Program Outcomes and Course outcomes of Department of Mathematics

Programme offered:

S.No	ProgrammeName	POandCO
1.	B.Sc.,Mathematics	Yes
2.	M.Sc.,Mathematics	Yes
3.	M.Phil.,Mathematics	Yes

B.Sc.,Mathematics-2018-2019

PROGRAMMEOUTCOMES	
PO1	To understand and apply the knowledge of mathematical science to solve reallife problems
PO2	To design the methodology suitable tot eproblemonhand.
PO3	Toanalyzeandinterpretsolutionoutputsandgeneratenewideasbasedontheoutputs.
PO4	To lead,work in team and give priority to the success of the aim of the team.
PO5	To recognize and learn the importance of life-long learning.
PROGRAM SPECIFIC OUTCOME	
PSO1	To think in a critical manner.
PSO2	To know when there is a need for information, to be able to identify, locate,Evaluate, and effectively use that information for the issue or problem at hand.
PSO3	To formulate and develop mathematical arguments in a logical manner.
PSO4	To acquire good knowledgeand understanding in advanced areas of mathematics and statistics, chosen by the student from the given courses.
PSO5	To understand,formulate and use quantitative models arising in socialscience,Business and other contexts.
PEO1	To provide students with knowledge, abilities and insightin mathematics and related fields.

PEO2	To enables them to work as a mathematical professional,or qualify for training as scientific researcher.	
PEO3	To develop the ability to utilize the mathematical problem solving method such as analysis, modeling, programming and mathematical software applications in addressing the real world problems and heuristic issues.	
PEO4	To enables students to recognize the need for and the ability to engage in life long learning	

Course outcomes (Cos)2018-2019

B.Sc.,Mathematics

S.No	Semester	Course Code/Name	Course Outcome
CO1	I	Basic Mathematics –I (Differential Calculus and Vector Differentiation)	To manipulate, and solve problemsusing, successive differentiation & vector operators; To calculate Maxima & Minima for functions of two variables and Lagrange multiplier method To solve curvature, evolutes, asymptotes and envelopes in simple cases To calculate gradient,d ivergence and curl vectors in R3.
CO2	I	Basic Mathematics –II (Trigonometry, Analytical Geometry 3D And Calculus)	To manipulate the expansions of basic trigonometric functions. To calculate summation of trigonometricseries and Gregory's series To understand the concept of analytical geometry and be able to use properties of spheres, cone and cylinder in real cases. To manipulate, and solve problems using,integral calculus.
CO3	I	Allied- I- Paper –I Programming In C	To Design C Programs for problems. To Write and execute C programs for simple applications
CO4	I	CoreIII Basic Mathematics-III Differential Equations	To understand the theory of, and be able to solve (in simple cases),ordinary differential equations and partial differential equations,and standard types of linear equations; To understand the theory of Fourier and Laplace transforms and apply it to the solution of ordinary and partial differential equations

CO6	II	Core -IV Basic Mathematics IV Vector integration And Classical Algebra)	To understand the theory of, and be able to solve problems in Green'sTheorem, Stokes' Theorem and Gauss's Divergence Theorem
			To manipulate relation between root andcoefficients, symmetric functions of the roots in terms of the coefficients and Transformation of equation.
			To calculate summation related to Binomial, Exponential and Logarithmicseries
CO7	II	Allied- I- Paper –II Fundamentals Of Computing	To Identify the components of computer systems and state their function.
			To Differentiate between the various operating systems and application programs that are available for personal computers.
			To understand the relationship between computer hardware and software.
			To identify computer tools that may be applied to assist with various common applications
CO8	III	Core–V Number Theory	To solve problems in elementary number theory
			To apply elementary number theory
			To Develop a deeper conceptual Understanding of the theoretical basisof Number theory and cryptography
			To define and interpret the concepts of divisibility, congruence, greatest common divisor, prime, and prime-factorization
CO10	III	Core–VI Numerical Analysis	To solving problems in algebraic and transcended equations.
			To understand about finite differences
			Students develop and analyze numerical techniques.
			To applyingVarious numericalmethods to solve the ordinary differential equations
			To gets the Research inquiry and analytical thinking abilities.

