DON BOSCO ARTS & SCIENCE COLLEGE

ANGADIKADAVU

(Affiliated to Kannur University Approved by Government of Kerala)

ANGADIKADAVU P.O., IRITTY, KANNUR – 670706

COURSE PLAN

(MSc Mathematics)

(2021 - 23)

SEMESTER – II

ACADEMIC YEAR 2021 – 23

II Semester MSc Mathematics (2021 - 23)

Sl. No.	Name of Subjects with Code	Name of the Teacher	Duty Hours Per Week
1.	MAT2C06: Advanced Abstract Algebra	Prija V	6
2.	MAT2C07: Measure and Integration	Athulya P	6
3.	MATC08: Advanced Topology	Najumunnisa K	6
4.	MAT2C09: Foundations of Complex Analysis	Riya Baby	6
5.	MAT2C10: Partial Differential Equations and Integral Equations	Anil M V	6
	Name of Class In-charge	Ajeena Joseph	

Day	09.50 Am - 10.45 Am	10.45 Am -11.40 Am	11.55 Am - 12.50 Pm	01.40 Pm - 02.35 Pm	02.35 Pm - 03.30 Pm
1	Advanced Topology	Advanced Abstract Algebra	Partial Differential Equations and Integral Equations	Foundations of Complex Analysis	Measure and Integration
2	Advanced Abstract Algebra	Measure and Integration	Advanced Topology	Partial Differential Equations and Integral Equations	Foundations of Complex Analysis
3	Partial Differential Equations and Integral Equations	Measure and Integration	Advanced Topology	Foundations of Complex Analysis	Advanced Abstract Algebra
4	Foundations of Complex Analysis	Partial Differential Equations and Integral Equations	Measure and Integration	Advanced Abstract Algebra	Advanced Topology
5	Measure and Integration	Foundations of Complex Analysis	Advanced Topology	Advanced Abstract Algebra	Partial Differential Equations and Integral Equations
6	Advanced Topology	Advanced Abstract Algebra	Foundations of Complex Analysis	Partial Differential Equations and Integral Equations	Measure and Integration

Subject Code:	MAT2C06
Subject Name:	ADVANCED ABSTRACT ALGEBRA
No. of Credits:	4
No. of Contact Hours:	5
Hours per Week:	5
Name of the Teacher:	Prija V

SYLLABUS

MAT2C06:

Text Book: John. B. Fraleigh, A First Course in Abstract Algebra (7th Edition), Narosa (2003)

Unit I

Unique Factorization Domains, Euclidean Domains, Gaussian Integers and Multiplicative Norms, Introduction to Extension Fields (Chapter-9: Section - 45, 46, 47 and Chapter-6: Section - 29).

Unit II

Algebraic Extensions, Geometric Constructions, Finite Fields, Automorphisms of Fields. (Chapter-6: Section - 31, 32, 33 and Chapter-10 : Section- 48).

Unit III

The Isomorphism Extension Theorem, Splitting Fields, Separable Extensions. Galois Theory (Chapter-10: Section – 49, 50, 51, 53).

Reference:

1. I. N. Herstein: Topics in Algebra. Wiley India Pvt. Ltd, 2006
2. D. S. Malik, John. N. Merdson, M. K. Sen: Fundamentals of Abstract Algebra Mc Graw-hill Publishing Co., 1996
3. Clark, Allen: Elements of Abstract Algebra. Dover Publications, 1984
4. David M. Burton: A First course in Rings and Ideals. Addison-Wesley Educational Publishers Inc., 1970
5. Joseph. A. Gallian: Contemporary Abstract Algebra. Narosa, 1999

M. Artin: Algebra Addison Wesley; 2nd edition,

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	07-02-2022	1	Unit I- Introduction.

