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

Programme	:	Guest Lecture on Analyticity
Date	:	30-01-2025
Time	:	09.10 am - 10.00 am
Venue	:	Room No. JF-22, Department of Mathematics Loyola College, Chennai-34
Resource person	:	Dr. M. Marudai Honorary Professor Department of Mathematics Bharathidasan University, Tiruchirappalli-620024 Tamil Nadu, India

REPORT

Objective

To strengthen the concept of Analytic functions in Complex Analysis to the students.

Summary

- The guest lecture on *Analyticity* was organized for the benefit of First year M. Sc. Mathematics students as they were learning the course on "Complex Analysis" in that semester.
- Dr. S. Iruthaya Raj, the course teacher of the course "Complex Analysis", and the convener of the guest lecture on "Analyticity" welcomed the resource person Dr. Marudai of Bharathidasan University and introduced him to the participants.
- Dr. M. Marudai, Honorary Professor, Bharathidasan University did his M. Sc. Mathematics programme at St. Joseph's College, Tiruchirappalli; M. Phil. Mathematics programme in Madurai Kamaraj University; and Ph.D. in Anna University, Chennai. He has been a teacher for forty-four years. Functional analysis, fixed-point theory, and best approximation theory are his areas of interest. The professor has six Ph.Ds. and over 40 years of research experience. Several of his research papers have been published in reputable international journals.
- Dr. Marudai defined analyticity of a complex valued function defined on an open subset of the complex plane at a given point as the function which is differentiable at every point of some neighbourhood of that point, and he gave some examples.
- He also defined equivalent definitions of analytic function.
- The following implications of analyticity were also explained by him.
    i. A function is analytic if and only if it is continuously differentiable.

ii. If a function is analytic at a point in a region, then the function can be expressed as a power series about that point.

iii. If a function $f(z) = u + iy$ is analytic at a point, then its real and imaginary parts u and v will satisfy the Cauchy-Riemann equations: $u_x = v_y$ and $v_x = -u_y$ at that point. Conversely, if the Cauchy-Riemann equations are satisfied by the real and imaginary parts of a function and if all the first order partial derivatives of the real and imaginary parts are continuous at a point, then the function will be analytic at that point.

iv. If a function is differentiable at every point of a region, then it is analytic on the region.

- Professor Marudai also solved some problems on analyticity.
- Some doubts raised by the participants were also cleared up by the resource person.
- Finally, Dr. S. Iruthaya Raj, the convener of the programme thanked the resource person for sharing his knowledge with the participants.

Faculty members of the department

1. Dr. D. Antony Xavier, (Head of the Department)
2. Dr. D. Florence Isido
3. Prof. J. Maria Roy Felix, Assistant Professor
4. Dr. M. Arockiaraj
5. Dr. M. Chris Monica, Assistant Professor
6. Dr. S. Little Joice, Assistant Professor
7. Dr. Charles Robert Kenneth, Assistant Professor
8. Dr. Y. Kins, Assistant Professor
9. Dr. D. Francis Xavier, Assistant Professor
10. Mrs. T. Shiba Neenu, Assistant Professor
11. Dr. M. Peter, Assistant Professor
12. Dr. S. Roseline Mary, Assistant Professor
13. Dr. S. Iruthaya Raj, Assistant Professor (Convener of the programme)

Participants

A total of 35 students participated in the programme.

1. 24-PMT-002 JEFRIN ANTONY S
2. 24-PMT-003 DIVINE MONEKA M
3. 24-PMT-004 DENSILIN SEBASTO D C
4. 24-PMT-005 GLADY NAKSHATHIRA F
5. 24-PMT-006 CAJETAN A
6. 24-PMT-007 CATHERINE FELISHA S P
7. 24-PMT-008 RITHISH NITHIL A
8. 24-PMT-009 DHANASEKARAN R
9. 24-PMT-010 LISANDRA S
10. 24-PMT-011 AVANYA K
11. 24-PMT-013 DALTON GRIFFIN S

12. 24-PMT-015 JENIE ROSELIE T F
13. 24-PMT-016 SAHAYA ANUSHYA A X
14. 24-PMT-017 DOREN PAULRAJ D
15. 24-PMT-019 MOHAMMED YASIN R
16. 24-PMT-020 ADRIN SILVIA W
17. 24-PMT-022 ABUTHAHIR A
18. 24-PMT-025 MADHUMITHA L
19. 24-PMT-027 IVRIT SAHANA S
20. 24-PMT-029 JOVIN FRANCIS G
21. 24-PMT-030 NISHANTH S
22. 24-PMT-032 SILVIA PRINCEY M
23. 24-PMT-035 SUBHASHINI R
24. 24-PMT-036 JEYA NISHA J
25. 24-PMT-038 EUGINIA MICHELLE X
26. 24-PMT-039 JOE GLADWIN RICHARD P
27. 24-PMT-040 ARUNA THOLCOPIYAN M
28. 24-PMT-041 AISHWARYA G
29. 24-PMT-043 HARI HARESHWARATTHIRUMURUGAN M
30. 24-PMT-044 SWETHA B
31. 24-PMT-045 YUGENDHAR R
32. 24-PMT-047 YUVARAJ V
33. 24-PMT-048 DHARANI KUMAR S
34. 24-PMT-049 SANIYA KULSUM H
35. 24-PMT-050 ISHWARIYA B

Programme outcome

The participants will have more clarity on Analytic functions and will be able to solve problems rerlated to it.

Image gallery

Lecture given by Dr. M. Marudai


Lecture given by Dr. M. Marudai

Participants

Participants

LOYOLA COLLEGE, CHENNAI-34

DEPARTMENT OF MATHEMATICS

cordially invites you to the

Guest Lecture on

Analyticity

Resource person

Dr. M. Marudai
Honorary Professor
Department of Mathematics
Bharathidasan University
Tiruchirappalli, Tamil Nadu, India

30 January 2025 | Room No. JF 22 | 09.10 am - 10.00 am

Patrons

Rev. Dr. Antony Robinson SJ *Rector*
Rev. Dr. Boniface Jeyaraj SJ *Secretary & Correspondent*
Rev. Dr. A. Louis Arockiaraj SJ *Principal*
Dr. J. A. Charles *Deputy Principal*

Welcoming you

Dr. D. Antony Xavier, Head of the Department
Dr. S. Iruthaya Raj, Convener