H.O.D.
DEPARTMENT OF MATHEMATICS
'RIST DEEMED TO BE UNIVERSITY
THANJAVUR · 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science & Technology (PRIST)
Deemed to be University
Vallam, Thanjavur - 613 403.

CO11	III	Allied–II–Paper–1–Mathematical Statistics 1	To get the methodology for the planning and execution for any scientific enquiry. To learning statistical techniques and statistical data To understand the concept of randomvariables To understand the concept of central limit theorem for i.i.d randomvariables. To gather knowledge of constructions and uses of fixed and chain based index numbers
CO12	III	Allied–II Mathematical Statistics II	To learn the statistical techniques and statistical data To understood the concept of correlation and regression To get knowledge of test of significance based on parametric and non– parametric test To get the methodology for the planning and execution for any scientific enquiry.
CO13	IV	Core –VIII OperationsResearch	To use OR techniques in business tools for decision making To develop PERT and CPM networks and finding the shortest path To understand the concept of sequencing problems and game theory To get the knowledge about inventory theory.
CO14	IV	Core– IX Astronomy	To understand about celestial objects To get knowledge about Eclipses To apply in different zones of Earth Astronomical refraction To apply in different phases of Moon
CO15	IV	Allied-II MathematicalStatisticsIII	To learn statistical techniques and statistical data To understood the concept of various distributions A knowledge of test of significance based on parametric and non– parametrictest Design/development of solutions Understood the concept of sampling theory
CO16	V	Core-X Modern Algebra	To get knowledge and understand about Algebraic structures like Groups, Rings, Vectorspaces To understood about Morphisms

CO17	V	Core –XI Real Analysis	To knowledge about Connectedness, completeness and compactness
			To understanding the Riemannintegrals, fundamental theorem of calculus
			To analyses the problem and finding the solution Anability to construct free-body diagrams and to calculate there actions necessary to ensure static equilibrium.
			To understanding of the analysis of couples and friction.
CO18	V	Core – XII Statics	To construct free-body diagrams and to calculate the reactions necessary to ensure static equilibrium.
			To understand the analysis of couples and friction
CO19	V	Core-XIII ProgramminginC++	To understand and design the solution to a problem using object-oriented programming concepts.
			To reuse the code with extensible Class types, User-defined operators and function Overloading
			To understand functions and parameter passing.
			To understand object-oriented design and programming
CO20	V	Elective Paper- I Fuzzy Analysis	To get the knowledge and understand Classical Sets vs Fuzzy Sets(FS)–Types of FS–Operations on FS
			To get the knowledge and understand Zadeh's Extension Principle
			To get the knowledge and understand Fuzzy Relations–Fuzzy RelationalEquations–Possibility Theory
			To get the knowledge and understand Fuzzy Measures. Fuzzy relation equations based on sup-icompositions –fuzzy relation equations based on wi composition.

CO21	V	Elective Paper-I Formal Languages And Automata Theory	To design the push down automata.
			Comprehend the hierarchy of problems arising in the computer sciences.
			To get an idea for designing Compiler Design.
			To get knowledge about regular expressions and computability theory
			To acquire a fundamental understanding of the core concepts in automata theory and form all languages
			To design grammars and automata (recognizers) for different language classes.
			To identify form all language classes and prove language membership properties
			To prove and disprove theorems establishing key properties of formal languages and automata.
CO22	VI	Core – XIV Complex Analysis	To represent complex numbers algebraically and geometrically,
			To define and analyze limits and continuity for complex functions as well as consequences of continuity,
			To apply the concept and consequences ofanalyticityandtheCauchy-Riemann equations and of results on harmonic and entire functions including the fundamental theorem of algebra,
			To analyze sequences and series of analytic functions and types of convergence,
			To evaluate complex contour integrals directly and by the fundamental theorem,
			To represent functions as Taylor, power and Laurent series,classify singularities and poles, find residues and evaluate complex integrals using the residue theorem.
CO23	VI	Core–XV Dynamics	To get knowledgeof internal forcesand moments in members.
			To calculate cancroids and moments ofinertia.
			To get knowledge of kinematic and kinetic analyses and energy and momentum methods for particles and systems of particles.
			To get knowledgeof kinematic and kinetic analyses and energy and momentum methods for rigid bodies.
CO24	VI	Core–XVI	To successfully complete the course will

