



MANNAR THIRUMALAI NAICKER COLLEGE(Autonomous)

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

(Accredited with "A" Grade by NAAC)

Pasumalai, Madurai -625004

DEPARTMENT OF MATHEMATICS

Programme	: PG	Part III	: Core
Semester	: III	Hours per week	: 06
Sub code	: 18PMTTC31	Credit	: 05

FIELD THEORY AND LATTICES

Course Outcomes

CO1: To make the students familiar with the concepts of Galois Theory.

CO2: To introduce its application in solvability by radicals.

CO3: To study about linear transformations and Lattices.

CO 4: To make them understand the aspects of field theory.

Programme	: PG	Part III	: Core
Semester	: III	Hours per week	: 06
Sub code	: 18PMTTC32	Credit	: 05

COMPLEX ANALYSIS

Course Outcomes

CO1: To understand the concept of analyticity, line integrals, residues.

CO2: To familiarize its applications.

CO3: To introduce Taylor and Laurent Series.

CO4: To introduce the theory of analytic function, complex integration and Riemann Zeta Function.

Programme	: PG	Part III	: Core
Semester	: III	Hours per week	: 06
Sub code	: 18PMTTC33	Credit	: 05

TOPOLOGY

Course Outcomes

CO1: To familiarize the concepts of Topology.

CO2: To learn the various aspects of Topological spaces.

CO 3: To define and categorize the separation axioms which separate a point from another Point.

CO4: To introduce the metrization theorem.

Programme	: PG	Part III	: Core
Semester	: III	Hours per week	: 06
Sub code	: 18PMTTC34	Credit	: 04

STATISTICS

Course Outcomes

CO1: To develop knowledge on various standard distributions.

CO2: To introduce Sampling Theory.

CO3: To familiarize the application through various statistical methods.

CO4: To create statistical models for real life problems.

Programme	: PG	Part IV	: NME
Semester	: III	Hours per week	: 06
Sub code	: 18PMTN31	Credit	: 04

MATHEMATICS FOR COMPETITIVE EXAMINATIONS

Course Outcomes

CO1: To develop knowledge on various standard distributions.

CO2: To introduce Sampling Theory.

CO3: To familiarize the application through various statistical methods.

CO 4: To apply the concepts in Competitive Examinations.

Programme	: UG	Part III	: Core
Semester	: III	Hours per week	: 05
Sub code	: 18UMTC31	Credit	: 05

INTEGRAL CALCULUS

Course Outcomes

CO1: To give an idea about the properties of definite integrals.

CO2: To apply integral calculus to evaluate double and triple integrals.

CO3: To understand the basic concepts interchanging Cartesian to polar co-ordinates.

CO4: To understand the various properties of Beta and Gamma functions.

Programme	: PG	Part III	: Core
Semester	: IV	Hours per week	: 06
Sub code	: 18PMTTC41	Credit	: 05

MEASURE THEORY AND INTEGRATION

Course Outcomes

CO1: To introduce the idea connected to the concepts of measures.

CO2: To explain about measurable sets and functions.

CO3: To learn more about Riemann and Lebesgue integration.

CO4: Ability to use a wide range of references and thinking.

Programme	: PG	Part III	: Core
Semester	: IV	Hours per week	: 06
Sub code	: 18PMTC42	Credit	: 05

FUNCTIONAL ANALYSIS

Course Outcomes

CO1: To develop the skills in analyzing the basic structure of Normed spaces.

CO2: To get knowledge in using some special classes of functions.

CO3: To explain about various types of operators.

CO4: To understand Banach and Hilbert spaces and self-adjoint Operators.

Programme	: PG	Part III	: Core
Semester	: IV	Hours per week	: 06
Sub code	: 18PMTC43	Credit	: 04

OPERATIONS RESEARCH

Course Outcomes

CO1: To familiarize various decision– making tools.

CO2: To introduce some techniques used in OR.

CO3: To introduce the application on inventory control system and etc.

CO4: To **Identify** the resources required for a project and generate a plan and work schedule.

Programme	: PG	Part III	: Core
Semester	: IV	Hours per week	: 06
Sub code	: 18PMTPR1	Credit	: 04

PROJECT & VIVA-VOCE

Evaluation of the Project & Viva-Voce shall be made jointly by the research supervisor and the External Examiner.

Evaluation of Project & Viva-Voce

Maximum Marks : 100 Marks

Internal : 40 Marks

External : 60 Marks

Programme : PG **Part III : Elective**
Semester : IV **Hours per week : 06**
Sub code : 18PMTE41 **Credit : 04**

NUMBER THEORY

Course Outcomes

CO1: To introduce some importance tools in number theory.

CO2: To learn about number theoretical functions.

CO3: To recognise the importance of the Division Algorithm, and be able to apply it in a variety of scenarios.

CO4: To familiarize about primitive roots.

Programme : PG **Part III : Elective**
Semester : IV **Hours per week : 06**
Sub code : 18PMTE42 **Credit : 04**

ADVANCED TOPOLOGY

Course Outcomes

CO1: To introduce the concept of Local finiteness and Completeness.

CO2: To familiarize compactness.

CO3: To study about Baire spaces.

CO4: To define and categorize the separation axioms which separate a point from another point, a point from a set that does not contain this point and a set from another set.

Programme : PG **Part III : Elective**
Semester : IV **Hours per week : 06**
Sub code : 18PMTE43 **Credit : 04**

STOCHASTIC PROCESSES

Course Outcomes

CO1: To introduce the concepts of Stochastic Process.

CO2: To familiarize its applications.

CO3: To learn about real life problems.

CO4: To provide the classification and properties of, discrete and continuous time Markov chains, simple Markovian queueing models.

Programme : PG **Part III : Elective**
Semester : IV **Hours per week : 06**
Sub code : 18PMTE44 **Credit : 04**

FUZZY SETS AND LOGIC

Course Outcomes:

CO1: To develop the basic knowledge of fuzzy sets and its operations.

CO2: To familiarize fuzzy numbers and fuzzy operations.

CO3: To explain about the nature and difference between crisp and fuzzy relations.

CO4: Be thorough with the concept of Logical connectives and fuzzy graphs.