	To 12-02-2022	2	Unique Factorization Domains, Definitions.
		3	Theorem and proof.
		4	Theorem and proof.
		5	Euclidean Domains, Definitions.
		12-02-2022	Second Saturday
2	14-02-2022 To 19-02-2022	6	Theorem and proof.
		7	Theorem and proof.
		8	Exercise problems.
			College Arts Fest
			College Arts Fest
		9	Eucliden Theorem.
3	21-02-2022 To 26-02-2022	10	Seminar.
		11	Seminar.
		12	Class Test.
		13	Assignment.
		14	Introduction to Extension Fields, Definitions.
		15	Theorem and proof.
4	28-02-2022 To 05-03-2022	16	Theorem and proof.
		01-03-2022	Shivarathri
		17	Exercise problems.
		18	Exercise problems.
		19	Theorem and proof.
		20	Theorem and proof.
5	07-03-2022 To 12-03-2022	21	Class Test.
		22	Unit II-Introduction.
		23	Algebraic Extensions, Definitions.
		24	Theorem and proof.
		25	Exercise problems.
		12-03-2022	Second Saturday
6	14-03-2022 To 19-03-2022	26	Theorem and proof.
		27	Theorem and proof.
		28	Geometric Constructions, Definitions.
		29	Exercise problems.
		30	Class Test.
		31	Theorem and proof.
7	21-03-2022 To 26-03-2022	32	Finite Fields, Definitions.
		33	Exercise problems.
		34	Exercise problems.
		35	Theorem and proof.
		36	Theorem and proof.
		37	Seminar.
8	28-03-2022 To	38	Seminar.
		39	Theorem and proof.
		40	Automorphisms of Fields, Definitions.

		41	Exercise problems.
	02-04-2022	42	Seminar.
		43	Class Test.
9	04-04-2022 To 09-04-2022	44	Unit III-Introduction.
		45	The Isomorphism Extension Theorem, Definitions.
		46	Theorem and proof.
		47	Theorem and proof.
		48	Exercise problems.
		49	Seminar.
10	11-04-2022 To 16-04-2022	50	Splitting Fields, Definitions.
		51	Seminar.
		13-04-2022	Easter Holidays
		14-04-2022	Easter Holidays
		15-04-2022	Easter Holidays
		16-04-2022	Easter Holidays
11	18-04-2022 To 23-04-2022	18-04-2022	Easter Holidays
		52	I Internal Examination
		53	I Internal Examination
		54	I Internal Examination
		55	I Internal Examination
		56	I Internal Examination
12	25-04-2022 To 30-04-2022	57	Exercise problems.
		58	Separable Extensions, Definitions.
		59	Theorem and proof.
		60	Theorem and proof.
		61	Assignment.
		62	Seminar.
		63	Seminar.
13	02-05-2022 To 07-05-2022	02-05-2022	RAMZAN
		64	Exercise problems.
		65	Galois Theory, Definitions.
		66	Theorem and proof.
		67	Theorem and proof.
		68	Seminar.
14	09-05-2022 To 14-05-2022	69	Assignment,Seminar.
		70	Seminar.
		71	Class Test.
		72	Seminar.
		73	Seminar.
		14-05-2022	Second Saturday
15	16-05-2022 To 21-05-2022	74	Seminar.
		75	Theorem and proof.
		76	Theorem and proof.
		77	Theorem and proof.

16	23-05-2022 To 28-05-2022	78	Exercise problems.
		79	Exercise problems.
		80	II Internal Examination
		81	II Internal Examination
		82	II Internal Examination
		83	II Internal Examination
		84	II Internal Examination
		85	II Internal Examination
17	30-05-2022 To 04-06-2022	86	Revision.
		87	Revision.
		88	Revision.
		89	Question Paper Discussion.
		90	Question Paper Discussion.