CO	Sem	Course	Course Outcomes
		Discrete Mathematics	demonstrate the following outcomes by tests,homework,and written reports
			To get knowledge of relations and functions
			To get knowledge of logical reasoning is used in mathematics to prove theorems, in computer science to verify the correctness of programs and to prove theorems in physical science to draw the conclusions.
			To find the solutions of Recurrence relations.
			To study on ordering relations.
CO25	VI	Elective Paper-II Graph Theory	To get knowledge in Graph Theory
			To understand the properties of GraphTheory
			To understand the concept of Kuratowski's graph
			To understanding Matrix representation of graphs
CO26	VI	Elective Paper-II Mathematical Modelling	To successfully completed this module, you will be able to demonstrate knowledge
			To get correct methodology when developing mathematical models.
			Designing and developing the solutions
CO27	VI	FreeElectiveIndirectTaxes	To gained knowledge of various provisions of central excise customs law, service tax, VAT and sales tax and their applications in different circumstance.

B.Sc., Curriculum Mapping

Programme Educational Objectives vs Programme Outcome

PO PEO	PO1	PO2	PO3	PO4	PO5
PEO1	*	*		*	
PEO2		*		*	
PEO3		*			
PEO4					*

Dr. ....
H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute
Science & Technology (PRIST)
Deemed ...

B.Sc. Curriculum Mapping

Programme Outcome vs Courses Outcome

PO / CO	PO1	PO2	PO3	PO4	PO5
CO1	*	*	*	*	*
CO2	*	*	*	*	*
CO3	*	*	*	*	*
CO4	*	*	*	*	*
CO5	*	*	*	*	*
CO6	*	*	*	*	*
CO7				*	*
CO8	*	*	*	*	*
CO9				*	*
CO10	*	*	*	*	*
CO11			*	*	*
CO12	*	*	*	*	*
CO13	*	*	*	*	*
CO14	*	*	*	*	*
CO15	*	*	*	*	*
CO16			*	*	*
CO17	*	*	*	*	*
CO18	*	*	*	*	*
CO19			*	*	*
CO20	*	*	*	*	*
CO21	*	*	*	*	*
CO22	*	*	*	*	*
CO23	*				
CO24					
CO25	*				
CO26					
CO27					

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute o
Science & Technology (PRIST)
Deemed to be University
Vallam, Thanjavur - 613 403.

PROGRAMMEOUTCOMES	
PO1	To apply the knowledge of mathematical science to solve real life problems.
PO2	To design the methodology suitable to the problem encountered.
PO3	To analyze and interpret solutions and generate new ideas based on the outputs.
PO4	To inculcate research ability in the mathematical science.
PO5	To lead, work in team and give priority to thesuccess of team.
PROGRAMSPECIFICOUTCOME	
PSO1	To develop problem-solving skills and apply them independently to problems in pure and applied mathematics.
PSO2	To assimilate complex mathematical ideas and arguments.
PSO3	To improve your own learning and performance
PSO4	To develop abstract mathematical thinking.
PEO1	To equip students with knowledge, abilities and insight in mathematics and related fields.
PEO2	To enable them to work as a mathematical and scientific researcher and to work as ateam.
PEO3	To equip students with the ability to translate and synthesize their understanding towards nature,human and development.
PEO4	To develop the ability to utilize the mathematical problem solving methods such as analysis,modeling,programmingand mathematical software applications in addressing the real world problems and heuristic issues.
PEO5	To enable students to recognize the need for and the ability to engage in life-long learning.

