyola College
Convener	:	Mr. A. Christopher, Assistant Professor
Chief guest	:	Mr. S. R. Rahul Paul, HR & Jr. Executive-Recruitment, Cognizant

REPORT

Objective

To provide confidence during interviews.

Summary

- The programme was organized for the third-year students of the Department of Mathematics (Shift-II).
- Final year student Mr. Vijay Shankar hosted the programme.
- Dr. J. Janet Sheeba, Coordinator, Dept. of Mathematics (Shift-II) addressed the gathering.
- Prof. A. Christopher, Vice – President, LMA S2 & Placement faculty, introduced the guest "Mr. Rahul Paul" to the audience.
- Mr. Rahul Paul started motivating the students through his speech on "How to tackle Interviews".
- Dr. J. Janet Sheeba, honoured the guest with a gift.
- Vote of thanks was delivered by final year student Mr. Harish.

Programme outcome

Students of the department will gain confidence during the interviews and thereby possibly get a job in placements. They will understand that communication skill is the key in recruitment process.

Image gallery

Dignitaries

Honouring the chief guest by the Coordinator

Introduction of the chief guest by Mr. A. Christopher

Address by the chief guest Mr. Rahul Paul

<p align="center">**WORKSHOP ON MATLAB**</p>

Date	:	28-10-2022
Time	:	02.30 pm - 04.30 pm
Venue	:	YD Hall, Loyola College
Conveners	:	Prof. D. Kumanan & Dr. J. Geno Kadwin

<p align="center">**REPORT**</p>

Objective

To strengthen the computing skills on MATLAB and to create opportunities to the students to get more practice through hands on training.

Summary

- Three sessions were held in the Workshop.
- During the First session on differential equation solving (2.40 pm – 3.20 pm), all the fundamental commands for building arrays, polynomials, and related ideas were explained by Dr. M. Prasanna Jeyanthi. She also talked about utilizing several instructions to solve a differential equation.
- During the Second session on Image Processing (3.20 pm – 4.10 pm), Dr. G. Janani Jayalakshmi talked about the usage of MATLAB to alter photographs using different commands, uploading images, and representing colour commands.
- During the Third Session (Practical session from 4.10 pm – 4.40 pm), students were asked to comment and work on the concepts that were worked through practical.
- Pupils engaged fully in the workshop and gained knowledge from it.

Programme outcome

Workshops such as this one will inspire students, enable them to write independently, and impart information in the modern field of computing.
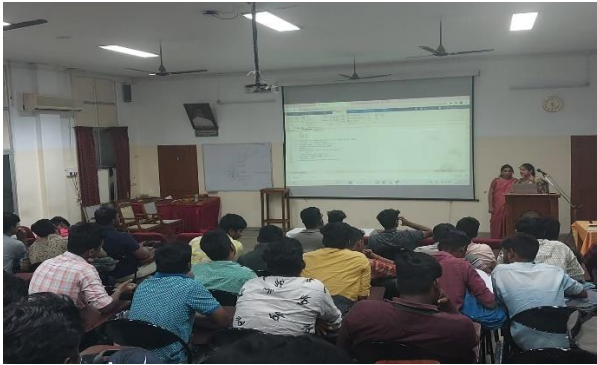
Image gallery

Session-1 by Dr. M. Prasanna Jeyanthi

Session-1 by Dr. M. Prasanna Jeyanthi
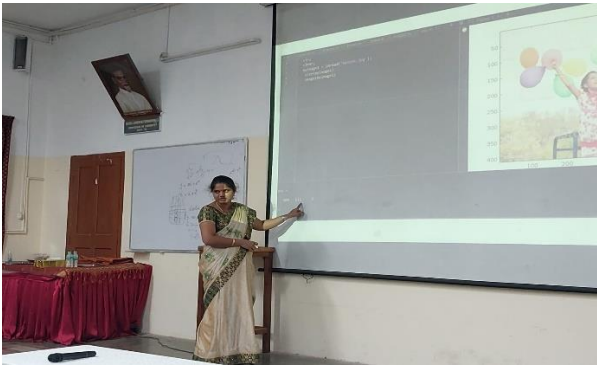
Session-2 by Dr. G. Janani Jayalakshmi

Session-2 by Dr. G. Janani Jayalakshmi

Session-3 Hands on training

Session-3 Hands on training

<h1 style="text-align:center">NATIONAL MATHEMATICS DAY CELEBRATION 2022</h1>

Name of the event	:	Celebration of the Birth Anniversary of Srinivasa Ramanujan – National Mathematics Day 2022
		Guest Lecture on "Math Vocabulary – A key to excel in Math Proficiency"
Date	:	22-12-2022
Time	:	1.30 pm - 3.00 pm
Venue	:	Physics Ph.D. Hall, Jubilee Building, Loyola College
Chief guest	:	Dr. S. Umamaheswari, Assistant Professor Senior, School of Advanced Sciences, VIT Chennai - 600127

<h2 style="text-align:center">REPORT</h2>

Objective

To commemorate the birth of the mathematics genius Srinivasa Ramanujan on the National Mathematics Day 2022.
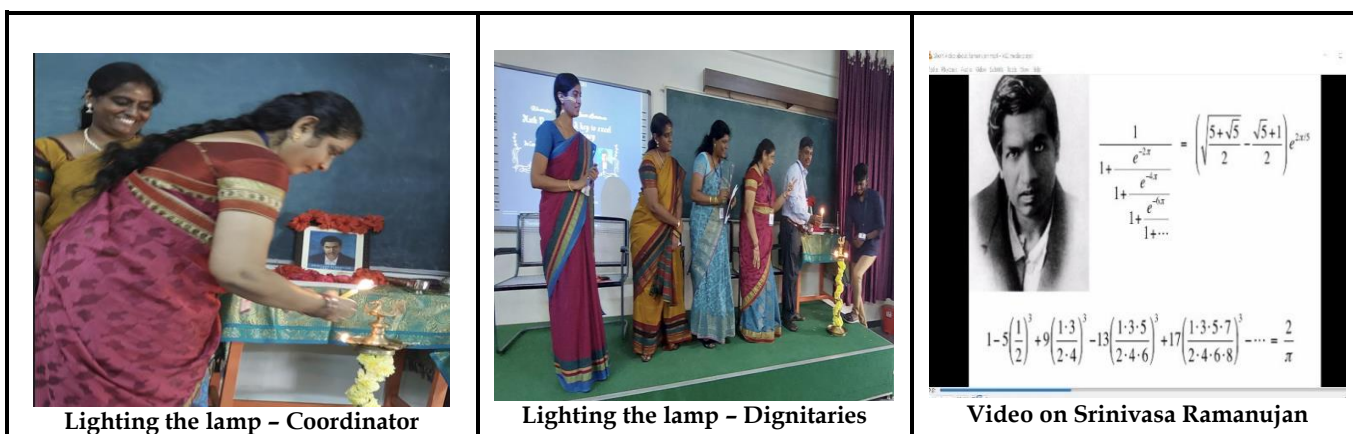
Summary

- Srinivasa Ramanujan is a known mathematics genius of India born in Tamil Nadu, whose contribution in Number theory is popularly known to the world of mathematics. He was born on 22nd December 1887 and his birthday is celebrated as the National Mathematics Day in India since 2011.
- To commemorate the birth of Srinivasa Ramanujan and National Mathematics Day, a guest lecture programme on "Math Vocabulary – A key to excel in Math Proficiency" was organized by the Loyola Mathematics Association Shift 2 (2022-2023) on 22nd December 2022.
- The programme was organized for the students of the Department of Mathematics (Shift-II).
- Dr. J. Janet Sheeba, the coordinator of the department welcomed the chief guest, faculty members and all the students.
- A short documentary film about Srinivasa Ramanujan and National Mathematics Day 2022 was presented, in which a short history of Ramanujan, his studies, his research contributions, his collaboration with known mathematicians namely Hardy and others, Ramanujan number, Wren library were presented to the audience.
- A flower tribute session to the photo of Srinivasa Ramanujan was arranged during the programme.
- The chief guest Dr. S. Umamaheswari, Coordinator of the Department Dr. J. Janet Sheeba, faculty members and students of the Department paid tribute to Srinivasa Ramanujan.
- The chief guest was introduced by Dr. T. Bharathi and honoured by the coordinator. A memento was presented to the chief guest by Dr. S. Maria Jesu Raja.

- Dr. S. Umamaheswari, the chief guest of the programme delivered a lecture on "Math Vocabulary – A key to excel in Math Proficiency" during which she insisted the importance of understanding vocabulary used in mathematical concepts. She gave many examples and motivated the students to learn mathematics vocabulary.
- Some exercises were also given by the resource person to the students to make the students understand mathematics vocabulary; and the students actively involved in the session.
- Vote of thanks was delivered by Dr. S. Iruthaya Raj, the president of Loyola Mathematics Association Shift 2.

Programme outcome

Students of the department will know the fame of the mathematics genius Srinivasa Ramanujan and get motivated to do higher studies and research in theory of numbers. They will try to know the history of mathematicians of India and celebrate the National mathematics day of India. Since the guest lecture was organized to make the students learn mathematics vocabulary, they will try to understand the meanings of various vocabulary used in mathematics.

Image gallery

Prayer song

Dignitaries

Lighting the lamp – Chief guest

Lighting the lamp – Coordinator

Lighting the lamp – Dignitaries

Video on Srinivasa Ramanujan

Flower tribute by the Chief guest

Flower tribute - Coordinator

Flower tribute – Faculty members

Flower tribute – Students

Introduction to the chief guest by Dr. T. Bharathi

Honouring the chief guest by the coordinator Dr. J. Janet Sheeba

Presentation of memento to the chief guest by Dr. Maria Jesu Raja

Guest lecture by the chief guest Dr. S. Umamaheswari

Guest lecture by the chief guest Dr. S. Umamaheswari

Participants of the programme

Participants of the programme

Faculty members of the Department with the chief guest

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-34
DEPARTMENT OF MATHEMATICS (SHIFT-II)

LOYOLA MATHEMATICS ASSOCIATION SHIFT 2
(2022–2023)

We cordially invite you to a Guest Lecture on

Math Vocabulary– A key to excel in Math Proficiency

In Commemoration of Srinivasa Ramanujan on National Mathematics Day 2022

Resource person

Dr. S. Umamaheswari
Assistant Professor Senior
School of Advanced Sciences
VIT Chennai

Thursday 22 December 2022 ::: 1.30 pm – 3.00 pm

Venue
Physics Ph.D. Hall, Jubilee Building
Loyola College, Chennai

Mr. S. Sahaya Jeon Ronaldo
(Secretary)

Prof. A. Christopher
(Vice President)

Dr. S. Iruthaya Raj
(President)

Dr. J. Janet Sheeba
(Coordinator)

CHRISTMAS CELEBRATION 2022

Date	:	22-12-2022
Time	:	4.15 pm - 4.30 pm
Venue	:	Physics Ph.D. Hall, Jubilee Building, Loyola College
Christmas message	:	Mr. F. R. Emmanuel, Assistant Professor, Department of Mathematics (Shift-II), Loyola College, Chennai - 600034

REPORT

Objective

To celebrate Christmas function with faculty members and students of the department.

Summary

- Christmas function was held within the department to share good thoughts, love, and joy.
- Christmas message was given by Mr. F. R. Emmanuel. Some thoughts on hope, peace, joy, and love were shared by him. He motivated the students to have hope in actions and peace in mind to get joy and love.
- Carol competition was conducted for the students of the department class-wise on 21st December 2022.
- The participants of the carol competition sang carols during the function.
- Prizes were given to the winners of the carol competition. First year students got the first place in the carol competition.
- Dr. S. Iruthaya Raj, the president of the association proposed vote of thanks.
- Finally, Christmas cakes were shared with the faculty members and the students.

Programme outcome

Students of the department will enjoy the Christmas season, the season of love and joy. They will learn to strengthen good habits like sharing love and joy with friends, relatives, neighbours and others so that they will have holistic development.

Image gallery

| Christmas message by Prof. F. R. Emmanuel | Carol competition for the students |

Prize distribution to the winners

Participants

Faculty members of the Department during Christmas celebrations

Loyola College, Chennai-34
Department of Mathematics (Shift-II)
Loyola Mathematics Association Shift 2 (2022-2023)

cordially invite the faculty and students of the Department to the

Christmas Celebrations 2022

4.15 pm - 4.30 pm
22 December, 2022
Physics Ph. D. Hall, Loyola College, Chennai

Christmas Message

Mr. F. R. Emmanuel
Assistant Professor
Department of Mathematics (Shift-II)
Loyola College, Chennai-34

Come! Let's feel the breeze of Love descended from the heaven

Mr. S. Sahaya Jeon Ronaldo
(Secretary)

Prof. A. Christopher
(Vice President)

Dr. S. Iruthaya Raj
(President)

Dr. J. Janet Sheeba
(Coordinator)

<h1 style="text-align:center">PONGAL CELEBRATION 2023</h1>

Date	:	13-01-2023
Time	:	11.00 am - 12.30 pm
Venue	:	Commerce and Economics Quadrangle, Loyola College
Chief guest	:	Rev. Fr. S. Leo, SJ
		Department of Mathematics
		Loyola College, Chennai - 600034

REPORT

Objective

To celebrate Pongal festival, the festival of harvest of Tamil Nadu with faculty members and students of the department.

Summary

- One of the traditional and cultural festivals of Tamil Nadu is the Pongal festival which is celebrated for four days in Tamil Nadu.
- To celebrate this traditional festival, college arranged various competitions for the departments including Sweet Pongal making competition and Rangoli competition.
- Within our department we also conducted an intra-department Pongal making competition for the first-year and second-year classes.
- The students and faculty members came in ethnic dresses associated with our culture.
- The students who were not familiar with cooking with firewood made sweet Pongal and the students felt the difficulties faced by the people cooking with firewood.
- The faculty members also prepared Pongal in another pot.
- After the preparation of Pongal, all the students and the faculty members gathered under a tree with the Pongal rice they prepared.
- The chief guest and the gathering were welcomed by the vice president Prof. A. Christopher, the vice president of the Loyola Mathematics Association.
- A memento was presented to the chief guest by Dr. J. Janet Sheeba, the coordinator of the department.
- The chief guest Rev. Fr. Leo in his Pongal message highlighted the reasons for which Pongal is being celebrated in Tamil Nadu and neighbouring states. He classified the festivals celebrated as *Bogi Pongal*, *Thaip Pongal*, *Maattup Pongal* and *Kaanum Pongal* in four consecutive days during the Pongal season. He also highlighted the importance of celebration of each of the above four festivals.
- He was also the judge of the Pongal making competition and he judged by tasting the Pongal rice made by the first-year and the second-year students.
- The second-year students got the first prize and the first-year students got the second prize in sweet Pongal making competition.
- Prizes were given to the prize winners by the chief guest.
- Pongal rice was then served to all the students and faculty members.
- It was a memorable moment to all the members of the department.

- Finally, Dr. S. Iruthaya Raj, the President of Loyola Mathematics Association proposed vote of thanks.

Programme outcome

The Pongal festival a traditional and thanksgiving harvest festival of Tamil Nadu was celebrated by the students of our department form Tamil Nadu and other neighboring states which was a good sign of harmony. The students of the department were also given the opportunity to know the procedure of cooking Pongal traditionally.