Subject Code:	MAT2C07
Subject Name:	MEASURE AND INTEGRATION
No. of Credits:	4
No. of Contact Hours:	90
Hours per Week:	6
Name of the Teacher:	ATHULYA P

SYLLABUS

MAT2C07: MEASURE AND INTEGRATION

Text Book; G de Barra, Measure Theory and Integration. New age International Publishers, New Delhi (First Edition, 1981)

Unit I

Measure on the real line; Lebesgue Outer measure, Measurable sets, Ragularity, Measurable Functions, Borel and Lebesgue Measurability (Including Theorem 17),

Integration of functions of a Real Variable; Integration of Non-negative Functions.

(Chapter-2; Section 2.1-2.5, Chapter-3-Section 3.1)

Unit II

Integration of functions of a Real Variable; The general Integral, Riemann and Lebesgue Integrals

Abstract Measure Space; Measures and Outer measures, extension of measure, Uniqueness of the extension.

(Chapter-3, Section 3.2 and 3.4; Chapter-5; Section 5.1 –5.3)

Unit III

Abstract Measure Spaces; Measure Spaces, Integration with respect to a Measure

Inequalities and the LP Spaces; The LP Spaces, The inequalities of Holder and Minkowski, Completeness of LP (μ)

(Chapter-5, Section 5.5 –5.6; Chapter-6-section 6.1, 6.4 and 6.5)

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	07-02-2022 To 12-02-2022	1	Measure on the real line- Introduction
		2	Lebesgue outer measure
		3	Definition
		4	Theorem
		5	Theorem
		12-02-2022	Second Saturday
2	14-02-2022 To 19-02-2022	6	Examples
		7	Examples
		8	Theorem
			College Arts Fest
			College Arts Fest
		9	Theorem
3	21-02-2022	10	Measurable sets -Definition

		11	Theorem
	To 26-02-2022	12	Theorem
		13	Theorem
		14	Theorem
		15	Ragularity
4	28-02-2022 To 05-03-2022	16	Ragularity
		01-03-2022	Shivarathri
		17	Measurable functions
		18	Measurable functions
		19	Theorem
		20	Theorem
5	07-03-2022 To 12-03-2022	21	Borel and Lebesgue Measurability
		22	Borel and Lebesgue Measurability
		23	Theorem
		24	Theorem
		25	Integration of functions of a Real Variable
		12-03-2022	Second Saturday
6	14-03-2022 To 19-03-2022	26	Integration of functions of a Real Variable
		27	Examples
		28	Example
		29	Integration of Non-negative Functions.
		30	Integration of Non-negative Functions.
		31	Class Test
7	21-03-2022 To 26-03-2022	32	Integration of functions of a Real Variable; The general Integral
		33	Integration of functions of a Real Variable; The general Integral
		34	Theorem
		35	Theorem
		36	Theorem
		37	Riemann and Lebesgue Integrals
8	28-03-2022 To 02-04-2022	38	Riemann and Lebesgue Integrals
		39	Riemann and Lebesgue integrals
		40	Abstract Measure Space
		41	Theorem
		42	Theorem
		43	Theorem
9	04-04-2022 To 09-04-2022	44	Measures and Outer measures
		45	Measures and Outer measures
		46	Extension of measure
		47	Extension of measure
		48	Theorem
		49	Class Test
10	11-04-2022	50	Uniqueness of the extension
		51	Uniqueness of the extension.

	To 16-04-2022	13-04-2022	Easter Holidays
		14-04-2022	Easter Holidays
		15-04-2022	Easter Holidays
		16-04-2022	Easter Holidays
11	18-04-2022 To 23-04-2022	18-04-2022	Easter Holidays
		52	I Internal Examination
		53	I Internal Examination
		54	I Internal Examination
		55	I Internal Examination
		56	I Internal Examination
12	25-04-2022 To 30-04-2022	57	Theorem
		58	Seminar
		59	Seminar
		60	Seminar
		61	Seminar
		62	Seminar
		63	Class Test
13	02-05-2022 To 07-05-2022	02-05-2022	RAMZAN
		64	Abstract Measure Space
		65	Abstract Measure Space
		66	Measure Spaces
		67	Measure Spaces
		68	Theorem
14	09-05-2022 To 14-05-2022	69	Theorem
		70	Integration with respect to a Measure
		71	Integration with respect to a Measure
		72	Theorem
		73	Inequalities and the LP Spaces
		14-05-2022	Second Saturday
15	16-05-2022 To 21-05-2022	74	Inequalities and the LP Spaces
		75	Theorem
		76	Class Test
		77	The LP Spaces
		78	The LP Spaces
		79	Theorem
16	23-05-2022 To 28-05-2022	80	II Internal Examination
		81	II Internal Examination
		82	II Internal Examination
		83	II Internal Examination
		84	II Internal Examination
		85	II Internal Examination
17	30-05-2022	86	The inequalities of Holder and Minkowski
		87	The inequalities of Holder and Minkowski