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute
Science & Technology (PRIST)
Deemed to be University
Vallam, Thanjavur - 613 403.

Courseoutcomes(Cos)-2018-2019

M.Sc.,Mathematics

S.No	Semester	CourseCode/Name	CourseOutcome
CO1	I	Algebra	To understand the concept of Group Theory, RingTheory. To get knowledge of Linear Transformations. To understand the analysisof Fields Research inquiry and analyticalthinkingabilities. To simplify algebraic expressions to analyze functions and graphs. To create graphs using key features.
CO2	I	RealAnalysis	To know the motion of the Riemann-Stieltjes integral; prove elementary properties of the Riemann integral and the Fundamental Theorem of Calculus. To describe the Infinite series andInfiniteProduces,SequencesofFunctions. To understand of MultivariableDifferential Calculus and Implicit Functions and Extremum problem. To describe fundamental properties of the real numbers that lead to the formal development of real analysis To comprehend rigorous arguments developing the theory under pinning real analysis To demonstrate an understanding of limits and how they are used in sequences, series, differentiation and integration To construct rigorous mathematical proofs of basic results in real analysis;

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR- 615 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science &
Deemed
Vallam, Thanjavur- 3.

CO3	I	Ordinary Differential Equations	To completing this course students should be able to solve first order equations, systems of periodic coefficients and use these methods to solve applied problems.
			To get knowledge of Sturm-LiouvilleProblem.
			To understand about the stability of stationary solutions.
			To solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases.
			To find the complete solution of a non homogeneous differential equation as al inear combination of the complementary function and a particular solution.
			To the complete solution of a non homogeneous differential equation with constant coefficients by the method of undetermined coefficients.
			To find the complete solution of a differential equation with constant coefficients by variation of parameters.
CO4	I	Programming In C++	To know the proper lines of C++, Encapsulation, Inheritance and Polymorphism.
			To explain the various datatypes, operations and functions of C++.
			To know the concept of constructors and destructors.
			To explain the concept of inheritances, types of inheritanceand polymorphism, virtual Functions.
			To explainthe types of streams, format and format of input and output operations.
			To Known the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects.
CO5	II	Classical Dynamics	To completethe course will demonstrate the following Outcomes by tests, homework, and writtenreports:
			To get knowledge of mechanical systems, virtual work Energyand Momentum.
			To understand the concept and Applications Lagrange'sEquation.

			Have a deep understanding of the mathematical foundations of quantum mechanics
			To solve the Schr¨odinger equation using various approximation methods
			To have a basic understanding of relativistic effects in quantum mechanics
CO6	II	Fluid Dynamics	To get knowledge of Two Dimensional and conformal mappring.
			To get knowledge of solving problems in viscous flow-steady viscous flow
			To identify how properties of fluids change with temperature and their affect on pressure and fluid flow.
			To describe fluid pressure and its measurement.
			To define the relationship between pressure and elevation as it relates to manometers, barometers and other pressure measuring devices.
			To calculate forces on a plane submerge dinastatic fluid.
			To calculate buoyancy on a body submerged in a static fluid.
			To use the general energy equation to calculate changes in fluid flow for circular and non-circular pipes for in-compressible fluids.
CO7	I	Research Led seminar	To know the emerging areas in research
CO8	II	Complex Analysis	On completion of this unit successful students will be able to:
			To understand the significance of harmonic functions,Reimann zeta function.

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ra
Science & Te   'ute of
Dee   ST)
Vallam, Than   3.