Image gallery

Pongal preparation by the Coordinator
Dr. J. Janet Sheeba

Faculty members in Pongal preparation

Pongal made by the students and Faculty members of the department

Pongal wishes from the officials of the College

Presentation of memento to the Chief guest Rev. Fr. Leo by the coordinator Dr. J. Janet Sheeba

Pongal message by the chief guest Rev. Fr. Leo

Distribution of the First prize to the Second-year students with class faculty Prof. F. R. Emmanuel

Distribution of the Second prize to the First-year students with class faculty Prof. D. Kumanan

Group photo of Students and Faculty members with the chief guest Rev. Fr. Leo, SJ

Group photo of Faculty members with the Chief guest Rev. Fr. Leo, SJ

இலயோலா கல்லூரி, சென்னை -34
கணிதத்துறை (சுழற்சி – இரண்டு)
இலயோலா கணித மன்றம் சுழற்சி 2 (2022-2023)

துறையில் பணியாற்றும் பேராசிரியர்களையும்,
படிக்கும் அன்பு மாணவர்களையும் பொங்கல் விழா
கொண்டாட அன்போடு அழைக்கின்றோம்

<u>சிறப்பு விருந்தினர்</u>
அருட்பணி. ச. லியோ, சே.ச
இலயோலா கல்லூரி
சென்னை -34

இடம்	நாள்	நேரம்
கணிதத்துறை சுழற்சி–2	29, மார்கழி (13-1-2023)	காலை 11.00 மணி

அன்போடு அழைக்கும்

செல்வன். ச. சகாய ஜியோன் ரொனால்டோ
மன்ற செயலாளர்

பேரா. ஆ. கிரிஸ்டோபர்
மன்றத் துணைத்தலைவர்

முனைவர். சா. இருதய ராஜ்
மன்றத் தலைவர்

முனைவர். ஜோ. ஜேனட் ஷீபா
துறை ஒருங்கிணைப்பாளர்

<h1 style="text-align:center">PI DAY CELEBRATION 2023</h1>

Name of the event	:	Invited talk on "Limit supremum and limit infimum"
Date	:	14-03-2023
Time	:	01.30 pm – 02.20 pm
Venue	:	Quinn Hall, Loyola College
Chief guest	:	Dr. R. Lawrence Joseph Manoharan Former Head, Department of Mathematics St. Joseph's College, Trichy-2.

Objective

To motivate the students to know about the beautiful number pi and its applications.

Summary

- Dr. J. Janet Sheeba welcomed the gathering and honoured the chief guest.
- During the inauguration function Dr. S. Iruthaya Raj talked about the history of pi day and he explained about the number pi.
- The chief guest in his address lectured the meaning of limit supremum and limit infimum, and he solved some problems to the participants.
- Finally, Dr. J. Geno Kadwin proposed the vote of thanks.

Image Gallery

Session handled by the Chief guest Dr. Lawrence

Session handled by the Chief guest Dr. Lawrence

Vote of thanks by Dr. Geno Kadwin

Participants
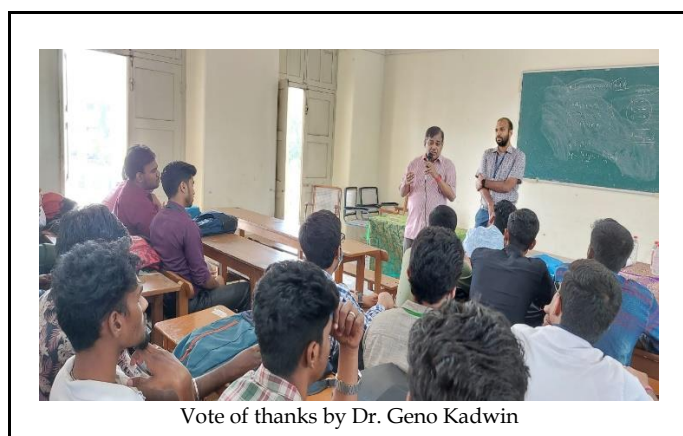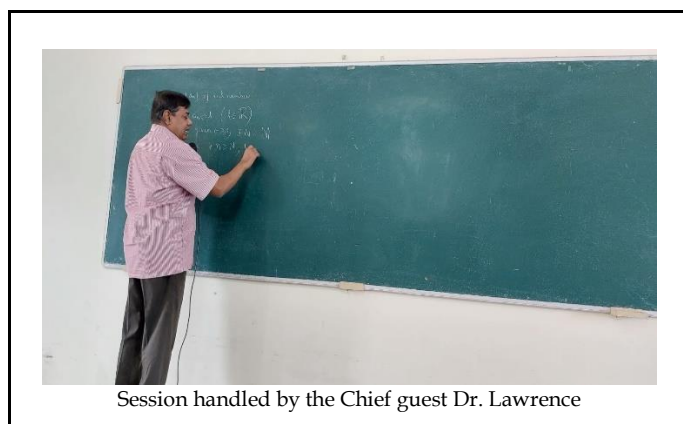
Programme outcome

The students of the department will get exposure in knowing some mathematical concepts and their applications.

VALEDICTOION OF LOYOLA MATHEMATICS ASSOCIATION (2022-2023)

Date	:	31-03-2023
Time	:	02.30 pm – 03.15 pm
Venue	:	Commerce Hall (CET-12)
Chief guest	:	Dr. E. Mike Dison Assistant Professor, Department of Mathematics LICET, Chennai-34.

Objective

To valedict the activities of Loyola Mathematics Association Shift 2 (LMA S2) for the academic year 2022-2023.

Summary

- The secretary of the association Mr. Sahaya Jeon Ronaldo welcomed the gathering.
- The activities of the association were summarized in the form of video during the function.
- Dr. E. Mike Dison in his valedictory address appreciated the students for actively participating in various competitions and programmes.
- He advised the students to collaborate with Engineering students in order to have a diversity in the field of applied mathematics.
- He also congratulated the department for creating space to provide opportunities to learn mathematics.
- Certificates were issued to all the volunteers who worked for the department and the association throughout the academic year.
- Finally vote of thanks was delivered by Mr. Barath, the cultural secretary of the association.

Programme outcome

The students will get a collective information on the various activities conducted by the association throughout the year 2022-2023.

Image gallery

The participants

Valedictory address by the Chief guest Dr. E. Mike Dison

Certificate distribution

Faculty members with the Chief guest

LOYOLA COLLEGE, CHENNAI-34
DEPARTMENT OF MATHEMATICS (SHIFT-II)

We cordially invite you to the Valedictory function of

LOYOLA MATHEMATICS ASSOCIATION SHIFT 2
(2022 - 2023)

CHIEF GUEST

Dr. E. Mike Dison
Assistant Professor
Department of Mathematics
LICET
Chennai-34

MARCH
31
2023

FRIDAY
2.30 PM

COMMERCE HALL
(CET-12)

MR. S. SAHAYA JEON RONALDO
SECRETARY

PROF. A. CHRISTOPHER
VICE PRESIDENT

DR. S. IRUTHAYA RAJ
PRESIDENT

DR. J. JANET SHEEBA
COORDINATOR

CAREER GUIDANCE PROGRAMME

Date	:	30-08-2022
Time	:	4.30 pm - 5.30 pm
Venue	:	Lawrence Sundaram Hall, Loyola College, Chennai
Convener	:	Dr. J. Janet Sheeba, Coordinator, Department of Mathematics
Chief guest	:	Mr. A. Mahesh (An alumnus of the Department) Special Educator and SLD Assessor at Don Bosco Institute of Psychological Services, Remedial Teacher at St. Bedes AI HR. Sec. School, Santhome, Chennai.

REPORT

Objective

To create a serious atmosphere for the final year students as well as a clear idea about their future career, which is very important to select their path after their UG program.

Summary

- ❋ Since the final year students need guidance on a career, this programme was organized. Mr. A. Mahesh, an alumnus of the department was the chief guest of the day, and the event went on successfully for the welfare of the students of the department.
- ❋ Coordinator and convener, Dr. J. Janet Sheeba, welcomed the chief guest and the audience of the day. An elaborate introduction of the chief guest, Mr. A. Mahesh, was given by her.
- ❋ The main point that the chief guest shared with the students was about stepping into a new environment and having a clear vision on the future after the completion of the UG programme.
- ❋ He shared his experiences on teaching instructors in many schools in Chennai, emphasizing the value of letting pupils do their own assessments. In addition, he expressed gratitude to our department for providing him with the opportunity to serve as a resource for his alma mater's career guidance program.
- ❋ He insisted that the important key points to be followed by every student are self-assessment and self-analysis of the **personality, potential, and aptitude skills** of the individual. He also linked this with the Loyola curriculum framework of foundation courses and their outcomes. Followed this, he gave a clear idea about **SWAG Analysis** (i.e., S = Strengths, W = Weaknesses, A = Actions and G = Growth).
- ❋ He insisted the students to concentrate on the seven types of multiple intelligences namely, musical, visual-spatial, linguistic-verbal, bodily-kinaesthetic, interpersonal, intrapersonal, naturalistic intelligences.
- ❋ He then stressed the importance of three C's, namely, choice, contacts, and competence, which have great influences on future.
- ❋ "Choice denotes the alternative backup plans that a student should possess in his careerist life, as the situation is uncertain, and it is important to always have them. Contacts denote links with the immediate seniors who passed out recently. With the help of their

experience, he can avoid some basic mistakes in his career and, he can get a lot of new opportunities in new emerging fields. Competence refers to the development of essential ability skills such as leadership, problem solving, decision making, alternative thinking, time management, anger management, and so on", he said.

✵ The gist of the points he stressed to the students at the end was the following: "The biggest addiction in the world is success, so start following and tasting it. Fix the destination where you enjoy your work a lot. Don't search for a job behind your career; follow your career as your job; it will get you a stress-free job. Consider whether you are an explorer or an exploiter; your strengths and weaknesses; why people frequently compliment you; and the reason for this; these are the points that everyone should consider".

✵ With this, the session ended with a Q & A by our students.

✵ The programme was concluded with the Vote of Thanks proposed by secretary of the association, Mr. Sahaya Jeon Ronaldo.

✵ The programme helped participants to enhance their self-analysis, to improve their positive mind-set, and learn strategies to overcome sudden and unexpected moments. It was also stressed that by engaging themselves in various activities, students can learn the importance of communication skills and soft skills.

Programme outcome

The programme will be helpful for the participants to enhance their self-analysis, improve their positive mind-set, and learn strategies to overcome sudden and unexpected moments.

Image gallery

Chief guest Mr. Mahesh

Participants of the programme

Faculty members of the Department with the chief guest

LOYOLA COLLEGE CHENNAI –34
DEPARTMENT OF MATHEMATICS
(Shift - 2)

We cordially invite the students of B.Sc. Mathematics
to a

CAREER GUIDANCE PROGRAMME

Chief Guest

A. MAHESH B.Sc., B.Ed.,

(An alumnus of the Department)

Special Educator and SLD Assessor at Don Bosco Institute of Psychological
services and Remedial teacher at St. Bedes AI Hr. Sec. School, Santhome.

AUG 30 2022

Venue LS Hall

4:30 PM

Dr. J. Janet Sheeba

Coordinator

Invitation Card

GRAPH THEORY MATHEMATICAL EXHIBITION

Date	:	26-10-2022
Time	:	12.30 pm - 1.30 pm
Venue	:	Jubilee Quadrangle, Loyola College
Staff-in-charge	:	Dr. T. Bharathi, Assistant Professor

REPORT

Objective

To analyse/apply their subject knowledge with the real-life situations and shared their exhibits and interactions were made in Graph Theory

Summary

- The III UG Mathematics students presented their models and posters related to Graph Theory and its day-to-day life applications.
- All the staff members and students of the department of mathematics (Shift-II) participated in the function.
- Dr. T. Bharathi, the course teacher of the subject organized the mathematical exhibition.
- The exhibition was visited by Deputy Principal Dr. Charles and Vice-Principal (Administration)- Shift II, Mrs. Divya.
- The boys explained their concept to all the boys from other discipline and for the staff members from the other department.
- The following are the topics in which the students presented their poster and models:

Applications Of Graph Theory in Transportation
* Difference Between Real Life Roads and Graphical Representation with vertices and edges are explained.
* How Planar and Non-Planar Graphs are used in the 4 Types of Transports (Airways, Seaways, Roadways and Railways) and
* Finding *The Shortest Path Between to Places* Using Graph Theory.

Graph Theory in Data Science
* Differences Between Directed and Undirected Graphs are highlighted.
* How Graph Theory is applied in Map Coloring.
* What is a Binary Search tree and its uses?

Konigsberg Bridge Problem
* What's the Konigsberg Bridge Problem, and how it is solved are explained using a bridge as example.
* Conclusion of the formula is obtained from the Konigsberg Bridge Problem.

Graph Theory of Sudoku

* How could we use Graph Theory to find the solutions to Sudoku and also gain insights in It.
* How Sudoku has many Graph Theory properties and how it is solved.
* Real-Life Applications of Graph Theory equations are used to Solve Sudoku.

Applications of Graph Theory in Google Maps

* Google Maps Essentially Uses Two Graph Algorithms – Dijkstra's Algorithm and A* Algorithm, To Calculate the Shortest Distance from Point A (Source) To Point B (Destination).
* A Graph Data Structure Is Essentially a Collection of Nodes That are Defined by Edges and Vertices.
* Finding The Shortest and Fastest Path Between the Places.

Page Rank Algorithm

* The Algorithm Revolutionized the Way Google Search Worked, Using Graph Theory, Specifically Markow Chains and Various Other Fundamental Concepts of Mathematics.
* Page Rank Is a Complex Algorithm That Assigns a Score of Importance to A Page on The Web, It Set the Scores of The Website on A Logarithmic Scale From 0 To 10, In Simple Terms, The Score of Zero for A Webpage Means It Is a Low-Quality Website, And A Score Of 10 Would Represent Only the Most Authoritative Sites on The Web.
* So, The Page Ranks Algorithm Provides a Website with The Relevance of The Score. In Our Exhibition We Brushed On A Few Cases of The Algorithm, Some of Them Being, The Equivalency Case and Periodic Case.

Applications of Graph Theory in Linguistics

* Definitions of linguistic complexity, form, meaning, morpheme.
* Representing the sentence "He spoke" as a graph. Vertices are arranged into two rows. Each vertex in the first row represents one aspect of form and each vertex in the second represents an aspect of meaning.
* v Edges join each aspect of form to the aspect(s) of meaning that they contribute. Hence, all edges are between two vertices of different rows (since an aspect of form/meaning cannot contribute to another aspect of form/meaning)
* v Comparing the graphs of this sentence in English and Tamil, and using their average degrees to quantify their complexities.

Airline Transportation Web

* Graph theory is effectively managed and expedite the running of multiple aircraft across a region.
* We took the airports as nodes (or vertices) and the path they travelled as the edges of a simple multigraph. Note that the edges are weighted edges which might contain multiple factors (e.g., No. of passengers).
* We took the basic component of the graphs, the degree (represented by K) and we used Shearson Correlation to calculate the Kin and Kout numbers of the biggest airports.

Applications Of Graph Theory in social media

* Social Media Network, Problem, And Its Solution.
* Social Network Analysis and Properties of Network
* The Formula Obtained in Measuring the Networks of social media.

Application Of Graph Theory in Traffic Management

* Management Of Signals Using the Concept of Compatible Graph
* How To Manage and Minimize the Efficiency of Traffic Signals
* Managing Traffic Streams Through Intersection of Graph and Clique

Applications Of Graph Theory in Similarities in DNA Sequencing

* As DNA Can Various Types of Computing Data and A Directed Graph Will Be Setup of DNA Sequence
* Using De Bruijn Graph as Example of Directory Graph
* Graph Theory Plays Major Role in DNA Sequencing to Ease the Process

Graph Theory in Maze Generation

* Maze Generation using Graph Theory based algorithms
* Two most commonly known and used algorithms.
* Algorithms: Prim's algorithm and Depth First search

Programme outcome

The main outcome will be "What's the purpose of studying a subject?" and to gain of practical knowledge/skill for a perfect motivation or encouragement for the students to study the paper Graph Theory

Image gallery

Participants

Presentations by the participants

Explanation by the participants

Dr. T. Bharathi and Faculty members

FUZZY MATHEMATICAL EXHIBITION

Date   :   26-10-2022

Time   :   12.30 pm - 1.30 pm

Venue   :   Jubilee Quadrangle, Loyola College

Staff-in-charge   :   Dr. J. Janet Sheeba, Coordinator, Department of Mathematics

REPORT

Objective

To exhibit the students' talents, activities and perspective plans using Fuzzy Models. To Know how fuzzy models are useful in day-to-day life.