	To 04-06-2022	88	Completeness of LP (μ)
		89	Revision
		90	Revision

Subject Code:	MAT1C08
Subject Name:	**Advanced Topology**
No. of Credits:	**4**
No. of Contact Hours:	**90**
Hours per Week:	**6**
Name of the Teacher:	**Najumunnisa.K**

SYLLABUS

Text:
C. Wayne Patty, Foundations of Topology, Second Edition – Jones & Bartlett India Pvt. Ltd., New Delhi, 2012.

Unit –1

Compactness: Compactness in metric spaces, Compact spaces. Local compactness and the relation between various forms of compactness.

[Chapter 4: Sections 4.1 to 4.3 excluding Corollary 4.22]

Unit – Il

The Separation and Countability Axioms: T0, T1 & T2 spaces, Regular and completely regular spaces, Normal and completely normal spaces, The countability axioms.
[Chapter 5: Sections 5.1 to 5.4 excluding Examples 3, 5 and 6 and Theorem 5.10. Also exclude the proof that the Moore Plane is Completely Regular.]

Unit – III

Urysohn's Lemma and Tietze Extension Theorem, Special Topics: Urysohn's Lemma and Tietze Extension Theorem, The Alexander Subbase and Tychonoff Theorems, Urysohn's Metrization Theorem, Homotopy of Paths.
[Chapter 5: Section 5.5, Chapter 6: Section 6.7 excluding Example 20; Chapter 7: Section 7.1; Chapter

8: Section 8.1]

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	07-02-2022 To 12-02-2022	1	Definition and Example
		2	Theorem
		3	Bolzano Weierstrass property
		4	Theorem
		5	Lebesgue number
		12-02-2022	Second Saturday
2	14-02-2022 To 19-02-2022	6	Countably Compact space
		7	Theorem
		8	Sequentially compact space
			College Arts Fest
			College Arts Fest
		9	Theorem
3	21-02-2022 To 26-02-2022	10	Theorem
		11	Uniformly continuous functions
		12	Theorem
		13	Compact spaces
		14	Theorem
		15	Example
4	28-02-2022 To 05-03-2022	16	Theorem
		01-03-2022	Shivarathri
		17	Theorem
		18	Tube Lemma

		19	Hein Borel Theorem
		20	Example
5	07-03-2022 To 12-03-2022	21	Locally compact space
		22	Theorem
		23	Theorem
		24	Example
		25	Theorem
		12-03-2022	Second Saturday
6	14-03-2022 To 19-03-2022	26	T0 - space
		27	Example
		28	Theorem
		29	T1 - spaces
		30	T2 - spaces
		31	Theorem
7	21-03-2022 To 26-03-2022	32	Example
		33	Retract
		34	Theorem
		35	Theorem
		36	Regular spaces
		37	Example
8	28-03-2022 To 02-04-2022	38	Theorem
		39	Theorem
		40	Completely regular space
		41	Theorem
		42	Example
		43	Normal spaces
9	04-04-2022 To 09-04-2022	44	Example
		45	Theorem
		46	Theorem
		47	Example
		48	Characterization Theorem
		49	Example
10	11-04-2022 To 16-04-2022	50	Theorem
		51	Theorem
		13-04-2022	Easter Holidays
		14-04-2022	Easter Holidays
		15-04-2022	Easter Holidays
		16-04-2022	Easter Holidays
11	18-04-2022 To 23-04-2022	18-04-2022	Easter Holidays
		52	I Internal Examination
		53	I Internal Examination
		54	I Internal Examination
		55	I Internal Examination
		56	I Internal Examination