			To get knowledge of periodic functions, the weierstrass
			Abilities in conformal mapping
			To analyze functions of a complex variable using series expansions, using line integrals, using geometry, and using partial differential equations
			To explain the major theorems that distinguish complex analysis from real analysis
			To apply complex analysis to compute geometric mappings and real integrals.
CO9	II	Measure Theory And Integration	To introduce the concepts
			Of measure and integral with respect to a measure,
			To show their basic properties,
			To provide a basis for further studies in Analysis, Probability, and DynamicalSystems.
			To Identify, describe, and applyemerging technologies in teaching and learning environments
			To demonstrate knowledge, attitudes, and skills of digital age work and learning
			To Plan, design, and assess effective learning environments and experiences
			To implement curriculum methods and strategies that use technology to maximize student learning
			To develop technology-enabled assessment and evaluation strategies
CO10	II	MathematicalMethods	To understand the significance of Calculus of Variations, Fourier Transforms and Henkel Transform.
			To get knowledge of linear integral equations and Method of successive approximations.
			Stillness in transformation form one function into another function
			To communicate both orally and verbally about music of all genres and stylesina clear anda rticulatemanner(comprehension).
			To analyze and interpret texts within a written context
			Students will be able to judge there asona ableness of obtained solution
			To evaluate theory and critique research within

			the discipline
CO11	II	Graph Theory	To get knowledge in GraphTheory
			To understanding the properties ofGraphTheory
			To understanding the concept of Kuratowski'sgraph
			To understanding Matrix representationof graphs
CO11	II	MathematicalProbability	To get knowledge and understanding the place of probability theory knowledge in cognitive process, describe the basic probability theory and mathematical statistics concepts; Special abilities and skills.
			To calculate the probabilities of events with an appropriate choice of the method of calculation;
			Be familiar with the types of randomvariables, be able write them,calculate their numerical characteristics;
			To evaluate numerical characteristics of the sample and interpret themeanings of the parameters ofpopulation.
			To formulate and test hypotheses,draw the appropriate conclusions.
			To understand impotent distribution
CO12	II	Mathematical Modeling	Having successfully completed this module, you will be able to demonstrate knowledge and understanding of:
			The concept of mathematicalmodeling.
			The mathematical descriptions of some realsystems.
			To correct methodology when developing mathematical models.
			Skill in applications
			To design and developing the solutions.
CO13	II	Research Methodology	To familiarize participants with basic of research and the researchprocess.
			To have basic knowledge on qualitative research techniques
			To have adequate knowledge on measurement & scaling techniques as well as the quantitative data analysis
			To get the methodology for the planning and execution for any scientific enquiry
CO14	II	Participation inBounded Research	To do the allotted work in research

CO15	III	Topology	To learn to do review of literature
			Upon successful completion of this course, the student will be able to: (Knowledgebased) distinguish among open and closed sets on different topological spaces;
			To know the two fundamental topologies: discrete and indiscrete topologies.
			To identify precisely when a collection ofsubsets of a given set equipped with atopologyforms atopologicalspace;
			To understandwhen two topological spaces are homeomorphic;
			To identify the concepts of distance between two sets; connectedness, denseness, compactness and separation axioms.
			To explainthe notion of metricspace.
			To know the use openball on metricspaces,construct the metric topology and define open-closed sets of the space.
CO16	III	Stochastic Processes	On successful completion of the course,students shouldbe ableto:
			To explain fundamentals of probabilitytheory, random variables and randomprocesses.
			To understand the mathematical conceptsrelatedtoprobabilitytheoryandrandomprocesses
			To understand the characterization ofrandomprocessesandtheirproperties.
			To formulate and solve the engineering problems involving randomprocesses.
			To analyze the given probabilistic model of the problem.
			To make precise statements about randomprocesses.
			To use computational techniques to generate simulation results.

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science & Technology (PRIST)
Deemed to be University
Vallam, Thanjavur.