Summary

All the third UG students exhibited various models on Fuzzy theory in the exhibition. The students explained the concepts to the audience participated from other departments. The following were the topics in which the students presented their poster and models:

Fuzzy Application in Anti-Lock Braking System
- ➢ Traditional Braking System have the disadvantage of applying Sudden Brakes when the bike is moving in a high speed.
- ➢ There is a high Possibility of skidding when we stop the bike suddenly.
- ➢ But Fuzzy Applied Anti-Locking Braking System is safe since it will not stop suddenly instead it will reduce the speed drastically.

Fuzzy Applications on Hypertension problem faced by TN adults
- ➢ The Domain set (Causes) and attributes on the Range set (Symptoms of High BP) and established a fuzzy relation among them by using expert's opinion.
- ➢ After solving we inferred that Sodium salts, Obesity, alcohol other medical problems, smoking are major causes for hypertension faced by TN people.

Fuzzy Logic in Rice Cookers
- ➢ In our day-to-day life we use many home appliances such as cooker, washing machine, air conditioner etc.
- ➢ Especially electronic rice cooker uses a specific chip which works under the fuzzy principles. Here fuzzy logic is used to maintain the rice in a proper cooked state that the food is neither semi-cooked nor over cooked.

Application of fuzzy logic in traffic signal controller
- ➢ Now a day's predetermined traffic lights are used under time of the day scheme to control traffic congestion. But it does not offer an optimum solution for the fluctuations of the traffic condition.

- A fuzzy logic control system provides a better optimal solution for the fluctuating traffic system. Controlling the traffic flow system using fuzzy technology has the ability to convert human thinking process into an algorithm using some mathematical models.

Fuzziness in Neural Network

- Like making a robot with human intelligence is called Artificial Intelligence (AI).
- Working with neural system is like collecting information and it has many objections and it will give as one output.
- Fuzziness is used here like taking correct or proper output and proceeding, so it will work faster and easier.

Fuzzy Inference System

- FIS means Fuzzy inference is the process of formulating the mapping from a given input to an output using fuzzy logic.
- It has three processes:
  #Fuzzification- It converts crisp input into fuzzy quantity.
  #Fuzzy Inference Engine- It is responsible for applying the inference rules to the fuzzy input in order to generate the fuzzy output.
  #Defuzzification - It converts fuzzy quantity into crisp output.
- Through this project, we came to know that FIS plays a major role in controlling and decision-making systems.

Air conditioning system using fuzzy logic

- The fuzzy logic is a branch of machine intelligence that help computer to process and utilize vogue data of humanistic systems.
- Fuzzy inference systems (FIS) are fuzzifier rules, Inference and defuzzifier.
- Air conditioner fuzzy logic control system takes four into consideration (variables) as Inputs and Outputs.
- The input variables are user temperature, Actual temperature, Dew point temperature and Electricity Volt.
- The output variables are compressor Speed fan speed mode of operation and fin direction.

Fuzzy Relations On Indian Economy

- To analyse the current Economic conditions of India using Fuzzy MAX-MIN Theorem.
- In that we assumed some values and found the interconnected relations and impacts among agriculture, education, trade, industries, services etc. And we found how to overcome the economic crises.

Fuzzy Logic using Adaptive Brightness

- Using fuzzy logic controller (FLC) we can able to use android or any phones to see the LCD panel or display in device.
- To identify and to use the phone embedded controller (EC) process to work on increasing or decreasing (0-100%) brightness in devices.
- Fuzzy logic controller and Fuzzy inference system is the main important phrase to observe Or to control the adaptive brightness in phones.

<h1 style="text-align:center; color:red;">Fuzzy Logic In Smart Washing Machine</h1>

- Fuzzy logic controller checks for the extent of dirtiness, saturation time (amount of soap and water to be added) and washing time or direction of spin.
  On behalf of the extent of dirtiness, saturation time should be decided. After that, washing time must be calculated. If these happens in a correct way, the clothes type remains good for longer. These things can use in smart washing machine using fuzzy logic controller.

Programme outcome

Students of the department will know the application of Fuzzy Logic in day today life. Students gained confidence after the exhibition. Students from various department came and gain knowledge.

Image gallery

Presentation by the participants

Explanation by a participant

Participants with Deputy Principal Dr. J. A. Charles

Dr. J. Janet Sheeba and Faculty members

PG & RESEARCH DEPARTMENT OF MATHEMATICS

Cordially invites you for the

"FUZZY MATHEMATICAL EXHIBITION"

Date: 26/10/2022   Time: 12:30 p.m.

Venue: Quadrangle

Dr. J. Janet Sheeba
Staff Incharge

Dr. J. Janet Sheeba   **Dr. D. Antony Xavier**
Co-ordinator, Shift II   **HOD**

MATHEMATICAL EXHIBITION

Date	:	21-02-2023
Time	:	10.30 am - 12.30 pm
Venue	:	Jubilee Quadrangle, Loyola College
Staff-in-charge	:	Prof. D. Kumanan & Dr. J. Geno Kadwin

REPORT

Objective

To create opportunities to the students to exhibit their mathematical skills to showcase some applications of mathematics in day-to-day life.

Summary

- ✳ The students gave a fantastic explanation of their work and ideas, exuding confidence, and enthusiasm.
- ✳ Curious about the uses of mathematics in society, deans of student bodies, faculty, and students all went to the show.
- ✳ Dr. Y. Kins, Assistant Professor in the mathematics department (Shift I) at Loyola College, Chennai, served as the judge for the presentations.
- ✳ The application of the mathematics, the students' efforts on the Working model, and their explanations all went into the final score.
- ✳ The exhibition concluded at 12.30 pm, and the students left feeling quite confident.

Expected Outcome

Through theoretical mathematics, students will learn how to create more mathematical models. In the same manner that they learned from their fellow students in the exhibition, they will also pick up new creative thinking techniques from their coworkers.

Image gallery

Working models

Students explaining the models to the audience
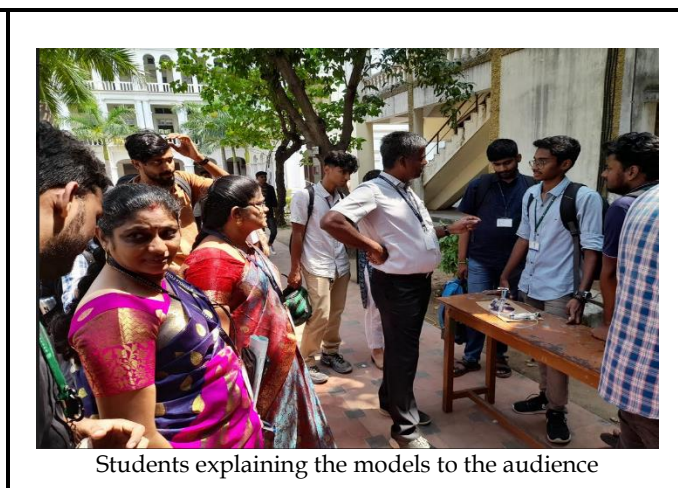
LOYOLA COLLEGE

(AUTONOMOUS)
CHENNAI - 34

DEPARTMENT OF MATHEMATICS (SHIFT-II)

cordially invites you for the

MATHEMATICAL EXHIBITION – 2023

*(An exhibition of mathematical models developed by
3rd year B.Sc. Mathematics students of Shift-2)*

....

21 FEBRUARY 2023   ///   *Jubilee Quadrangle*   ///   10.30 AM

....

Prof. D. Kumanan & Dr. J. Geno Kadwin   Dr. J. Janet Sheeba
Conveners   *Coordinator*

All are welcome

INTERCOLLEGIATE MATHEMATICS FESTIVAL
(FACTORIA-2023)

Date	:	27-01-2023
Time	:	09.30 am - 04.00 pm
Venue	:	CET-12 (Commerce & Economics Block)

REPORT

Objective

To give the exposure in mathematics to the students of the neighboring colleges and make them competitive.

Summary

- The registration began at 8.30 am.
- The inaugural function was held between 09.30 am and 10.15 am.
- Dr. Y. Sarada, Professor, Department of Mathematics, CEG campus, Anna University, Chennai was the chief guest of the inaugural function.
- A total number of 221 UG and PG students from 10 neighboring colleges participated in the festival.
- A total number of 9 competitions were organized among which 2 were on stage events, 6 were off stage events and one online event.
- The participants actively participated in all the events and showcased their skills and talents.
- The valedictory function was held at 3.00 pm.
- Dr. M. Parthiban, Librarian, Loyola College, Chennai was the chief guest of the valedictory function.
- The prize winners of all the events were given certificates and shields.
- The overall championship was won by the department of mathematics (Shift-I) of the Madras Christian College, Chennai.

Inaugural Function

[Venue: CET-12, Time: 09.30 am – 10.15 am]

- The inaugural function began at 9 am in the venue.
- The chief guest of the function was Dr. Y. Sarada, Professor, Department of Mathematics, CEG Campus, Anna University, Chennai.
- Dr. J. Janet Sheeba, the coordinator of the department welcomed the chief guest and the students participated from various colleges.
- As a sign of igniting the knowledge, a lamp was lit by Dr. Y. Sarada, the chief guest, Dr. J. Janet Sheeba, Coordinator of the department, Dr. S. Iruthaya Raj, the President, Prof. A. Christopher, the Vice President, Mr. Sahaya Jeon Ronaldo, the Secretary, Mr. Barath, the Cultural Secretary and Mr. Dhanush, the Sports Secretary.

- Dr. S. Iruthaya Raj, the President of the association explained the theme of Factoria-2023 to the audience.
- Prof. D. Kumanan introduced the chief guest to the audience.
- The chief guest in her inaugural address encouraged and motivated the students to learn mathematics from her life history. She also gave some applications of stochastic models being used in day-to-day life.
- Finally, the vote of thanks was delivered by Mr. Sahaya Jeon Ronaldo, the secretary of the Loyola Mathematics Association LMA S2.
- After the inaugural function the participants were instructed about the venues of various events to be conducted.

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-34
DEPARTMENT OF MATHEMATICS (SHIFT-II)
Loyola Mathematics Association Shift 2
(2022-2023)

cordially invites you to
the Inaugural function of

factor!a-2023

(an Intercollegiate Mathematics Festival)

Chief Guest

Dr. Y. Sarada
Professor
Department of Mathematics
CEG Campus
Anna University
Chennai-600 025

Friday, 27 January 2023 @ 9.30 am
Commerce & Economics Building (CET-12)

Mr. S. Sahaya Jeon Ronaldo   Prof. A. Christopher
Secretary   Vice President

Dr. S. Iruthaya Raj   Dr. J. Janet Sheeba
President   Coordinator

All are welcome

Math Exposia (Paper Presentation)

[Venue: CET-12, Time: 10.30 am – 11.30 am]

Event type   : On stage
Title of the presentation   : Applications of Mathematics in AI
Faculty in-charge and Chair-persons   : Dr. T. Bharathi
                                                 Dr. S. Ruth Julie Kavitha
Event coordinator   : Mr. Chandrashekar Iyer S (20-UMT-320)

- Papers were received from the participants through Google forms.
- 4 teams were shortlisted and were invited through email to present their papers on the day of the function.
- Each team was given 6 minutes for presentation and 2 minutes for Questions and Answers session.
- The participants presented topics well with applications in trends.

Math Master (Quiz)

[Venue: CET-12, Time: 11.45 am – 01.00 pm]

Event type   :   On stage
Faculty in-charge and Quiz Master   :   Dr. S. Iruthaya Raj
Event coordinator   :   Mr. Vivilia Vasan V (20-UMT-227)

- 12 teams with 3 members each in a team participated in the event.
- 36 students from 8 different colleges participated in total.
- A preliminary round was conducted and 5 teams were qualified to the main rounds.
- The main rounds included: Finding the odd one out, Saying true or false, Identifying correct answers, Identification of graphs, Simple calculations, Finding logial errors and etc.
- Questions were asked from simple arithmetic, calculus, real analysis, complex analysis, classical algebra, abstract algebra, linear algebra, analytical geometry, differential equations and related subjects.
- Participants actively participated in all the rounds.

Mathletics (Olympiad)

[Venue: JF-16, Time: 10.30 am – 12.00 pm]

Event type   : Off stage
Faculty in-charge   : Dr. J. Janet Sheeba
Event coordinator   : Mr. Harish J (20-UMT-225)

- A total number of 25 teams with 1 participant per team participated. As per the rules, a maximum of 3 members participated per shift per college individually.
- 10 different colleges parcipated in the event.
- This event was to test the analytical and problem solving skills of an individual.
- 50 number of questions were asked.
- The duration of the test was 60 minutes.

- The questions were asked from number theory, calculus, analysis, classical algebra, abstract algebra, linear algebra, analytical geometry, differential equations and other relevant subjects.

Mystery Quest (Treasure Hunt)

[Venue: JF-22, Time: 10.30 am – 12.00 pm]

Event type   :   Off stage
Faculty in-charge   :   Dr. J. Geno Kadwin
Event coordinator   :   Mr. Issac Surya G (20-UMT-323)

- A total number of 12 teams with a maximum of 4 students per team participated in the event.
- 50 students from 8 different colleges participated.
- Three different levels of rounds were conducted to find the mystery.
- The event was planned in such a way that hints in various levels were to be found by mathematical calculations, analytical and logical skills.

Sequentia (Math Relay)

[Venue: JF-20, Time: 10.30 am – 12.00 pm]

Event type   :   Off stage
Faculty in-charge   :   Prof. D. Kumanan
Event coordinator   :   Mr. Boga Nanda Kishore (20-UMT-218)

- A total number of 10 teams consisting of 3 students per team participated.
- 30 students from 7 different colleges participated.
- Three different levels of rounds were conducted.
- Each round of the event was conducted in the following way: The three members of each team were seated in three successive rows. The first set of questions was given to the person-1 of each team. He was supposed to solve and give the final answer to person-2 of his team and at the same time the second set of common questions would be given to person-2. These questions were framed to use the final answer received from the person-1. Similarly, after solving the questions, the person-2 had to give the final answer to the person-3, and simultaneously, the person-3 was given the third set of questions. He had to find the final answer.   The team which got the final answer first with minimum duration won the event.

Math Enact (Dumb Charades)

[Venue: JF-18, Time: 10.30 am – 12.00 pm]

Event type   :   Off stage
Faculty in-charge   :   Dr. S. Ruth Julie Kavitha
Event coordinator   :   Mr. Archisman Panda (20-UMT-330)

- A total number of 12 teams consisting of 2 students per team participated.
- 24 students from 8 different colleges participated.

- One participant will give the clue of the word to be found by action and not by words, and the other person has to find and say the correct word.
- Both the participants must know the mathematical concepts and linking skills to find out the word hidden.
- The participants participated actively.

Artgebra (T-shirt painting)

[Venue: JF-21, Time: 10.30 am – 12.00 pm]

Event type	:	Off stage
Theme of painting	:	Equation
Faculty in-charge	:	Dr. S. Maria Jesu Raja
Event coordinator	:	Mr. Piravin B (21-UMT-224)

- A total number of 9 teams with 2 students per team participated in the event.
- 18 students from 7 different colleges participated.
- The participants brought T-shirts, and painting materials as per the rules.
- They were instructed to paint for the theme "Equation".
- They beautifully and mathematically painted with creativity.