		57	Dyadic number
12	25-04-2022 To 30-04-2022	58	Theorem
		59	Urysohn's Lemma
		60	Theorem
		61	Theorem
		62	Tietze Extension Theorem
		63	Inadequate, Finitely inadequate
13	02-05-2022 To 07-05-2022	02-05-2022	RAMZAN
		64	Alexander Subbase Theorem
		65	Alexander Subbase Theorem
		66	Alexander Subbase Theorem
		67	Tychonoff Theorem
		68	Theorem

Subject Code:	**MAT1C09**
Subject Name:	**Foundations of Complex Analysis**
No. of Credits:	**4**
No. of Contact Hours:	**90**
Hours per Week:	**6**
Name of the Teacher:	**Riya Baby**

SYLLABUS

MAT 2C09: FOUNDATIONS OF COMPLEX ANALYSIS

Text:
John B Conway – Functions of one complex variable, 2nd edition, Springer International student edition.

Unit –1
Analytical functions, Complex Integration
Power series representation of analytic functions, Zeros of an analytic functions, the index of a closed curve, Cauchy's theorem and integral formula, the homotopic version of Cauchy's theorem and simple connectivity, Counting zeros and open mapping theorem, Goursat's theorem.
[Chapter 4, sections 2 to 8 .(2.1 to 3.6 proof omitted)]

Unit – II
Singularities
Classification of singularities, the Residue, the Argument principle
The maximum- modulus theorem
The maximum principle, Schwartz lemma.
[Chapter 5: sections 1, 2,3; chapter 6: sections 1,2]

Unit – III
Compactness and convergence in the sauce of analytic functions. The space of continuous functions, spaces of analytic functions, the Riemann mapping theorem, the Weierstrass factorization theorem.
[Chapter 7: sections1, 2,4,5].

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	07-02-2022 To 12-02-2022	1	**Differentiable functions**
		2	Proposition
		3	Chain rule
		4	Proposition and Corollary
		5	Proposition
		12-02-2022	Second Saturday
2	14-02-2022 To 19-02-2022	6	Logarithmic function
		7	Proposition
		8	Proposition
		16-02-2022	College Arts Fest
		17-02-2022	College Arts Fest
		9	Proposition
3	21-02-2022 To 26-02-2022	10	Lemma
		11	Class test
		12	Cauchy's Estimate
		13	Zeros of an analytic function
		14	Proposition
		15	Proposition
4	28-02-2022 To 05-03-2022	16	Example
		01-03-2022	Shivarathri
		17	Theorem
		18	Cauchy's integral formula – 1st verion
		19	Cauchy's integral formula- 2nd version
		20	Cauchy's theorem – 1st version
5	07-03-2022 To 12-03-2022	21	Theorem
		22	Theorem
		23	Moreras theorem
		24	Homotopy