CO17	III	Advanced Numerical Analysis	To solve an algebraic or transcendental equation using an appropriate numerical method.
			To solve a differential equation using an appropriate numericalmethod.
			To evaluate a derivative at a value using an appropriate numericalmethod.
			To solve a linear system of equations using an appropriate numericalmethod.
			To calculate a definite integral using an appropriate numericalmethod.
			Skill in finding the roots of the given equation
CO18	III	Cryptography	To analyze key agreement algorithms to identify their weaknesses.
			To describe the ethical issues related to the misuse of computer security.
			To develop code toimplement a cryptographic algorithm or write ananalysis report on any existing security product.
			Cryptographic Algorithms Symmetric Encryption and MessageConfidentiality Public-KeyCryptographyandMessageAuthentication
			The Network Security Internet Security Protocols and Standards Internet Authentication Applications Wireless Network Security
			The SoftwareSecurityandTrustedSystems

CO19	III	Alegebraic CodingTheory	Upon completion of this course, students should beable to:
			To define channel capacities and properties using Shannon's Theorems.
			To construct efficient codes for data on imperfect communication channels.
			To generalizethediscreteconceptstocontinuous signals on continuouschannels.
			To define and illustrate main concepts and prove fundamental theorems concerningerror-correcting codes given in the course;
			To calculate the parameters of given codes and their dual codes using standard matrix and polynomial operations;
			To encode and decode information by applying algorithms associated with well-known codes;
			To compare the error-detecting/correcting facilities of given codes for a given binary symmetric channel;
CO20	III	Writing for the media	To know the intricacies of Media
CO21	III	Applicable MathematicalTechniques	To useOR techniques in business tools for decisionmaking
			To develop Assignment problem and replacement problems
			To understand the concept of decision analysis and gametheory
			To gets the knowledge about interpolation
CO22	III	Biomedical Instrumentation	To familiarize students with various medical equipments and their technical aspects
			To introduce students to the measurements involved in some medical equipment.
			To understand diagnosis and therapy related equipments
			To understanding the problem and ability to identify the necessity of an equipment to a specificproblem

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science &
Do
Valla

CO23	III	GreenChemistry	To understand the environmental status and evolution.
			To know about the Pollution and its prevention measures.
			To familiarize the green chemistry.
			To learn about the bio-catalytic reactions.
			To understand about the vitamins and antibiotics
CO24	III	Internet and Web Design	Acquire knowledge about functionalities of Internet
			Acquire knowledge about functionalities of worldwideweb
			Explore markup languages features and create interactive webpages using them
			Learn and design Clients id evalidation using scripting languages
			To acquire knowledge about Opensource JavaScript libraries
			To design front end webpage and connect to the back end databases
CO25	III	Insurance Services	To learn the principles of Insurance and the functions of Life and general insurances and the IRDA
CO26	III	CounsellingPsychology	To learn counseling and its process
CO27	III	HerbalMedicine	To develop individualized goal and plan for wellness
			To gather information about past and current health status
			To create comprehensive assessment of health inputs
CO28	III	Societal Project(Scaffold Research)	To describetheinter-linkage of institutions and their effects on individuals.
			To explain how social change factors affect social structures and individuals.
			To describe how culture and social structure vary across time and place and with what effect.
			To identify examples of specific social policy implications using reasoning about social structural effects.

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403.

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science & Technology (PRIST)

CO29	IV	Functional Analysis	Upon successful completion of thiscourse, the student will be able to:(Knowledgebased) distinguish among open and closed sets on different topologicalspaces;
			To know the two fundamental topologies:discrete and indiscrete topologies.
			To identify precisely when a collection of subsets of a given set equipped with a topology forms a topologicalspace;
			To understand when two topological spaces are homeomorphic;
			To identify the concepts of distance between two sets; connectedness, denseness, compactness and separation axioms.
			Research inquiry and analytical thinking abilities.
CO30	IV	Visual Programming	Students code visual programs by using Visual Basic work environment.
			To distinguish and compose events and methods.
			To recognize and arrange control structures.
			To understand development of applications.
			To understand the use of various system libraries.
CO31	IV	Number Theory	To solve problems in elementarynumber theory
			To apply elementary number theory to cryptography
			To develop a deeper conceptual understanding of the theoretical basis of number theory and cryptography
			To do research inquiry and analytical thinking abilities.
			To find quotients and remainders from integer division
			To apply Euclid's algorithm and backwards substitution
			To understand the definitions of congruences,residue classes and least residues
			To determine multiplicative inverses,modulon and use to solve linear congruences.

| | IV | CombinatorialMathematics | Apply Diverse Counting Strategies To Solve Varied Problems Involving Strings, Combinations, Distributions And Partitions.