Math Injection (Word Master)

[Venue: CET-12, Time: 02.00 pm – 3.00 pm]

Event type	:	Off stage
Faculty in-charge	:	Prof. A. Christopher
Event coordinator	:	Mr. Krishnakanth S (21-UMT-309)

- A total number of 11 teams consisting of 2 students per team participated.
- 22 students from 7 different colleges participated.
- One participant will be given a word by the organizers and he/she has to give hint to receive the same word from the other participant with a one-to-one conversation and with a limited number of attempts.
- Both the participants must know the mathematical concepts and linking skills to find out the word.

Math Click (Photography)

Event type	:	Online
Theme of photography	:	Sequences and series
Faculty in-charge	:	Dr. S. Iruthaya Raj
Event coordinator	:	Mr. Ronaldin Aravind J (20-UMT-201)

- A total number of 9 teams with 1 student per team participated in the event from 8 different colleges.
- This was an online event.
- The photographs were received from the participants through Google form.
- Participants by using mathematical skills and technical skills took photo for the theme with creativity.

- The winners of the event were invited through email to receive prizes and certificates on the day of the function.

Valedictory Function

[Venue: CET-12, Time: 03.00 pm – 04.00 pm]

- The participants of various events from neighbouring colleges participated in the valedictory function.
- The chief guest of the function was Dr. M. Parthiban, Librarian, Loyola College, Chennai.
- Welcome address was delivered by Dr. T. Bharathi.
- The chief guest was introduced by Dr. S. Ruth Julie Kavitha.
- The chief guest Dr. Parthiban delivered the valedictory address in which he appreciated the participants and prize winners of all the events.
- He also insisted the importance of learning mathematics and using various resources for reading books.
- Feedback session was held during the valedictory function.
- The chief guest along with the respective faculty in-charge honoured the prize winners of all the events by giving them shields and certificates.
- The Rolling Trophy for the overall championship of Factoia-2023 was won by the Department of Mathematics (Shift-I) of Madras Christian College, Chennai.
- Vote of thanks was proposed by Dr. S. Iruthaya Raj, the President of the Loyola Mathematics Association Shift 2.

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-34
DEPARTMENT OF MATHEMATICS (SHIFT-II)
Loyola Mathematics Association Shift 2
(2022-2023)

cordially invites you to the Valedictory function of

factor!a-2023

(an Intercollegiate Mathematics Festival)

Chief Guest
Dr. M. Parthiban
Librarian
Loyola College
Chennai-34

Friday, 27 January 2023 @ 3 pm
Commerce & Economics Building (CET-12)

Mr. S. Sahaya Jeon Ronaldo
Secretary

Prof. A. Christopher
Vice President

Dr. S. Iruthaya Raj
President

Dr. J. Janet Sheeba
Coordinator

All are welcome

Programme outcome

The participants of various colleges were given some mathematical inputs through their participation; and they shared their knowledge and skills directly and indirectly with others through these events. The focus on learning mathematical subjects in depth was motivated out of this intercollegiate mathematics festival.

Image gallery

1. Dignitaries on Inaugural Function

2.1. Lighting the Lamp by the Chief Guest Dr. Y. Sarada
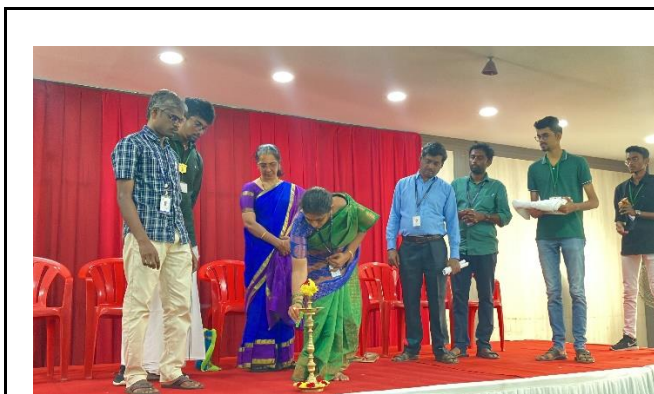
2.2. Lighting the Lamp by the Coordinator Dr. J. Janet Sheeba

2.3. Lighting the Lamp by the President Dr. S. Iruthaya Raj and the Vice President Prof. A. Christopher

2.4. Lighting the Lamp by the Secretary Mr. S. Sahaya Jeon Ronaldo and the Cultural Secretary Mr. R. Barath

2.5. Lighting the Lamp by the Sports Secretary Mr. D. Dhanush

3. Introduction of the Chief Guest of Inaugural function
Dr. Y. Sarada by Prof. D. Kumanan

4.1. Honouring Chief Guest by the Coordinator
Dr. J. Janet Sheeba

4.2. Presentation of a Memento to the Chief Guest by the Association
Secretary Mr. S. Sahaya Jeon Ronaldo

5. Inaugural Address by the Chief Guest Dr. Y. Sarada

6. Vote of Thanks in the Inaugural function by the Association
Secretary Mr. S. Sahaya Jeon Ronaldo

7. Participants in the Inaugural Function

8.1. Quiz Competition (Math Master) Prelims

8.2. Quiz Competition (Math Master) Main Rounds

9.1. Paper presentation (Math Exposia)
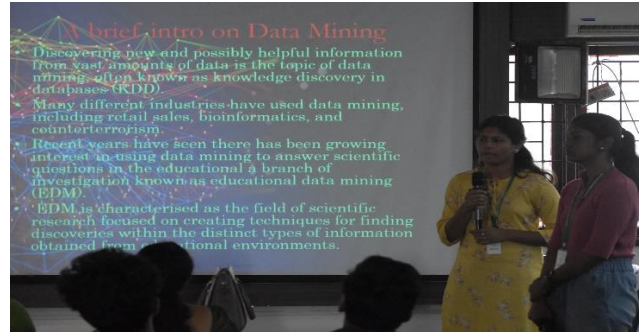
9.2. Paper presentation (Math Exposia)

10.1. Math Olympiad (Mathletics)

10.2. Math Olympiad (Mathletics)

11.1. Treasure Hunt (Mystery Quest)

11.2. Treasure Hunt (Mystery Quest)

12.1. Math Relay (Sequentia)

12.2. Math Relay (Sequentia)

13.1. Dumb Charades (Math Enact)

13.2. Dumb Charades (Math Enact)

13.3. Dumb Charades (Math Enact)

14.1. Word Master (Math Injection)

14.2. Word Master (Math Injection)

15.1. T-Shirt painting (Artgebra)

15.2. T-Shirt painting (Artgebra)

15.3. T-Shirt painting (Artgebra)

16.1. Photography (Math Click) Online
(Title-Sequences and Series)

16.2. Photography (Math Click) Online
(Title-Sequences and Series)

17. Dignitaries in the Valedictory Function

18. Welcome Address in the Valedictory Function by
Dr. T. Bharathi

19. Introduction of the Chief Guest of the Valedictory Function
Dr. M. Parthiban by Dr. S. Ruth Julie Kavitha

20.1. Honouring the Chief guest of the Valedictory function
Dr. M. Parthiban by Dr. J. Geno Kadwin

20.2. Presentation of a Memento to the Chief Guest of the
Valedictory Function Dr. M. Parthiban by
the Cultural Secretary Mr. R. Barath

21. Valedictory Address by the Chief Guest Dr. M. Parthiban

22. Feedback by the Participants

23. Participants in the Valedictory Function

24.1. Prize Distribution (Quiz) First Prize
(Madras Christian College, Shift-1)

24.2. Prize Distribution (Quiz) Second Prize
(DG Vaishnav College, Shift-1)

24.3. Prize Distribution (Quiz) Third Prize
(Madras Christian College, Shift-2)

25.1. Prize Distribution (Paper presentation) First Prize
(MOP Vaishnav College, Shift-1)

25.2. Prize Distribution (Paper presentation) Second Prize
(Madras Christian College, Shift-1)

25.3. Prize Distribution (Paper presentation) Third Prize
(DG Vaishnav College, Shift-2)

26.1. Prize Distribution (Olympiad) First Prize
(DG Vaishnav College, Shift-1)

26.2. Prize Distribution (Olympiad) Second Prize
(SDNB College, Shift-1)

26.3. Prize Distribution (Olympiad) Third Prize
(Quaid-E Millath College for Women, Shift-1)

27.1. Prize Distribution (Treasure Hunt) First Prize
(Ethiraj College for Women, Shift-2)

27.2. Prize Distribution (Treasure Hunt) Second Prize
(Ethiraj College for Women, Shift-1)

27.3. Prize Distribution (Treasure Hunt) Third Prize
(Quaid-E Millath College for Women, Shift-1)

28.1. Prize Distribution (Math Relay) First Prize
(Ethiraj College for Women, Shift-2)

28.2. Prize Distribution (Math Relay) Second Prize
(Madras Christian College, Shift-1)

28.3. Prize Distribution (Math Relay) Third Prize
(Ethiraj College for Women, Shift-1)

29.1. Prize Distribution (Dum Charades) First Prize
(Madras Christian College, Shift-1)

29.2. Prize Distribution (Dum Charades) Second Prize
(Ethiraj College for Women, Shift-1)

29.3. Prize Distribution (Dum Charades) Third Prize
(Madras Christian College, Shift-2)

30.1. Prize Distribution (Math Injection) First Prize
(Madras Christian College, Shift-1)

30.2. Prize Distribution (Math Injection) Second Prize
(Women's Christian College, Shift-1)

30.3. Prize Distribution (Math Injection) Third Prize
(Ethiraj College for Women, Shift-2)

31.1. Prize Distribution (Painting) First Prize
(SDNB College, Shift-2)

31.2. Prize Distribution (Painting) Second Prize
(MOP Vaishnav College, Shift-1)

31.3. Prize Distribution (Painting) Third Prize
(Ethiraj College for Women, Shift-1)

32. Prize Distribution (Photography) Second Prize
(Ethiraj College for Women, Shift-1)

33. Announcement of the Overall Championship by the
Coordinator Dr. J. Janet Sheeba

34. Trolling Trophy of LMA S2

35. Overall Championship
Madras Christian College (Shift-1)

36. Vote of thanks by the President Dr. S. Iruthaya Raj

37. Group Photo with Faculty Members, Office Bearers
and Volunteers

NATIONAL SYMPOSIUM ON MATHEMATICAL ANALYSIS (MATANA 2023)

(13 March 2023)

Objective

The objective of the National Symposium on Mathematical Analysis (MATANA 2023) was to impart the knowledge of mathematical analysis and its applications to the students, researchers and faculty members in the stream of mathematical sciences.

About MATANA 2020 & 2021

With the guidance, moral and financial support of the principal, and the management of Loyola College and under the leadership of Dr. S. Athisayanathan, coordinator of the department (2018-2021), Department of mathematics organized an Online Workshop on Mathematical Analysis in the name MANATA 2020 from 8th to 13th June 2020 in the academic year 2020-2021. Five eminent resource persons in the field of mathematical analysis were invited to share their knowledge with the participants and 26 video lectures were published on You Tube. Around 2000 academicians participated in the workshop, and they were given exercise problems through Google classroom every day after the technical sessions were over. The participation e-certificates were sent to the active participants. The participants gave feedback on the workshop and some of them wished to organize the workshop for every year. Assistant professors Dr. S. Iruthaya Raj and Dr. J. Geno Kadwin of the department of mathematics convened the workshop.

Motivated by the positive feedback given by the participants of MATANA 2020, and with the financial and moral support of the Principal and the management of Loyola College and under the guidance of the coordinator of the department Dr. J. Janet Sheeba, the department of mathematics (Shift-II) separately organized an online workshop on Mathematical Analysis (MATANA 2021) from 13th to 18th September 2021 in the academic year 2021-2022 to share the knowledge of analysis with the students, researchers and faculty members of mathematics stream and to train them in qualifying examinations like GATE, IIT JAM and CSIR-NET. Five eminent resource persons from reputed institutions were invited to impart their knowledge. 16 technical sessions were conducted through Cisco Webex platform and around 200 people participated in the workshop. Every day, after the technical sessions got over, problems were given to the participants through Google classroom, and they submitted the solutions. Active participants were given participation e-certificates. Dr. S. Iruthaya Raj and Dr. J. Geno Kadwin were the conveners of the workshop.

About MATANA 2023

In continuation with the online workshops on MATANA 2020 and MATANA 2021, the department of mathematics (Shift-II) organized a National Symposium on Mathematical Analysis (MATANA 2023) for the academic year 2022-2023, physically for the graduate students, young

researchers, and faculty members with the financial and moral supports of the Principal Rev. Dr. A. Thomas and the management of Loyola College, Chennai.

Resource persons

The following eminent resource persons from reputed institutions were invited to deliver talks in the symposium.

Dr. C. Ganesa Moorthy
Professor (Formerly), Department of Mathematics
Alagappa University, Karaikudi, Tamil Nadu

Dr. Ramesh Venkadachalam Palani
Assistant Professor, Department of Mathematics
Central University of Tamil Nadu, Thiruvarur, Tamil Nadu

Dr. P. Aprameyan
Assistant Professor, Department of Mathematics
IIT Madras, Chennai, Tamil Nadu

Participants

102 participants from various institutions in and around Chennai registered and participated in the National Symposium on MATANA 2023.

Inauguration

* Dr. J. Janet Sheeba, the coordinator of the department delivered the welcome address.
* To symbolize knowledge bestowing, a lamp was lit by the dignitaries on the dais.
* Dr. S. Iruthaya Raj, Convener of the Symposium briefed the history of MATANA to the audience.
* Rev. Dr. Boniface Jeyaraj, the Secretary and Correspondent of Loyola College, Chennai felicitated the gathering.
* The inaugural function of the symposium MATANA 2023 was presided over by Dr. T. Pathinathan, Principal, Loyola College, Vettavalam, Thiruvannamali and in his inaugural address he listed out various situations in the Mahabharatha and the Bible where mathematical techniques have been used by various characters of the holy books. He also listed out the genealogy of the department of mathematics of Loyola College, Chennai.
* Dr. J. Geno Kadwin, Convener of the Symposium proposed the vote of thanks.

Keynote address

A keynote address on the topic "*Dimensions*" was delivered by Dr. D. Antony Xavier, Head of the Department of Mathematics and in his address, he introduced various dimensions characterized in mathematics.

Technical sessions

* Three technical sessions on mathematical analysis were arranged during the symposium.
* The first talk was delivered by Dr. C. Ganesa Moorthy of Alagappa University. His talk was on "*Conductivity of nanoparticles from Brouwer's fixed point theorem*" and in his session he explained the Brouwer's fixed point theorem with proof and how the theorem is used in conductivity of nanoparticles.

- The second talk was on "***Reisz representation theorem and its application***" which was delivered by Dr. Ramesh Venkadachalam Palani of Central University of Tamil Nadu. He explained Reisz representation theorem and gave one of its applications.
- The third talk on "***Eigenfunctions, quantum resonances and scattering poles***" was delivered by Dr. P. Aprameyan of IIT Madras, Chennai. He explained some essential concepts initially to get into the topic, and the main topic of his talk was a collective application of analysis.

Valediction
- The valedictory function of the workshop on MATANA 2023 was held in the evening.
- Dr. T. Rajaretnam, Head of the department of Data Science, Loyola College was the chief guest of the function.
- Dr. J. A. Charles, the Deputy Principal felicitated the gathering and, in his speech, he pointed out the importance of mathematics in science and engineering.
- In the valedictory address, Dr. Rajaretnam highlighted the importance of learning mathematics and said that learning mathematics will transform a man into a man of morality.
- Participants were given participation certificates from the members of the dais.
- Finally, Dr. S. Iruthaya Raj, Convener of the symposium proposed vote of thanks.

Feedback
Feedback was received from the participants. Many of them have given concrete feedback which motivated us to organize more programmes in the field of mathematical analysis for the benefit of active mathematicians in the coming years also.

