GOVERNMENT ARTS COLLEGE FOR MEN

(Autonomous)

NANDANAM, CHENNAI – 600 035.

DEPARTMENT OF MATHEMATICS

COURSE OUTCOME FOR

M.Sc Degree Course in MATHEMATICS

Semester System

(Three Year UG Degree Course) / (Two Year PG Degree Course)

CHOICE BASED CREDIT SYSTEM

Effective from the Academic Year

2019 - 2020

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COURSE: Mathematics

OUTCOME:

- The Subjects are unifying thread of almost all of Mathematics.
- The Subjects generally considered to be essential for any study of Mathematics, Science, Engineering as well as such applications as Medicine and Economics.
- The subjects are necessary for foundation of Statistical Studies.
- Engineers use the application of these subjects in their various real life projects, finance, trading, computer and network simulations, modelling, manufacturing, image processing and also for space research.

- Enhances the knowledge of decision making by teaching various operations techniques such as transportation model, Assignment model, CPM method and PERT method.
- Enhance the knowledge of coordinate system.
- Students are well equipped for meaningful and productive careers.
- Demonstrate knowledge of the concepts in the various fields like Statistical field, Banking Profession, Teaching Profession, Information Technology, and also in various technical and industrial fields.
- Four papers on Soft skill for post graduate course. This aims to enhance student's placement opportunity.
- Two EDC papers to impart knowledge in computer programming and internet applications for post graduate course.

Sem	Paper	Title of the Paper	Code	Outcome
I	Major – I	Abstract Algebra	196101	*At the end of the course, students will be able (1) to find the number of sylow groups. (2) to find the number of non isomorphic abelian groups. (3) to find the splitting filed, Galois group of the given polynomial. (4) to check whether the given polynomial is solvable by radicals or not.*
	Major – II	Real Analysis - I	196102	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*
	Major – III	Ordinary Differential Equations	196103	*Upon completion of this course the students will be able to understand the concepts of convergent power series solutions of Legendre, Euler and Bessel equations and apply ordinary differential equations in other disciplines.*
	Elective - I	Formal Languages and Automata Theory	196121	*The learner gain knowledge of fundamental concepts of automata and properties of regular languages, push down automata and context free languages.*
	Elective-II	Actuarial Mathematics	196130	*Students understands the underlying concepts in various types of insurance policies, calculation of EMI, decision making based on money value.*
	SS – I	Soft Skill – I – Personality Development	195001	
II	Major – IV	Linear Algebra	196104	*Upon completion of this course student will gain the knowledge in Linear transformation, Canonical forms, Real quadratic forms, Finite fields.*
	Major – V	Real Analysis - II	196105	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*

	Major – VI	Partial Differential Equations	196106	*The students can be able to describe real valued system using Heat, wave, Laplace, diffusion equations and Integral transforms to solve physical situations.*
	Major-VII	Topology	196107	*Upon completion of this course the students will be able to understand the concepts basic notations and topological spaces and used to the methods and techniques of proving basic theorem on topological spaces and continuous mapping.*
	Elective-III	Number theory and Cryptography	196129	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*
	EDC – I	EDC Paper I – Optimization models	196141	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*
	SS – II	Soft Skill – II		
III	Major-VIII	Complex Analysis – I	196108	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*
	Major – IX	Functional Analysis	196109	*On successful completion the course students gains the knowledge of Banach Spaces and Hilbert Spaces.*
	Major – X	Mechanics	196110	*On successful completion of the course, the students will understand the derivation of Lagrange's equations using elementary calculus, the use of Hamilton-Jacobi in identifying conserved quantities for a mechanical system, even when the mechanical problem itself cannot be solved completely and the use of analytical treatments in checking the numerical models.*
	Major – XI	Probability and Mathematical Statistics	196111	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*

	Major-Inter	Internship	196181	
	EDC – II	EDC Paper II – Resource Management Techniques	196142	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts*
	SS – III	Soft Skill – III		
IV	Major – XII	Complex Analysis – II	196112	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*
	Major-XIII	Differential Geometry	196113	*After successful completion of the course students will be able to* *1. Calculate the curvature and torsion of a curve* *2. Find the osculating surfaces and osculating curve at any point of a given curve* *Calculate the first and second fundamental forms of surfaces Calculate the Gaussian curvature, the mean curvature , the line of curvature and the geodesics of a surfaces.*
	Major-XIV	Fluid Dynamics	196114	*On successful completion of the course, the students will be able to analyze fluid flow problems with the application of the momentum and energy equations, understand modeling approximations in finding exact solutions, apply basic principles of multi-variable calculus, differential equations and complex variables to fluid dynamic problems.*
	Major-XV	Graph Theory	196115	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts*
	Elective-IV	Advanced Operations Research	196126	*The learner will befall skillful in decision making, integer programming, enumeration of algorithm, dynamic programming, stage coach and cargo leading problem, network models and queuing theory.*

	Elective-V	Fuzzy set and Applications	196123	*On successful completion of this course student should gain knowledge and problem solving skill in these concepts.*
	SS – IV	Soft Skill – IV		