Write And Analyze Combinatorial Algebraic, Inductive, And Formal Proofs Of Combinatorie Identities.

Recognize Properties Of Graphs Such As Distinctive Circuits Or Trees Will Become Familiar

That Naturally Appear In Various OtherFields Of Mathematics And ComputerScience.

They Will Learn How To Use These Structures To Represent Mathematical and Applied Questions, and they Will become Comfortable With The combinatorial Tools Commonly Used to Analyze Such Structures.

To apply mathematical concepts and To principles to perform numerical and symbolic computations.

To use technology appropriately to investigate and solve mathematical and statistical problems.iii.write clear and precise proofs. |
|---|---|---|---|

	IV	Designand Analysis ofAlgorithms	To argue the correctness of algorithms using inductive proofs and invariants.
CO33			To analyze worst-case running times of algorithms using asymptotic analysis. Students will be able to design and conduct experiments to address questions germane to the discipline.
			Students will be able to design and administer surveys that address questions appropriate to the discipline.
			Students will be able to conduct interviews and focus groups that address questions relevant to the discipline.
			Students will be able to design and execute research plans using the major methodologies of the discipline (experiments, surveys,qualitative techniques, etc.) to answer disciplinary specific questions.
			One sentence in length that clearly states the behaviors that students should be able to demonstrate.
CO34	IV	Project	Do research and prepare project

M.Sc Curriculum Mapping

Programme Educational Objectives   vs Programme Outcome

Programme Outcome-PO Programme Educational Objectives-PEO	PO1	PO2	PO3	PO4	PO5
PEO1	*				*
PEO2		*	*	*	*
PEO3	*	*	*	*	*
PEO4	*		*	*	*
PEO5	*		*	*	*

M.Sc Curriculum Mapping

Programme Outcome vs Course Outcome

Programme Outcome-PO Course Outcome-CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1				*	*		
CO2	*		*	*	*	*	
CO3	*	*	*	*	*	*	
CO4	*	*	*	*	*	*	
CO5	*	*	*	*	*	*	
CO6	*	*	*	*	*	*	
CO7					*		*
CO8	*	*	*	*	*	*	
CO9	*	*	*	*	*	*	
CO10	*		*	*	*	*	
CO11	*	*	*	*	*	*	
CO12	*	*	*	*	*	*	
CO13				*	*	*	*
CO14				*	*	*	
CO15				*	*	*	*
CO16	*	*	*	*	*	*	

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institu
Science & Tech
Deemed

CO							
CO17			*	*	*	*	
CO18	*	*	*	*	*	*	
CO19	*	*	*	*	*	*	
CO20				*	*	*	*
CO21	*	*	*	*	*	*	
CO22	*	*	*	*	*	*	
CO23	*	*	*	*	*	*	
CO24	*	*	*	*	*	*	
CO25	*	*	*	*	*	*	
CO26	*	*	*	*	*	*	*
CO27	*	*	*	*	*	*	
CO28	*	*	*	*	*	*	
CO29				*	*	*	*
CO30				*	*	*	
CO31				*	*	*	*
CO32	*	*	*	*	*	*	
CO33			*	*	*	*	
CO34	*	*	*	*	*	*	

ॐ.ॐ஢ஜ௬௲௸௺

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam
Science & ... Institute of
Doomed ...
Vallam, Thanjavur