Programme outcome
The participants will gain knowledge in the field of mathematical analysis, and they will come to know the trends in mathematical analysis and its applications in various fields of science, engineering, and technology.

Photo Gallery

Registration Desk

Dr. T. Bharathi - MC

Welcome address by the Coordinator Dr. J. Janet Sheeba

Lamp lighting by the Chief guest Dr. T. Pathinathan

Lamp lighting by the Secretary Rev. Dr. Boniface Jeyaraj SJ

Lamp lighting by the Head of the Department
Dr. D. Antony Xavier

Lamp lighting by the Conveners
Dr. S. Iruthaya Raj & Dr. J. Geno Kadwin

History of MATANA by the Convener Dr. S. Iruthaya Raj

Felicitation by the Secretary Rev. Dr. Boniface Jeyaraj SJ

Honouring the Chief guest Dr. T. Pathinathan
by the Secretary

Presentation of memento to the Chief guest by
Dr. D. Antony Xavier, Head of the Department

Inaugural address by the Chief guest Dr. T. Pathinathan

Participants of the Symposium

Participants of the Symposium

Vote of thanks by the Convener Dr. J. Geno Kadwin

Group Photo with Faculty members

Honouring the Keynote speaker Dr. D. Antony Xavier by
Dr. C. Ganesa Moorthy

Keynote Address by Head of the Department
Dr. D. Antony Xavier

Honouring the Resource person Dr. C. Ganesa Moorthy by
the Coordinator Dr. J. Janet Sheeba

Session-1 by Dr. C. Ganesa Moorthy
(Conductivity of nanoparticles from
Brouwer's fixed point theorem)

Honouring the Resource person
Dr. Ramesh Venkadachalam Palani
by Dr. C. Ganesa Moorthy

Session-2 by Dr. Ramesh Venkadachalam Palani
(Riesz representation theorem and its application)

Participants of the Symposium

Honouring the Resource person
Dr. P. Aprameyan by Dr. S. Maria Jesu Raja

Session-3 by Dr. P. Aprameyan
(Eigenfunctions, quantum resonances and scattering poles)

Dignitaries of the Valedictory function

Felicitation by the Deputy Principal Dr. J. A. Charles

Honouring of the Chief guest Dr. T. Rajaretnam by the Deputy Principal

Valedictory address by the Chief guest
Dr. T. Rajaretnam, Head, Dept. of Data Science

Feedback by the participants

Certificate distribution to a participant by
the Deputy Principal Dr. J. A. Charles

Certificate distribution to a participant by
the Deputy Principal Dr. J. A. Charles

Certificate distribution to a participant by
the Chief guest Dr. T. Rajaretnam

Certificate distribution to a participant by
the Chief guest Dr. T. Rajaretnam

Certificate distribution to a participant by
the resource person Dr. P. Aprameyan

Certificate distribution to a participant by
the resource person Dr. P. Aprameyan

Vote of thanks by the Convener Dr. S. Iruthaya Raj

Group photo with Faculty members

Organizing committee

Rev. Dr. P. Francis Xavier, SJ	Rector
Rev. Dr. Boniface Jeyaraj, SJ	Secretary and Correspondent
Rev. Dr. A. Thomas, SJ	Principal
Dr. J. A. Charles	Deputy Principal
Dr. D. Antony Xavier	Head of the Department
Dr. J. Janet Sheeba	Coordinator of the Department
Dr. S. Iruthaya Raj	Convener
Dr. J. Geno Kadwin	Convener

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-600034
DEPARTMENT OF MATHEMATICS (SHIFT-II)
organizes
National Symposium on Mathematical Analysis

MATANA 2023

MATANA 2023
13 March 2023
YD Hall, Loyola College

Invited speakers

Dr. C. Ganesa Moorthy
Professor (Emeritus)
Department of Mathematics
Alagappa University, Karaikudi, Tamil Nadu

Dr. Anoop T V
Associate Professor
Department of Mathematics
Indian Institute of Technology Madras, Chennai

Dr. Ramesh Venkadachalam Palani
Assistant Professor
Department of Mathematics
Central University of Tamil Nadu, Thiruvarur

Dr. P. Aprameyan
Assistant Professor
Department of Mathematics
Indian Institute of Technology Madras, Chennai

ABOUT MATANA 2023

Mathematical Analysis is one of the major subjects in Mathematics out of which most of the applications are being produced. By understanding this, the department of Mathematics organized Online Workshops on Mathematical Analysis in the years 2020 and 2021 and more than 2000 participants benefited out of them. In continuation, this year the department organizes a one day National Symposium on Mathematical Analysis (MATANA 2023) to impart the knowledge of Mathematical Analysis to the teachers, research scholars and graduate students. It is expected that the topics to be covered in the symposium by the eminent resource persons will ignite the spirit of learning and doing research in Mathematical Analysis.

REGISTRATION FEE

Faculty	₹ 200
Research Scholars	₹ 200
Students	₹ 200

REGISTRATION LINK

https://erp.loyolacollege.edu/loyolaonline/conference
The last date to register: **10 March 2023**

CONTACT

+91 9952229890 / +91 9894131838
matana@loyolacollege.edu

https://sites.google.com/loyolacollege.edu/matana2023

ORGANIZING COMMITTEE

Steering Committee
Rev. Dr. Francis P Xavier SJ, Rector
Rev. Dr. B. Jeyaraj SJ, Secretary & Correspondent
Rev. Dr. A. Thomas SJ, Principal
Dr. J. A. Charles, Deputy Principal
Dr. D. Antony Xavier, Head, Dept. of Mathematics
Dr. J. Janet Sheeba, Coordinator, Dept. of Mathematics

Conveners
Dr. S. Iruthaya Raj, Assistant Professor
Dr. J. Geno Kadwin, Assistant Professor

Advisory Committee
Rev. Dr. Samuel Jeyaseelan SJ,
Principal, Loyola College, Mettala, Tamil Nadu
Dr. S. Athisayanathan,
Controller of Examinations, St. Xavier's College, Palayamkottai
Dr. M. Marudai,
Professor (Emeritus), Bharathidasan University, Trichy
Dr. T. Pathinathan,
Principal, Loyola College, Vettavalam, Tamil Nadu
Dr. R. Lawrence Joseph Manoharan
Former Head, Dept. of Mathematics, St. Joseph's College, Trichy
Dr. T. Rajaretnam
Head, Dept. of Data Science, Loyola College, Chennai

Faculty Members
Dr. T. Bharathi, Assistant Professor
Mr. F. R. Emmanuel, Assistant Professor
Mr. A. Christopher, Assistant Professor
Mr. D. Kumanan, Assistant Professor
Dr. S. Ruth Julie Kavitha, Assistant Professor
Dr. S. Maria Jesu Raja, Assistant Professor

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-600034
DEPARTMENT OF MATHEMATICS (SHIFT-II)
National Symposium on Mathematical Analysis
(13 March 2023)

MATANA 2023

PROGRAMME SCHEDULE

Registration   -   08.30 am – 09.00 am

Inauguration   -   09.00 am – 09.45 am

Keynote address   -   09.45 am – 10.30 am
                             Dr. D. Antony Xavier
                             Head, Department of Mathematics
                             Loyola College, Chennai

Coffee break   -   10.30 am – 11.15 am

Session-1   -   11.15 am – 12.15 pm
                             Dr. C. Ganesa Moorthy
                             Professor (Emeritus)
                             Alagappa University, Karaikudi

 Lunch break   -   12.15 pm – 01.45 pm

Session-2   -   01.45 pm – 02.45 pm
                             Dr. Ramesh Venkadachalam Palani, Associate Professor
                             Central University of Tamil Nadu, Thiruvarur

Session-3   -   02.45 pm – 03.45 pm
                             Dr. P. Aprameyan, Assistant Professor
                             IIT Madras, Chennai

Valediction   -   03.45 pm – 04.30 pm

DEPARTMENT OF MATHEMATICS (SHIFT-II)
LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-600034

We cordially invite you to the Inaugural function of

National Symposium on Mathematical Analysis
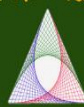
MATANA 2023

Chief Guest

Dr. T. Pathinathan
Principal
Loyola College, Vettavalam
Thiruvannamalai District, Tamil Nadu

Felicitation

Rev. Dr. B. Jeyaraj, SJ
Secretary and Correspondent
Loyola College, Chennai

Monday :::: 13 March 2023 :::: 9 am :::: YD Hall

Dr. S. Iruthaya Raj & Dr. J. Geno Kadwin
Conveners

Dr. J. Janet Sheeba
Coordinator

Programme Schedule

(09.00 am - 09.45 am)

Tamil Thaai Vaazhthu & Prayer song	- Department Choir
Welcome address	- Dr. J. Janet Sheeba, Coordinator
Lighting the lamp	- Dignitaries
About MATANA	- Dr. S. Iruthaya Raj, Convener
Felicitation	- Rev. Dr. B. Jeyaraj SJ, Secretary
Introducing the chief guest	- Mr. F. R. Emmanuel, Assistant Professor
Inaugural address	- **Dr. T. Pathinathan** Principal, Loyola College, Vettavalam
Vote of thanks	- Dr. J. Geno Kadwin, Convener

Keynote Address

Dr. D. Antony Xavier
Head
Department of Mathematics
Loyola College, Chennai

Topic: **Dimensions**

DEPARTMENT OF MATHEMATICS (SHIFT-II)
LOYOLA COLLEGE (AUTONOMOUS), CHENNAI-600034

We cordially invite you to the Valedictory function of

National Symposium on Mathematical Analysis

MATANA 2023

Chief Guest

Dr. T. Rajaretnam
Head
Department of Data Science
Loyola College, Chennai

Felicitation

Dr. J. A. Charles
Deputy Principal
Loyola College, Chennai

::::::::: ::::::::: ::::::::: ::::::::: ::::::::: :::::::::

Monday ::: 13 March 2023 ::: 3.45 pm
YD Hall, Loyola College, Chennai

::::::::: ::::::::: ::::::::: ::::::::: ::::::::: :::::::::

Dr. S. Iruthaya Raj & Dr. J. Geno Kadwin
Conveners

Dr. J. Janet Sheeba
Coordinator

Programme Schedule
(03.45 pm - 04.30 pm)

Prayer song	- Department Choir
Welcome address	- Dr. J. Janet Sheeba, Coordinator
Summary of MATANA 2023	- Dr. J. Geno Kadwin, Convener
Felicitation	- Dr. J. A. Charles, Deputy Principal
Introducing the chief guest	- Dr. S. Maria Jesu Raja, Assistant Professor
Valedictory address	- **Dr. T. Rajaretnam** Head, Department of Date Science Loyola College, Chennai
Vote of thanks	- Dr. S. Iruthaya Raj, Convener

INTERNATIONAL CONFERENCE ON RECENT TRENDS IN APPLIED MATHEMATICS (ICRTAM 2023)

24 & 25 February 2023

Objective

To provide a putative platform for young research scholars to present their innovative ideas and exchange their expertise in the field of Applied Mathematics. The conference also aims to provide a space for creating collaborative links between researchers and eminent mathematicians across the world.

SUMMARY

The mode of the conference was hybrid; online mode through G-Meet link and offline mode at Lawrence Sundaram (LS) Hall, MRF Hall and Centennial Physics Ph.D. Hall.

Inaugural ceremony

The International Conference on Recent Trends in Applied Mathematics 2023 commenced with the inaugural ceremony on 24th February in LS Hall at 9.00 A.M. The welcome address and theme of the conference was delivered by Dr. D. Antony Xavier, Convenor, ICRTAM 2023 after a brief prayer session. Rev. Dr. B. Jeyaraj, S.J., Secretary & Correspondent of Loyola College and Dr. J. A. Charles, Deputy Principal, Loyola College graced the inauguration ceremony with their presence. The chief guest for the inaugural ceremony was Dr. T. Pathinathan, Principal, Loyola College, Vettavalam. The chief guest was felicitated with a memento and a shawl by the Convenor, ICRTAM 2023, after which the inaugural address was delivered by him wherein, he emphasized the need for innovative and research-oriented minds aimed at providing and solving solutions of current global problems through academic knowledge. Finally, the vote of thanks was proposed by Ms. T. Shiba Neenu, Assistant Professor, Department of Mathematics which came to an end by 9.30 A.M. The keynote address was then delivered by Prof. Xueliang Li, Centre of Combinatorics, Nankai University, Tianjin, China on the title "Extremal Problems for Graphical Function-Indices and Function-Weighted Adjacency Matrices".

Day-1 (24/02/2023)

Invited Talk – 1 (Venue: LS Hall)

The first invited talk began at 11.00 A.M. Dr. T. Karthick, Computer Science Unit, Indian Statistical Institute Chennai, India lectured on the title "Recent Results on Vertex Coloring of Graphs". He gave a brief insight into the strong perfect graph theorem and arbitrary, restricted and free classes of graphs.

Invited Talk – 2 (Venue: LS Hall)

The second invited talk started at 12.00 Noon. Prof. A. K. Bedabrata Chand, Department of Mathematics, Indian Institute of Technology, Chennai, India spoke on the title "Shape Preserving Aspects of Graph Directed Fractal Functions". The speaker briefed about the Koch Snowflake Curve, Peano Curve, Euclidean geometry, Iterated Function System (IFS), Fractal Interpolation Function (FIF) and deterministic fractals.

Invited Talk – 3 (Venue: LS Hall)

The third invited talk through Google meet began at 2.00 P.M. after lunch. Dr. Mathew Thorpe, Department of Applied Mathematics, The University of Manchester, United Kingdom spoke on the title "Linearized Optimal Transport Distances", wherein he explained the principal component analysis on linear embedding and optimal transport with Benamou-Brenier formulation.

Paper presentation session

After a series of invited talks, the researchers presented their papers on various spectra of applied mathematics from 3.00 P.M to 4.00 P.M. First day of the conference witnessed around 100 presenters who presented their novel ideas in the field of contemporary applied mathematics and provided a platform for knowledge dissemination.

Day-2 (25/02/2023)

Invited Talk – 4 (Venue: MRF Hall)

The second day of the conference started with the fourth invited talk through Google meet by Prof. Yang Kuang, School of Mathematical and Statistical Sciences, Arizona State University, Tempe, USA on 25th February at 9.00 A.M. The talk was on the title "Rich and Realistic Dynamics of Resource Quality-based Population Models". He discussed ecological stoichiometry, growth rate hypothesis and aquatron dynamics.

Invited Talk – 5 (Venue: MRF Hall)

The fifth invited talk started through Google meet at 10.00 A.M. Dr. Vidyottama Jain, Department of Mathematics, Central University of Rajasthan, India, lectured on the title "Semi-Markov Modeling for Power Efficiency of NB-IoT Devices in 5G Networks". She briefed about fuzzy optimization, effective connection measures and numerical illustrations and its inferences.

Invited Talk – 6 (Venue: MRF Hall)

The sixth invited talk was given through Google meet by Dr. Nachiketa Mishra, Department of Mathematics, IITDM, Kancheepuram, India on the title "Epidemic Models on a Graph Network". Also, Dr. A. Felix, Department of Mathematics, Vellore Institute of Technology, Chennai, India discoursed on the title "Fuzzy Inference System and its Applications in Medical Diagnosis" at 11.15 A.M in Centennial Physics Ph.D. Hall. The invited talks given by various academicians across the world were of high indispensability and benefited all the participants.

Paper presentation session

After the collection of intensive talks by various distinguished mathematicians, the young research scholars presented their findings which are relevant to the global need of mathematical research. Over 50 researchers presented their papers on the second day. On the whole, the conference garnered over 150 presenters and 200 participants.