		25	Cauchy's integral theorem- 3rd version
		12-03-2022	Second Saturday
6	14-03-2022 To 19-03-2022	26	Theorem
		27	Cauchy's integral theorem- 4th version
		28	Class test
		29	Goursat theorem
		30	Theorem
		31	Complete metric space
7	21-03-2022 To 26-03-2022	32	Normal space
		33	Proposition
		34	Proposition
		35	Proposition
		36	Arzela-ascoli theorem
		37	Theorem
8	28-03-2022 To 02-04-2022	38	Class test
		39	Class test
		40	Infinite product
		41	Example
		42	Problems
		43	Proposition
9	04-04-2022 To 09-04-2022	44	Fundamental group
		45	Proposition
		46	Examples
		47	Hurwitz theorem
		48	Monte's theorem
		49	Reimann theorem
10	11-04-2022 To 16-04-2022	50	Weierstrass factorization theorem
		51	Theorem
		13-04-2022	Theorem
		14-04-2022	Theorem
		15-04-2022	Logarithmic function
		16-04-2022	Proposition
11	18-04-2022 To 23-04-2022	18-04-2022	Proposition
		52	Proposition
		53	Lemma
		54	Class test
		55	Cauchy's Estimate
		56	Zeros of an analytic function
12	25-04-2022 To 30-04-2022	57	Proposition
		58	Logarithmic function
		59	Laure series development
		60	Example
		61	Corollary
		62	Theorem

		63	Class test
13	02-05-2022 To 07-05-2022	02-05-2022	RAMZAN
		64	Problems
		65	Theorem
		66	Residue
		67	Evaluation of definite integral
		68	Problems
14	09-05-2022 To 14-05-2022	69	Problems
		70	Theorem
		71	Proposition
		72	Theorem
		73	Theorem
		14-05-2022	Second Saturday
15	16-05-2022 To 21-05-2022	74	Cauchy's integral formula – 1st verion
		75	Cauchy's integral formula- 2nd version
		76	Cauchy's theorem – 1st version
		77	Theorem
		78	Theorem
		79	Moreras theorem
16	23-05-2022 To 28-05-2022	80	II Internal Examination
		81	II Internal Examination
		82	II Internal Examination
		83	II Internal Examination
		84	II Internal Examination
		85	II Internal Examination
17	30-05-2022 To 04-06-2022	86	Seminar
		87	Seminar
		88	Seminar
		89	Seminar
		90	Question paper Discussion

Subject Code:	**MAT2C10**
Subject Name:	**Partial Differential Equations and Integral Equations**
No. of Credits:	**4**
No. of Contact Hours:	**90**
Hours per Week:	**6**
Name of the Teacher:	**Anil M V**

SYLLABUS

MAT2C10: PARTIAL DIFFERENTIALEQUATIONS AND INTEGRAL EQUATIONS

Text Book:
1.Amarnath M: Partial Differential Equations, Narosa, New Delhi(1997)
2.Hildebran F. B.: Methods of Applied Mathematics (2ndEdition), Prentice- Hall of India, New Delhi(1972).

UNIT I First order P.D.E.

Curves and Surfaces, Genesis of first order Partial Differential Equations, Classification of integrals, Linear equations of first order, Pfaffian differential equations, Compatible systems, Charpit's method, Jacobi's method, Integral surfaces passing through a given curve, Quasi linear equations.
[Sections 1.1 – 1.10. from the Text 1]

UNIT II Second Order P.D.E.

Genesis of second order Partial Differential Equations.
Classification of second order Partial Differential Equations.
One dimensional Wave Equation: Vibrations of an infinite String , Vibrations of semi-infinite String, Vibrations of a String of Finite Length, Riemann's Method, Vibrations of a String of Finite Length (Method of Separation of Variables).
Laplace's Equation: Boundary Value Problems, Maximum and Minimum Principles, The Cauchy Problem, The Dirichlet Problem for the Upper Half Plane, The Neumann Problem for the Upper Half Plane.
Heat Conduction Problem: Heat Conduction - Infinite Rod Case, Heat Conduction – Finite Rod Case.
Duhamel's Principle: Wave Equation, Heat Conduction Equation.
[Sections 2.1 – 2.6. from the Text 1. Omit sections 2.4.6 to 2.4.13]

UNIT III Integral Equations.