PROGRAMMEOUTCOMES	
PO1	After successful completion of Master of Philosophy in Mathematics students will Be able to demonstrate basic knowledge in mathematical science.
PO2	The students would acquire basic knowledge of research and skills to design and Conduct classes and interpret the results.
PO3	The students will be able to demonstrate understanding of basic knowledge in Modern mathematical techniques.
PO4	The students will be able to acquireknowledge to solve real life problems.
PO5	The students will be able to reinforce research skills and high end recen tadvances In mathematics.
PO6	The students will be able to communicate effectively and demonstrate professional and ethical responsibilities.
PROGRAMSPECIFICOUTCOME	
PSO1	To develop research level thinking in the field of pure and applied mathematics. To assimilate complex mathematical ideas and arguments.
PSO2	To improve your own learning and performance.
PSO3	To develop abstract mathematical thinking.
PROGRAM SPECIFIC OUTCOME	
PEO1	Victorious in getting employment in different areas, such as industries, laboratories, Banks,Insurance Companies, Educational/Researchinstitutions, Administrative positions,since the impact of the subject concerned is verywide.
PEO2	Keep on discovering new avenues in the chosen field and exploring areas that remain conducive for research and development.
PEO3	Encourage personality development skills like time management, crisis management,stress interviews and working as a team.

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science &

Course outcomes (Cos)-2018-2019

M.Phil.,Mathematics

S.No	Semester	CourseCode/Name	CourseOutcome
CO1	1	RESEARCH METHODOLOGY	To understanding the nature of problem to be studied and identifying the related area of knowledge. To reviewing literature to understand how others have approached or dealt with the problem. To collecting data in an organized and controlled manner so as to arrive at valid decisions. To analyzing data appropriate to the problem
CO2	1	ALGEBRA AND ANALYSIS	To know the definitions and understand the key concepts introduced in this modules. To be able to investigate the properties of modules. The concept of a module as a generalization of a vector space and an abelian group. Have the knowledge of basic properties of primary decompositions and Noetherian Rings. Studying Nakayama's lemma. Studying the topological concepts and Riesz representation theorem. Studying the notion of Lebesgue measure and their properties. To learn the concepts of Laplace transforms and inverse Laplace transforms. To know the concepts of Inversion theorem and Plan Cherel theorem. To learn the ideas of transformations. To study the Riemann mapping theorem. Solve difficult problems using the above concepts.

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah
Science
Dean

CO3	I	ADVANCEDNUMERICALANALYSIS	Students will be able to understand the theoretical and practical aspects on the use of numerical methods. Analyze the errors obtained in the numerical solutions of problems. Demonstrate the use of interpolation methods to find intermediate values in the given graphical and/or tabulated data. Numerically solve a lot of practical problems where exact solution is unknown. Determine approximate solutions of system of linear algebraic equations using the method of matrix decomposition. Understand the idea of interpolation, namely the deviation of the given function from the approximating polynomial. Evaluate the derivative of the given function by approximating polynomial. Study in detail the numerical methods involved in shooting method, finite difference method.
CO4	I	RESEARCH ANDPUBLICATIONETHICS	To demonstrate research and publication ethics. Identify publication misconduct and predatory journals. Apply different tools for plagiarism checking. Utilize various indexing and citation databases and outline research metrics. Appraise research integrity.

B. Anjugam

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science & Technology (PRIST)
Deemed
V

M.Phil., Curriculum Mapping

Programme Educational Objectives   vs Programme Outcome

Programme Outcome-PO / Programme Educational Objectives-PEO	PO1	PO2	PO3	PO4	PO5	PO6
PEO1	*				*	*
PEO2		*	*	*	*	*
PEO3	*	*	*	*	*	*
PEO4	*		*	*	*	*
PEO5	*		*	*	*	*

M.Phil Curriculum Mapping

Programme Outcome vs Course Outcome

Programme Outcome-PO / Course Outcome-CO	PO1	PO2	PO3	PO4	PO5	PO6
CO1				*	*	
CO2	*		*	*	*	*
CO3	*	*	*	*	*	*
CO4	*	*	*	*	*	*

H.O.D.
DEPARTMENT OF MATHEMATICS
PRIST DEEMED TO BE UNIVERSITY
THANJAVUR - 613 403

Dean
School of Arts & Science
Ponnaiyah Ramajayam Institute of
Science & Technology (PRIST)
Deemed to
Vallam, Th

1.