Valedictory function

After the paper presentation, the valedictory ceremony began at 2.00 P.M in MRF Hall. The Welcome Address was delivered by Dr. D. Florence Isido, Organizing Secretary, ICRTAM 2023 after the prayer song. The Chief Guest for the valedictory ceremony was Dr. T. Edwin Prabakaran, Head, Department of Statistics, Loyola College. The Chief Guest was felicitated with a memento and a shawl by the Convenor, ICRTAM 2023, after which the valedictory address was delivered which highlighted the '8+8+8 Rule' of healthy being. After the valedictory address, there was a brief feedback session wherein all the participants gave their valuable feedback on the conduct of the conference. Finally, the vote of thanks was proposed by Dr. D. Antony Xavier, Convenor, ICRTAM 2023 and the conference was concluded in a fruitful manner.

Overall, the International Conference on Recent Trends in Applied Mathematics 2023 fulfilled the knowledge quest of the participated research scholars and faculty members through the series of rigorous invited talks and lectures. Also, the conference bridged various problems with creative solutions and findings and served as a platform for healthy progressive discussions.

Core committees and members

Organizing committee	:	Dr. D. Florence Isido
		Prof. D. Kumanan
Scientific committee	:	Dr. M. Arockiaraj
		Dr. T. Bharathi
		Dr. S. Roseline Mary
Finance committee	:	Prof. T. Shiba Neenu
		Prof. J. Maria Roy Felix
Programme committee	:	Dr. S. Little Joice
		Dr. S. Ruth Julie Kavitha
Registration and certificate committee	:	Dr. M. Peter
		Prof. J. Maria Roy Felix
		Dr. J. Janet Sheeba
Venue arrangement committee	:	Dr. M. Chris Monica
		Dr. S. Iruthaya Raj
Technical committee	:	Dr. J. Geno Kadwin
		Dr. D. Francis Xavier

Public relations and Accommodation

          committee   :   Dr. Charles Robert Kenneth

                                              Prof. F. R. Emmanuel

Food and material committee   :   Dr. Y. Kins

                                              Prof. A. Christopher

INTERNATIONAL CONFERENCE ON RECENT TRENDS IN APPLIED MATHEMATICS (ICRTAM 2023)

Organized by
DEPARTMENT OF MATHEMATICS
LOYOLA COLLEGE
CHENNAI, TAMIL NADU, INDIA

FEBRURARY 24-25, 2023
(HYBRID MODE)

+91 9962083779
icrtam2023@loyolacollege.edu
https://sites.google.com/loyolacollege.edu/icrtam

ABOUT THE COLLEGE

Loyola College, Chennai was established in the year 1925 with 75 undergraduate students of Mathematics, History and Economics. Loyola College was given autonomy in 1978 and was honored with "College with Potential for Excellence" in 2010 and "College of Excellence" from 2014 onwards. Loyola was ranked 4th among Arts and Science Colleges in India by National Institute Ranking Framework (NIRF) in the year 2022, and has been accredited with a CGPA of 3.55 on four point scale at A++ grade by NAAC in 2021. Around 9500 students are studying in 19 postgraduate and 24 undergraduate departments, and Research is carried out in 12 departments. Loyola provides quality education, incredible compendium of academic programmes, innovative methodologies and intensive research to the students.

ABOUT THE DEPARTMENT

The Department of mathematics was established in the year 1925 with a B.A. program in Mathematics. The Honors course in Mathematics was integrated in 1927 and the first batch of students appeared for the B.A. Honors degree in 1930. The department was recognized as a research department in 1984. The Racine Research Centre was established in the department in 1991 on the occasion of the birth centenary of Rev. Fr. Charles Racine D.Sc., who was one of the great influences in the development of modern mathematics in India. The mathematicians M. S. Narasimman FRS and C.S. Seshadri FRS, founder and director emeritus of the Chennai Mathematical Institute are the alumni of the department who are known for the famous Narasimman–Seshadri theorem. The research areas of the department include

- Graph Theory
- Fuzzy Logic
- Functional Analysis
- Astronomy
- Formal Languages and Automata Theory

ABOUT THE CONFERENCE

The Department of Mathematics, Loyola College, Chennai hosts the "International Conference on Recent Trends in Applied Mathematics" (ICRTAM 2023) on 24th and 25th February 2023, in the succession of ICRTAM 2022 held during march 2022 after which around 75 research articles published in the journals 'Advances and Applications in Mathematical sciences' and 'South East Asian Journal of Mathematics and Mathematical sciences'.

The objective of this conference is to provide an academic platform for young researchers to present their new research findings and exchange their expertise and techniques in the field of Applied Mathematics. The conference focuses on problems and solutions which are relevant to the global need of mathematical research and to sense the requirement of mathematical approaches in their respective fields by exchanging ideas through interactions and fruitful discussions.

The "International Conference on Recent Trends in Applied Mathematics" (ICRTAM 2023) aims to bring together both novice and experienced researchers in various fields of Applied Mathematics to meet and establish a vibrant network among research groups. The conference includes a keynote address and invited talks by eminent Mathematicians around the world and paper presentations by researchers.

Steering Committee

Patron
Rev. Dr. Francis P. Xavier, S. J.
Rector, Loyola College, Chennai

Chairs

Rev. Dr. B. Jeyaraj, S. J.
Secretary & Correspondent
Loyola College, Chennai

Rev. Dr. A. Thomas, S. J.
Principal
Loyola College, Chennai

Convenor
Dr. D. Antony Xavier
Head, Department of Mathematics,
Loyola College, Chennai

Co-Convenor
Dr. M. A. Basker
Department of Mathematics
Loyola College, Chennai

CALL FOR PAPERS

Authors are invited to submit the original and unpublished research articles in the following areas, but not limited to :

. Graph theory and Combinatorics
. Fuzzy Logic and Analysis
. Communication Networks
. Automata Theory
. Functional analysis
. Control Theory

. Computational Mathematics
. Neural Networks
. Probabilistic and Randomized Algorithm
. Complexity Theory
. Differential Equations
. Theoretical Computer Science

Invited Speakers

Prof. Yang Kuang
School of Mathematical and Statistical Sciences
Arizona State University, Tempe, USA

Prof. Xueliang Li
Center of Combinatorics
Nankai University, Tianjin, China

Prof. Kinkar Chandra Das
Department of Mathematics,
Sungkyunkwan University, Republic of Korea

Dr. Matthew Thorpe
Department of Applied Mathematics
The University of Manchester, UK

Prof. A. K. Bedabrata Chand
Department of Mathematics
IIT Madras, Chennai, India

Prof. D. Arivudainambi
Department of Mathematics
Anna University, Chennai, India

Dr. K. Viayakumar
Department of Mathematics
IITDM, Kancheepuram, India

Dr. Vidyottama Jain
Department of Mathematics
Central University of Rajasthan, India

Advisory Committee

Adjunct Prof. Indra Rajasingh
Mathematics
Saveetha School of Engineering, Chennai, India

Prof. Jia-BaoLiu
School of Mathematics and Physics,
Anhui Jianzhu University, China

Dr. Zahid Raza
Department of Mathematics, College of Sciences
University of Sharjah, UAE

Dr. K. Sankar
Department of Mathematics,
Anna University, Chennai, India

Dr. K. Kaliraj
Ramanujan Institute for Advanced Study in Mathematics
University of Madras, Chennai

Journal Publication

All the accepted papers of the conference will be published in the UGC CARE – Web of Science/SCOPUS journals as per the standing procedure of the journals.

Abstract and Paper Format

The abstract should be between 100-200 words with complete author details and marked (*) for the corresponding author. The authors can use their own format for the full paper, and after acceptance of the paper, the formatting should be done according to the journal.

Authors have to send the abstract and the full paper to icrtam2023@loyolacollege.edu

Important Dates

Last date for submitting abstract – January 15, 2023
Notification of acceptance for
oral presentation – January 20, 2023
Last date for registration – January 25, 2023
Last date for submitting full paper – January 30, 2023
Notification of acceptance for
publication – March 10, 2023

Registration Fee and Link

Faculty : Rs. 1500 /–
Research Scholars : Rs. 1000 /–
(both online and offline)
Registration link
https://erp.loyolacollege.edu/loyolaonline/conference/loginManager/youLogin.jsp
Weblink
https://sites.google.com/loyolacollege.edu/icrtam

Committee Members

Organising Committee
Dr. D. Florence Isido
Mr. D. Kumanan

Scientific Committee
Dr. M. Arockiaraj
Dr. T. Bharathi
Dr. S. Roseline Mary

Public Relation & Accomodation Committee
Dr. Charles Robert Kenneth
Mr. F. R. Emmanuel

Registration & Certificate Committee
Dr. M. Peter
Mr. J. Maria Roy Felix
Dr. J. Janet Sheeba

Program Committee
Dr. S. Little Joice
Dr. S. Ruth Julie Kavitha

Finance Committee
Mrs. T. Shiba Neenu
Mr. J. Maria Roy Felix

Technical Committee
Dr. J. Geno Kadwin
Dr. D. Francis Xavier

Food & Material Committee
Dr. Y. Kins
Mr. A. Christopher

Venue Arrangement Committee
Dr. M. Chris Monica
Dr. S. Iruthaya Raj

ASTRONOMY FIELD VISIT

|		
Date	:	23-03-2023
Time	:	11.00 am - 1.30 pm
Place	:	Birla Planetarium, Chennai
Staff-in-charge	:	Dr. S. Ruth Julie Kavitha

REPORT

Objective

To kindle the curiosity among the students for Astronomy.

Summary

An astronomy field visit was planned for the 2nd year students who opted for the course "Astronomy" as their major elective course. The first show was a planetarium show, in which every planet in our solar system was digitally projected onto a dome-shaped screen using a projector. With the aid of excellent graphics, every planet's temperature, atmospheric makeup, and moon was explained. This exhibition provided a good visual representation of many of the constellations included in the curriculum, which would have improved the understanding of the students. The pupils were extremely captivated by the crisp explanations and amazing pictures that the star field projector produced. After that, all the students were instructed to visit the DRDO museum, which featured models of numerous Indian tanks, weapons, missiles, and planes. The Mathematical Museum was next, with a ton of interesting information and problems. The pupils were then escorted to the second show, which focused on the value of water, and the third show, a 3D presentation about dinosaurs. The pupils were then instructed to arrive at the college by 1:30 p.m.

Image gallery

Dr. Ruth Julie Kavitha with the students
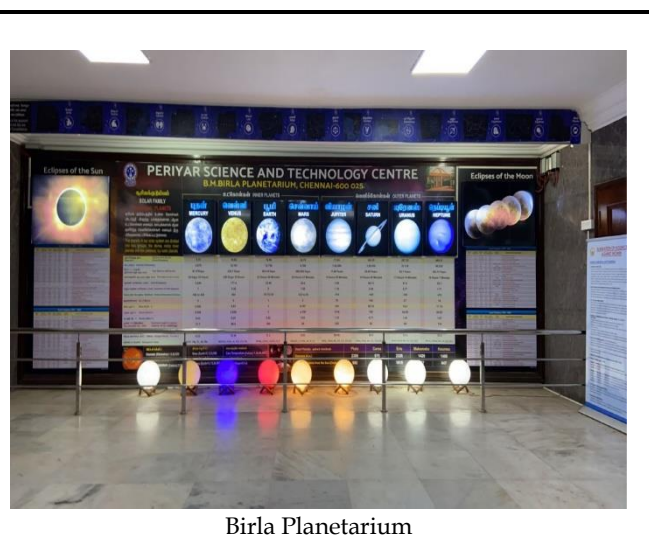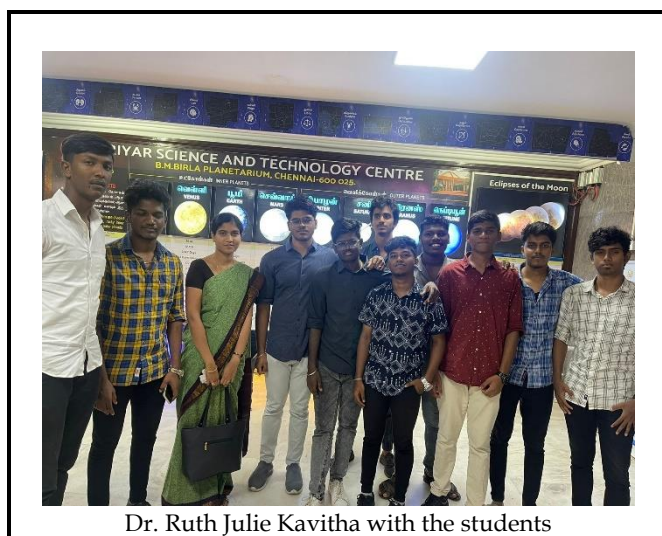
Birla Planetarium

Observation of astronomical events in the planetarium	Group photo

Programme outcome

Students will be motivated to participate in forthcoming Astronomical events and will learn about it well.

EDUCATIONAL TRIP

Date	:	19 & 20 October 2022
Participants	:	3rd year students (2020 Batch)
Place of visit	:	Ooty, Tamil Nadu
Staffs-in-charge	:	Dr. T. Bharathi, Prof. D. Kumanan & Dr. J. Geno Kadwin

REPORT

Objective

To enhance the classroom learning and to provide students various opportunities to visualize and understand certain concepts in mathematics.

Summary

Day-1 (19/10/2022)

* The students left Chennai on October 18 and travelled by train to Mettupalayam and arrived there on October 19.
* Students and staff had breakfast after arriving at their reserved Ooty cottages and being refreshed.
* Shortly afterward, the group made their way to Doddabetta mountain, the highest mountain in the Western Ghats, to be their first tour destination.
* Benchmark Chocolate and Tea Factory was the second tour destination. There they came to know the steps involved in producing tea and chocolate.
* After leaving the Benchmark plant, students and the faculty members resumed their excursion to the third location, Pykara Lake, after lunch.
* The students enjoyed their time boating in Ooty's mild weather. The group's destination of the day was a stunning location for photography in Ooty, which they explored in the evening.
* After dinner and a visit to the last location of the first day, the pupils were prepared for the most anticipated portion of the tour: the campfire.

Day-2 (20/10/2022)

* On the second day, the first spot of visit was a pleasant to eyes location, the Karnataka Garden after an energizing breakfast.
* The second spot was Ooty lake.
* The Third spot was a location in Coonoor, The Sim's Park, a botanical garden.
* And the final spot of our entire tour was a huge Tea Estate with their own tea factory. The staff at the Estate accompanied the group and led them to know about the benefits of all varieties of tea.
* Students directly visualized the making of Eucalyptus oil, step by step.

Having visited all the spots decided based on *application of graph theory*, the tour wrapped up its camp from Ooty and headed back to Chennai again on a train journey from Coimbatore.

The group reached Chennai on the dawn of 21st October 2022. A total number of 55 students participated in the educational tour to Ooty.

Programme outcome

Pupils will understand the applications of theoretical mathematics in businesses and other tourist destinations. They will gain knowledge of other mathematical applications in other fields. Participating in a group activity such as this instructive excursion will help students learn how to effectively manage their lives.

Image gallery

Factory for making chocolates

Tea estate and preparation of Eucalyptus oil at Coonoor

Group phots of Faculty members and students

PARTICIPATION IN INTERCOLLEGIATE MATHEMATICS COMPETITIONS IN NEIGHBOURING COLLEGES

Students from our department actively participated in some Intercollegiate mathematics Competitions held in the neighbouring colleges, and in some events, they won prizes also.