Introduction ,Relation Between differential and Integral Equation, The Green's Function, Frdholm Equation With Separable Kernels, Illustrative Examples, Hilbert Schmidt Theory, Iterative Methods for Solving Equations of the Second Kind.
[Sections 3.1 – 3.3, 3.6 – 3.9 from the Text 2

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	07-02-2022 To 12-02-2022	1	Genesis of 1st order p.d.e.
		2	Problems
		3	Classification of integrals
		4	Problems
		5	Problems
		12-02-2022	Second Saturday
2	14-02-2022 To 19-02-2022	6	Theorem
		7	Examples-finding complete integrals
		8	Theorem
			College Arts Fest
			College Arts Fest
		9	Solving Quasi-linear equations
3	21-02-2022 To 26-02-2022	10	Examples
		11	Examples
		12	Exercise questions
		13	Pfaffian differential equations
		14	Theorem
		15	Theorem
4	28-02-2022 To 05-03-2022	16	Examples of Pfaffian D.E.
		01-03-2022	Shivarathri
		17	Examples of Pfaffian D.E
		18	Compatible Systems
		19	Examples
		20	Charpit's method to solve non-linear p.d.e.
5	07-03-2022 To 12-03-2022	21	Standard forms of p.d.e.
		22	Problems using Charpit's method
		23	Problems using Charpit's method
		24	Assignment
		25	Jacobi's method
		12-03-2022	Second Saturday
6	14-03-2022 To 19-03-2022	26	Special case of Jacobi's method
		27	Problems
		28	Integral surface through a given curve
		29	Cauchy problem for non-linear p.d.e.
		30	Examples
		31	Class test
7	21-03-2022	32	Method of characteristic curves-semi linear equations
		33	Method of characteristic curves-quasi linear equations

		34	Problems
	To 26-03-2022	35	Problems
		36	Examples
		37	Class test
8	28-03-2022 To 02-04-2022	38	Assignment
		39	Second order p.d.e.
		40	Classification of 2nd order p.d.e.
		41	Reduction into canonical form
		42	Assignment
		43	Problems
9	04-04-2022 To 09-04-2022	44	Problems
		45	Vibrations of an infinite string
		46	Vibrations of a semi-infinite string
		47	Vibrations of a finite string by separation of variables
		48	Examples
		49	Theorem-Uniqueness of solutions
10	11-04-2022 To 16-04-2022	50	Laplace equations
		51	Boundary value problems
		13-04-2022	Easter Holidays
		14-04-2022	Easter Holidays
		15-04-2022	Easter Holidays
		16-04-2022	Easter Holidays
11	18-04-2022 To 23-04-2022	18-04-2022	Easter Holidays
		52	I Internal Examination
		53	I Internal Examination
		54	I Internal Examination
		55	I Internal Examination
		56	I Internal Examination
12	25-04-2022 To 30-04-2022	57	Maximum principle
		58	Minimum principle
		59	Uniqueness theorem
		60	Green's identities
		61	The Neumann problem
		62	Dirichlet problem for the upper half-plane
		63	Neumann problem for the upper half-plane
13	02-05-2022 To 07-05-2022	02-05-2022	RAMZAN
		64	Heat conduction on an infinite rod
		65	Heat conduction on a finite rod
		66	Theorem-uniqueness of solutions
		67	Examples
		68	Examples
14	09-05-2022 To	69	Riemann's method
		70	The Cauchy Problem
		71	Problems

	14-05-2022	72	Problems
		73	Class test
		14-05-2022	Second Saturday
15	16-05-2022 To 21-05-2022	74	Integral equations
		75	Some standard formulas
		76	Relation between integral and differential equations
		77	Boundary value problems into integral equations
		78	Green's function
		79	Boundary value problems into integral equations
16	23-05-2022 To 28-05-2022	80	II Internal Examination
		81	II Internal Examination
		82	II Internal Examination
		83	II Internal Examination
		84	II Internal Examination
		85	II Internal Examination
17	30-05-2022 To 04-06-2022	86	Fredhom integral equations with separable kernel
		87	Illustrative examples-Eigen value problem
		88	Hilbert Schmidt Theorem
		89	Iterative method for Solving Equations of the Second Kind
		90	Revision