''NUMERA'22'' in Ethiraj College for Women, Chennai on 20th September 2022

Sl. No	Event	Participants
1	TALENT SHOW	22-UMT-327 PRADEEP T
2	TREASURE HUNT	20-UMT-302 SYED SHAHID ALI S 20-UMT-330 ARCHISMAN PANDA 20-UMT-336 VIJAYA SANKAR V 20-UMT-206 NOVASHERWIN J 21-UMT-207 KISHORE KUMAR M V 21-UMT-309 KRISHNAKANTH S
3	MANDALA ART	21-UMT-224 PIRAVIN 21-UMT-314 SIDDHARTH M S
4	DATA HUNT	20-UMT-320 CHANDRASHEKAR IYER S 20-UMT-310 SOURAV KONDASSERY RAJEEV
5	QUIZ	20-UMT-209 JERIN BOSE 20-UMT-227 VIVILLIAN VASAN 20-UMT-314 SIDDHARATH
6	T-SHIRT DESIGNING	21-UMT-224 PRAVEEN
7	PAPER PRESENTATION	20-UMT-315 JAGANNATHAN 20-UMT-218 BOGA NANDHA KISHORE

Our students won prizes in the following competitions.

- **SECOND prize in "Quiz**
- **SECOND prize in "T-shirt Designing"**
- **SECOND prize in "Data Hunt"**

Numera'22 ::: Ethiraj College for Women ::: 20-9-2022

Sl. No	Event	Participants
1	MATHALON (QUIZ)	20-UMT-209 JERIN BOSE 20-UMT-227 VIVILIA VASAN V 21-UMT-315 SAHIL KUMAR JAIN
2	PLOT THE POINTS	21-UMT-309 KRISHNAKANTH S 21-UMT-224 PRAVIN B 21-UMT-207 KISHORE KUMAR M V 22-UMT-212SRI DARSHAN V
3	OUT FROM MEMORY (THEROEM TEST)	20-UMT-316 ABISHEK K
4	OLYMPIAD (WRITTEN TEST)	20-UMT-335 BARATH R
5	SHORT CREATIVE BREAK (ADZAP)	21-UMT-214 SHANE RONALDO N 21-UMT-305 PRASANNA S 21-UMT-329 SRIDHAR D 21-UMT-326 MAGESHWARAN V 21-UMT-308 PUGAZHARASAN P 22-UMT-312 ARUN KUMAR M 22-UMT-205 K STEVE JONES
6	BEATS OF PAPER (PAPER PRESENTATION)	20-UMT-320 CHANDRA SEKAR IYER
7	LUMOS (PHOTOGRAPHY)	21-UMT-207 KISHORE KUMAR M V

Our students won prizes in the following competitions.

- **FIRST prize in "Photography"**
- **SECOND prize in "Plot the points"**
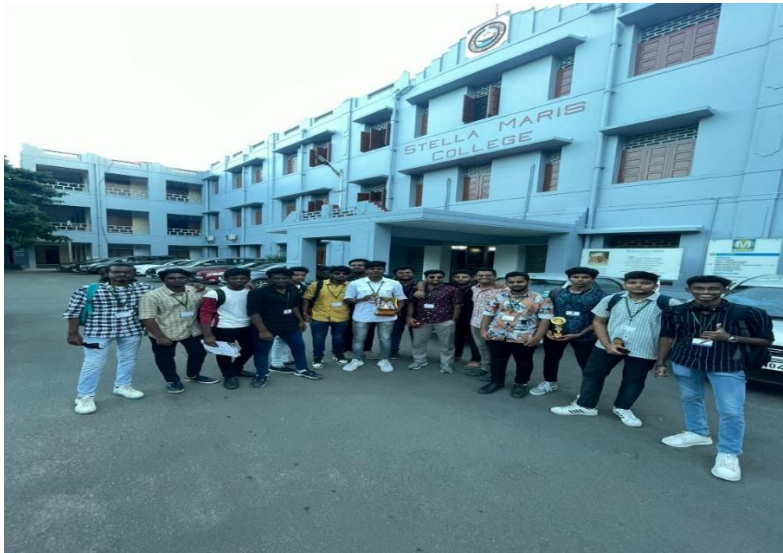- **THIRD prize in "Ad Zap"**

"MATHZOOM 2022" in Stella Maris College, Chennai on 12th October 2022

Sl. No	Event	Participants
1	MASTER MIND (QUIZ)	20-UMT-209 JERIN BOSE 20-UMT-227 VIVILIA VASAN V 21-UMT-314 M. S. SIDDHARTH
2	BRIGANTINO (CONNEXIONS, PICTIONARY)	20-UMT-310 SOURAV RAJEEV 20-UMT-320 CHANDRASHEKAR IYER 20-UMT-341 GLEN C FRANCIS
3	VINCULUM (PAPER PRESENTATION)	20-UMT-320 CHANDRASHEKAR IYER
4	ANUCIO (ADZAP)	21-UMT-308 PUGAZHARASAN P 21-UMT-214 SHANE RONALDO N 21-UMT-305 PRASANNA S 21-UMT-329 SRIDHAR D 21-UMT-326 MAGESHWARAN V 22-UMT-312 ARUN KUMAR M
5	MATH PALMISTRY (PALM PAINTING)	21-UMT-227 KIRAN GURUV 21-UMT-224 PIRAVIN B
6	AFFICHE (POSTER PRESENTATION)	21-UMT-224 PIRAVIN B 21-UMT-207 KISHORE KUMAR M V
7	WHACK 'UR' BRAINS (OLYMPIAD)	21-UMT-315 SAHIL KUMAR JAIN 21-UMT-309 KRISHNAKANTH S 20-UMT-330 ARCHISMAN PANDA 20-UMT-335 BARATH R 20-UMT-205 OM PRAKASH S
8	60 SECANT RUSH (JAM)	20-UMT-227 VIVILIA VASAN V
9	MATH MEDLEY (MATH SONG)	20-UMT-209 JERIN BOSE 20-UMT-242 SAMUEL AARON 20-UMT-218 RAGHAVAN B 20-UMT-315 JAGANNATHAN P

Our students won prizes in the following competitions.

- **FIRST prize in "Quiz"**
- **FIRST prize in "60 Second Rush"**
- **SECOND prize in "Briganito"**
- **THIRD prize in "Paper presentation"**
- **THIRD prize in "Ad Zap"**
- **THIRD prize in "Olympiad"**

The overall Rolling Trophy of MATHZOOM was won by our students

MATHZOOM 2022 ::: Stella Maris College ::: 12-10-2022

MATHZOOM 2022 Prize winners with Rolling Trophy

"MATHCIPHER" in DG Vaishnav College, Chennai on 17th and 18th February 2023

Sl. No	Event	Participants
1	QUIZ	20-UMT-227 VIVILIA VASAN 20-UMT-209 JERIN BOSE 20-UMT-222 CHAITANYA SOMANI
2	ADZAP	21-UMT-308 PUGAZHARASAN P 21-UMT-329 SRIDHAR D 21-UMT-326 MAGESHWARAN V 21-UMT-214 SHANE RONALDO 22-UMT-312 ARUN KUMAR M
3	DEBATE	20-UMT-205 OM PRAKASH 21-UMT-314 SIDDHARTH
4	SHIPWRECK	20-UMT-209 JERIN BOSE 20-UMT-205 OM PRAKASH
5	IPL AUCTION	20-UMT-218 BOGA NANDA KISHORE 20-UMT-311 SURYA TEJA 21-UMT-224 PRAVIN
6	SHERLOCK HOLMES	21-UMT-309 KRISHNAKANTH S 21-UMT-315 SAHIL KUMAR JAIN
7	PHOTOGRAPHY	21-UMT-207 KISHORE 20-UMT-301 SYED
8	DO OR DIE	20-UMT-320 CHANDRASEKHAR 20-UMT-212 ANIRBAN SEN 20-UMT-341 GLEN FRANCIS 20-UMT-310 SOU RAV KONDASSERY RAJEE

Our students won prizes in the following competitions.

- **FIRST prize in "Shipwreck"**
- **SECOND prize in "Photography"**
- **SECOND prize in "Quiz"**
- **SECOND prize in "Ad Zap"**
- **SECOND prize in "Debate"**
- **THIRD prize in "Sherlock"**

The overall Runner up in MATHCIPHER was won by our students

Sl. No	Event	Participants
1	QUIZ	20-UMT-227 VIVILIA VASAN 20-UMT-209 JERIN BOSE 20-UMT-222 CHAITANYA SOMANI 21-UMT-315 SAHIL KUMAR JAIN 21-UMT-309 KRISHNAKANTH S 21-UMT-314 SIDDHARTH
2	POSTER MAKING	21-UMT-224 PIRAVIN B
3	ADZAP	21-UMT-308 PUGAZHARASAN P 21-UMT-329 SRIDHAR D 21-UMT-305 PRASANNA S 21-UMT-214 SHANE RONALDO 22-UMT-312 ARUN KUMAR M
4	IMITATION GAME	21-UMT-315 SAHIL KUMAR JAIN 20-UMT-227 VIVILIA VASAN
5	POT POURRI	20-UMT-320 CHANDRASHEKAR IYER 20-UMT-212 ANIRBAN SEN 20-UMT-310 SOURAV RAJEEV
6	FACE PAINTING	21-UMT-326 MAGESHWARAN V 21-UMT-227 KIRAN GURUV S M
7	TREASURE HUNT	20-UMT-326 SAM THANGARAJ LAWRENCE S 20-UMT-335 BARATH R 20-UMT-223 CLARIDON KENNET B
8	IPL AUCTION	20-UMT-218 BOGA NANDA KISHORE 20-UMT-206 NOVA SHERWIN 20-UMT-311 SURYA TEJA
9	PHOTOGRAPHY	20-UMT-201 RONALDIN ARAVINDH 21-UMT-224 KISHORE KUMAR MV
10	OPEN MIC	20-UMT-215 PRAMATH SUBRAMANIAN 20-UMT-302 SYED SHAHID ALI S 22-UMT-327 T PRADEEP

Our students won prizes in the following competitions.

- **FIRST prize in "Quiz"**
- **FIRST prize in "IPL Auction"**
- **FIRST prize in "Imitation game"**
- **THIRD prize in "Treasure Hunt"**
- **THIRD prize in "Open Mic"**

The overall Rolling Trophy of ENIGMA was won by our students

ENIGMA 2023 ::: Madras Christian College ::: 28-02-2023

SPORTS AND GAMES

Our students actively participated in the following sports and games during the academic year 2022-2023.

Event	Name of the participant	
Kabadi	20-UMT-226	DHANUSH M
	21-UMT-202	ANDREW IGNATIOUS SAMUEL D
	21-UMT-217	NATHEESH SELVA K
	21-UMT-218	AJIBALA B
	21-UMT-224	PIRAVIN B
	21-UMT-229	YOGESWARAN R
	21-UMT-339	VISHWA V
	22-UMT-214	ROHITH KANNA
	22-UMT-226	NAVEEN BHARATH L
	22-UMT-228	ANBU SELVAN V
	22-UMT-231	VIJESH KUMAR ROHITH J A
	22-UMT-309	ABISHEK C
	22-UMT-315	J HARSHANTH
	22-UMT-316	RAKESH B
Football	20-UMT-206	NOVASHERWIN J
	20-UMT-226	DHANUSH M
	20-UMT-232	CHINNADURAI M
	20-UMT-307	SAM JOEL F
	22-UMT-315	J HARSHANTH
Cricket	20-UMT-206	NOVASHERWIN J
	20-UMT-307	SAM JOEL F
	20-UMT-218	BOGA NANDA KISHORE
	20-UMT-226	DHANUSH M
	20-UMT-238	PREM SAI D
	20-UMT-308	GOVINDAVASAN P
	20-UMT-314	SANJAY J
	21-UMT-207	KISHORE KUMAR M V
	21-UMT-224	PIRAVIN B
	21-UMT-310	SAIRAJ D
	21-UMT-339	VISHWA V
	22-UMT-220	MUTHUGANAPATHY S
	22-UMT-315	J HARSHANTH
	22-UMT-317	ASHOK A
	22-UMT-325	VINOTH N

ATHLETICS

| Event	Name of the participant
200 meters run	20-UMT-307 SAM JOEL F
1500 meters run	20-UMT-232 CHINNADURAI M
4 × 100 meters relay	20-UMT-209 JERIN BOSE 20-UMT-226 DHANUSH D 20-UMT-307 SAM JOEL F 22-UMT-315 J HARSHANTH
Shotput	20-UMT-207 SAHAYA JEON RONALDO S

PRIZE WINNERS

Dept. Number	Name	Event	Position
20-UMT-207	SAHAYA JEON RONALDO S	Shotput (Division 1)	3
20-UMT-207	SAHAYA JEON RONALDO S	Shotput (Division 2)	3
20-UMT-307	SAM JOEL F	200 meters (Division 2)	3
20-UMT-232	CHINNADURAI M	1500 meters (Division 2)	4
20-UMT-209	JERIN BOSE	4 × 100 meters relay (Division 2)	3
20-UMT-226	DHANUSH D	4 × 100 meters relay (Division 2)	3
20-UMT-307	SAM JOEL F	4 × 100 meters relay (Division 2)	3
22-UMT-315	J HARSHANTH	4 × 100 meters relay (Division 2)	3

PARENTS-TEACHERS MEETING

The odd-semester Parent-Teachers Association (PTA) meeting took place on September 27, 2022. There were quite a few parents of First-year students present at this meeting. Held as a first meeting in Loyola, the purpose of the gathering was to inform participants about the various facilities, rules, and regulations, as well as other pertinent information. The meeting was led by Dr. J. Janet Sheeba, who provided comments via a Power Point presentation, after Prof. F. R. Emmanuel had welcomed the parents. During the PTA meeting, Dr. J. A. Charles, the deputy principal, spoke to the parents. The parents asked questions about club hours to be completed, student attendance, registration for semester exams, and other things, and our faculty members answered their concerns. The parents gave their feedback.

Welcome speech by Prof. F. R. Emmanuel
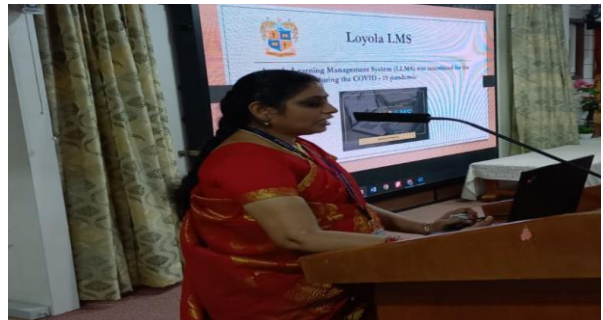
Dr. J. Janet Sheeba conducting the meeting

Dr. J. A. Charles, the Deputy Principal addressing the parents

Parents

Interaction between parents and teachers

Group photo

LOYOLA ALUMNI DAY 2022

Loyola Alumni Day for the academic year 2022-2023 was celebrated on 26th September 2022. The Loyola Alumni Day function was organized at the department level at MRF Hall. There was interaction between the department's academic members with almost thirty alumni members from different batches starting in 1960. The department's initiatives and anticipated future partnerships with alumni were highlighted in a presentation. It was asked to the alumni to make whatever contributions they could to the department and the school. Using images of previous batches, the alumni's fond recollections were evoked.

Dr. D. Antony Xavier, Head of the Department, extended a warm greeting to every one of the faculty and alumni. The alumni gave their introductions, talked about their experiences at Loyola, and discussed how the college had influenced their successful careers. One of the graduates emphasized the value of the alumni's partnerships and contributions. Mr. S Krishnamurthy, an alumnus agreed to give a speech to the students that would inspire them, and he talked about his experience flying fighter planes in the Indo-Pakistan War of 1971. Mr. Infant Carmel Reju recalled all his Loyola professors and described the important roles that the staff members played.

A video presentation was made by collating all pictures of previous batches which was highly appreciated by alumni members. Finally, a presentation was about the existing alumni collaborations and contributions to the department along with the requisition for such future collaborations with alumni.

Welcome greetings by Dr. D. Antony Xavier, Head

Sharing by an alumnus

Sharing by an alumnus

Group photo

PLACEMENT DETAILS

The following of our students were placed in reputable sectors in 2022–2023 because of the placement cell's series of trainings.

Dept. Number	Name of the student	Industry placed	Salary package
20-UMT-205	OM PRAKASH S	ICICI Bank	
20-UMT-209	JERIN BOSE	Goldman Sach	6.5 LPA
20-UMT-212	ANIRBAN SEN	ICICI Bank	
20-UMT-219	RAGHAVAN B	LTI Mindtree	3.14 LPA
20-UMT-221	MADHAVAN S	Deloitte	3.82 LPA
20-UMT-222	CHAITANYA SOMANI	PWC	5 LPA
20-UMT-228	KAILASH R	Natwest	4 LPA

* LPA – Lakhs per annum

PARTICIPATION OF FACULTY MEMBERS
IN CHRISTMAS COMPETITIONS

Date	:	19, 20 and 21 December 2022
Time	:	12.00 pm - 1.30 pm
Venue	:	Loyola College Campus

REPORT

Objective

To develop the spirit of participation and to be competent in all possible constructive activities.

Summary

- Inter departmental Christmas Competitions were conducted for the faculty members in connection with Christmas by the office of dean of students.
- On 19th December 2022, "Cooking without fire" competition was conducted and Dr. T. Bharathi headed the team and Dr. S. Iruthaya Raj, Mr. F. R. Emmanuel and Dr. S. Ruth Julie Kavitha were other participants.
- On 20th December 2022, "Christmas crib making" competition was held, and Mr. D. Kumanan headed the team. Mr. A. Christopher and Dr. J. Geno Kadwin and Dr. S. Iruthaya Raj were the other participants. The theme of the crib "Poor Christ for the poor" was explained to the judges during their visit.
- On 21st December 2022, all the staff members actively participated in the "Carol Singing" Competition headed by Mr. F. R. Emmanuel and won the 3rd prize in the college level.
- Finally, all the faculty members took part in a small festive Christmas lunch on 22nd December 2022.

Programme outcome

Faculty members would be enthusiastic and feel refreshed and stress-free. The chance was utilized, and talents were hunted.

Image gallery

Participants of "Cooking without fire" competition

10 Food items cooked without fire

Faculties with Veg-Tikka

Faculties with Christmas Crib

2nd Runners-Up of Christmas Carol
Singing competition

Christmas Common Lunch

CASUAL TRIP FOR FACULTY MEMBERS

Date   :   07-11-2022

Time   :   12.30 pm - 5.30 pm

Venue   :   Little Mount Church, Chennai

<u>REPORT</u>

Objective

To have a break from usual academic activities, to have spiritual experience and to relax the minds.

Summary

* This casual trip included pilgrimage visit and a visit to the home of one of our colleagues.
* Started the holy trip with a lunch around 01.00 pm.
* Then moved ahead to Little Mount church with a walk towards the mount.
* The faculty members deeply believed in communal worship, that's the benefit gathered from worshipping with others.
* They strongly trusted that this type of holy visit would be a great place to learn good relationship among staff members.
* Finally, they made a friendly visit to Prof. D. Kumanan's house, who resided very close to the Little Mount Church.

Faculty members

1. Dr. J. Janet Sheeba
2. Dr. T. Bharathi
3. Dr. S. Iruthaya Raj
4. Prof. F. R. Emmanuel
5. Prof. A. Christopher
6. Mr. D. Kumanan
7. Dr. J. Geno Kadwin
8. Dr. S. Ruth Julie Kavitha

Programme outcome

The faculty members would feel refreshed and stress-free. This type of church visit would be one of the ways to improve in faith. This makes the faculties feel spiritually and emotionally stronger.

Image gallery

At the Foot of Little Mount

Near the Stations of the Cross

Having Casual Lunch

At Prof. D. Kumanan's Home

ACADEMIC PROMINENCES OF FACULTY MEMBERS

The department's faculty members were knowledgeable and devoted. Apart from their regular teaching duties, our faculty members also demonstrated strong performance in other areas. Listed below are a few of them.

Ph.D. Guided

1. Under the supervision of **Dr. T. Bharathi**, Ph.D. was awarded to *Mr. S. Antony Vinoth* on 12th September 2022.

Projects Guided

1. **Dr. S. Iruthaya Raj** guided *J. Varsha* (22/PMTA/005), Department of Mathematics, Stella Maris College (Autonomous), Chennai-600086 for her PG internship on "A study on non-linear programming problems" during May 2023 - July 2023.

2. **Dr. S. Iruthaya Raj** guided *R. Nivedita* (22/PMTA/029), Department of Mathematics, Stella Maris College (Autonomous), Chennai-600086 for her PG internship on "A study on ball space theory and fixed-point theory" during May 2023 - July 2023.

3. **Dr. S. Iruthaya Raj** guided *S. Thrisha* (Reg. No. 2113322069037), Department of Mathematics, Ethiraj College for Women (Autonomous), Chennai-600008 for her PG internship on "Some fixed-point results in b-metric spaces" during January 2023 to April 2023.

Resource persons/Chairpersons/Reviewers/etc.

1. **Dr. T. Bharathi** served as a research advisory committee member in other colleges.

2. **Dr. T. Bharathi** was a reviewer of Asian Research Journal of Mathematics (ISSN: 2456-477X).

3. **Dr. S. Iruthaya Raj** served as a resource person of "Two Days Workshop on Typesetting with LaTeX", organized by the Department of Mathematics, Loyola College of Arts and Science, Mettala, Namakkal-636202, Tamil Nadu on 10th & 11th August 2022.

4. **Dr. T. Bharathi** served as a resource person and delivered a talk on "Increasing Students Motivation in Studying Mathematics" in Deeksharambh – Student Induction Program, PRPARAMBH 2022 organized by the Department of Mathematics with Computer Applications, Dwaraka Doss Govardhan Doss Vaishnav College, Chennai, 17th August 2022.

5. **Dr. T. Bharathi** delivered a talk on "Algebra and its Applications" and Inaugurated MATRIX CLUB for the Academic year 2022 – 2023 in Justice Basheer Ahmed Sayeed College for Women, Chennai, 6th October 2022.

6. **Dr. T. Bharathi** served as a Chairperson in the National Conference and FDP on strategic use of Technology in Mathematics and Computer Applications (NCFDPMCA 2023), Department of Mathematics in association with Research and Development Cell & IQAC, Women's Christian College, Chennai, 30th January 2023.

7. **Dr. J. Geno Kadwin** served as a chairperson in the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

8. **Prof. F. R. Emmanuel** served as a resource person of the seminar on "Aptitude and Reasoning" organized by the Department of Computer Science, Loyola College, Chennai on 3rd March 2023.

9. **Dr. J. Geno Kadwin** served as a resource person of the seminar on "Aptitude and Reasoning" organized by the Department of Computer Science, Loyola College, Chennai on 3rd March 2023.

10. **Prof. F. R. Emmanuel** was the chief guest for the inaugural function of Meston Mathematics Association, Meston College of Education, Royapettah, Chennai and delivered the inaugural address on "Applications of Mathematics" on 10th March 2023.

11. **Prof. A. Christopher** served as a resource person and delivered an endowment lecture on "Dual spaces in linear algebra" in the endowment lecture organized by the Department of Mathematics, Loyola College of Arts and Science, Mettala, Namakkal-636202, Tamil Nadu in March 2023.

Member of Board of studies/External examiner/etc.

1. **Prof. F. R. Emmanuel** was a member of board of studies for Stella Matutina College of Education, Ashok Nagar, Chennai on 7th October 2022.

2. **Dr. T. Bharathi** was a Passing Board member for UG Mathematics – Shift II, DG Vaishnav **College,** Arumbakkam, Chennai on 6th January 2023.

3. **Dr. J. Janet Sheeba** served as a semester external examiner for the practical examinations of the University of Madras in Mar Gregorios College of Arts and Science on 24th April 2023.

4. **Dr. J. Janet Sheeba** was a question paper setter for Semester examinations, St. Xavier's College, Palayamkottai, Tirunelveli for the academic year 2022-2023.

5. **Dr. S. Iruthaya Raj** was a question paper setter for Semester examinations, St. Xavier's College, Palayamkottai, Tirunelveli for the academic year 2022-2023.

6. **Prof. F. R. Emmanuel** was a question paper setter for Semester examinations, St. Xavier's College, Palayamkottai, Tirunelveli for the academic year 2022-2023.

7. **Prof. A. Christopher** was a question paper setter for Semester examinations, St. Xavier's College, Palayamkottai, Tirunelveli for the academic year 2022-2023.

8. **Prof. D. Kumanan** was a question paper setter for Semester examinations, St. Xavier's College, Palayamkottai, Tirunelveli for the academic year 2022-2023.

9. **Dr. J. Geno Kadwin** was a question paper setter for Semester examinations, St. Xavier's College, Palayamkottai, Tirunelveli for the academic year 2022-2023.

Programmes organized/Committee members/etc.

1. **Dr. J. Janet Sheeba** organized a "Career Guidance programme" for the students of the department of mathematics (Shift-II), Loyola College Chennai-34 on 8th August 2022.

2. **Prof. A. Christopher** organized a Guest lecture on "How to Crack Interviews" for the benefit of students of the department of mathematics (Shift-II), Loyola College Chennai-34 on 22nd September 2022.

3. **Dr. J. Janet Sheeba** organized "Fuzzy Mathematical Exhibition" for the students of the department of mathematics (Shift-II), Loyola College Chennai-34 on 26th October 2022.

4. **Dr. T. Bharathi** organized "Graph Theory Mathematical Exhibition" for the students of the department of mathematics (Shift-II), Loyola College Chennai-34 on 26th October 2022.

5. **Dr. J. Janet Sheeba** was the Joint Secretary of the *Registration and Certificate committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

6. **Dr. T. Bharathi** was the Joint Secretary of the *Scientific Committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

7. **Dr. S. Iruthaya Raj** was the Joint Secretary of the *Venue Arrangement Committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

8. **Prof. F. R. Emmanuel** was the Joint Secretary of the *Public Relations and Accommodation Committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

9. **Prof. A. Christopher** was the Joint Secretary of the *Food and Material Committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

10. **Prof. D. Kumanan** was the Joint Secretary of the *Organizing Committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

11. **Dr. S. Ruth Julie Kavitha** was the Joint Secretary of the *Programme Committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

12. **Dr. J. Geno Kadwin** was the Secretary of the *Technical Committee* of the "International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023)" organized by the Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

13. **Dr. S. Iruthaya Raj** was the Conveners of the "National Symposium on Mathematical Analysis (MATANA 2023)" organized for students, Research scholars, Young College Teachers of Mathematics, organized by Department of Mathematics (Shift-II), Loyola College, Chennai-600034 on 13th March 2023.

14. **Dr. J. Geno Kadwin** was the Conveners of the "National Symposium on Mathematical Analysis (MATANA 2023)" organized for students, Research scholars, Young College Teachers of Mathematics, organized by Department of Mathematics (Shift-II), Loyola College, Chennai-600034 on 13th March 2023.

Research publications

1. **T. Bharathi**, S. Leo and S. Antony Vinoth, "Operations in Plithogenic Product Fuzzy Graphs", South East Asian Journal of Mathematics and Mathematical Sciences, Vol. 21, Proceedings (2022), ISSN: 0972-7752 (Print), 2582-0850 (Online), 233-248. (Scopus & Web of Science).

2. Shanmugapriya R, Mary Jiny D, **Geno Kadwin Jacob**, Suba M, "A study on risk of COVID-19 infection in complications of diabetes patients using BAMs", Eur. Chem. Bull. 2023, 12 (S3), 6683-6692.

3. P. Kumam, **Geno Kadwin Jacob**, Ansari A H, Marudai M, Seangwattana, "Common fixed-point results for weakly compatible mappings with AN application to deterministic fractals", Fractals, 30(6), 2250111 (SCIE Journal Impact Factor 4.7)

Paper presentations

1. **Dr. J. Janet Sheeba** presented a paper on *Topological indices of Cinoxacin* in the International Conference on Recent Trends in Applied Mathematics (ICRTAM 2023) organized by Department of Mathematics, Loyola College, Chennai-600034 on 24th and 25th February 2023.

Participation in FDP/Refresher courses/Conferences/Workshops/etc.

1. **Dr. T. Bharathi** participated in the Faculty Development Programme on *Soft skills* organized by Loyola College, Chennai in July 2022.

2. **Prof. F. R. Emmanuel** participated in *Foundation Level Innovation Ambassador Online Training programme* of the Ministry of Education's Innovation Cell and AICTE through the Institution's Innovation Council (IIC) of Loyola College, Chennai for 10 days in the month of August 2022.

3. **Dr. T. Bharathi** participated in the Symposium on *Soft Computing & Mathematical Modeling-2023*, organized by the Department of Information Technology, University of Technology and Applied Sciences - Ibri, Sultanate of Oman in May 2023.

4. **Dr. S. Iruthaya Raj** participated in the *Five-day Virtual FDP on Data Analytics Tools for Real World Problems* organized by the School of Advanced Sciences, Vellore Institute of Technology (VIT), Chennai from 1st to 5th May 2023.

5. **Dr. S. Iruthaya Raj** participated in the *FDP on Hyper Automation* organized by the School of Advanced Sciences, Vellore Institute of Technology (VIT), Chennai from 8th to 12th May 2023.

RESPONSIBILITIES OF FACULTY MEMBERS IN LOYOLA
(IN THE ACADEMIC YEAR 2022-2023)

1. **Dr. T. Bharathi** was the Loyola LOCF OBE mentor of School of Computational Sciences, Loyola College, Chennai.

2. **Dr. T. Bharathi** was a member of Loyola Edu Tech (LET) team, Loyola College, Chennai.

3. **Dr. T. Bharathi** was a soft skill trainer for the Department of Mathematics, Loyola College, Chennai.

4. **Dr. S. Iruthaya Raj** was the faculty advisor of the Loyola Brass Band (Shift-2), Loyola College, Chennai.

5. **Prof. F. R. Emmanuel** was the Faculty Advisor and Coordinator, Loyola Club of Performing Arts (LCPA)-Music, Shift-2, Loyola College, Chennai.

6. **Prof. F. R. Emmanuel** was the Innovation Mentor, Department of Mathematics (Shift-2), Loyola College, Chennai.

7. **Prof. F. R. Emmanuel** was the Start-up Activity Coordinator, Loyola Institutions Innovation Council (LIIC), Loyola College, Chennai.

8. **Dr. S. Iruthaya Raj** served an Assistant director of Loyola Men's Hostel.

9. **Dr. S. Maria Jesu Raja** served as an Assistant director of Loyola Men's Hostel.

10. **Dr. S. Iruthaya Raj** was a Trainer in Aptitude in the online Summer Camp 2022 "A Summer Camp for Dalits and Poor Students" conducted by Loyola Students Support Service (LSSS) from 1st to 12th June 2022.

11. **Prof. A. Christopher** was a Trainer in Aptitude in the online Summer Camp 2022 "A Summer Camp for Dalits and Poor Students" conducted by Loyola Students Support Service (LSSS) from 1st to 12th June 2022.

12. **Prof. D. Kumanan** was a Trainer in Aptitude in the online Summer Camp 2022 "A Summer Camp for Dalits and Poor Students" conducted by Loyola Students Support Service (LSSS) from 1st to 12th June 2022.

13. **Dr. S. Ruth Julie Kavitha** was a Trainer in Aptitude in the online Summer Camp 2022 "A Summer Camp for Dalits and Poor Students" conducted by Loyola Students Support Service (LSSS) from 1st to 12th June 2022.

14. **Dr. J. Geno Kadwin** was a Trainer in Aptitude in the online Summer Camp 2022 "A Summer Camp for Dalits and Poor Students" conducted by Loyola Students Support Service (LSSS) from 1st to 12th June 2022.