GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM - 612 001
Affiliated to Bharathidasan University
DST - CURIE Sponsored Institution
IV Cycle of Accreditation

Estd. 1963

📞 **0435 – 2401391**   ✉ **principal@gcwk.ac.in**

DEPARTMENT OF MATHEMATICS-UNDER GRADUATE

S. NO	COURSE CODE	COURSE NAME	ISSUED ADDRESSED	FOCUS OF THE COURSE
1.	Real Analysis	17MC508/ U21MC510	Environmental & Sustainability	Riemann integral: To know about integral function.
2.	Complex Analysis	17MC611 / U21MC613	Environmental & Sustainability	Power series expansion, Residues; know more of power series expansion.
3.	Numerical Analysis	17M6EC4 / U21M6MBE2:1	Professional Ethics, Human Values	Design and analysis of techniques to give approximate but accurate solutions to hard problems is taught.
4.	Operations Research	17M5EC3/ U21M5MProfessional Ethics1:1	Environmental & Sustainability	All types of projects, including those in the construction, aerospace and defence, software development, research projects, product development, engineering and plant maintenance, frequently employ CPM.
5.	Discrete Mathematics	17M6EC5/ 21M6MBE3:2	Professional Ethics	Language, Grammar, Automata; Applied to the analysis and manipulation of actual human language as well as the development of human computer interaction (HCI) and artificial intelligence(AI).
6.	Abstract Algebra	17MC507/ U21MC509	Environmental & Sustainability	Group theory; Describing symmetry properties of classical and quantum mechanical systems.
7.	Graph Theory	17MC612 / U21MC614	Environmental & Sustainability	Degree of vertex, connected graphs, Eulerian graphs: used in road network.
8.	U21M6MBE 3:1	Laplace and Fourier Transforms	Environmental & Sustainability	Applications of Laplace and Fourier transforms are vast.
9.	U21M6MBE 2:3	Number Theory	Environmental & Sustainability	To highlight the nuances in the world of numbers.
10.	U21MC512	Differential Equations	Environmental & Sustainability	Applications of Differential equations were vast.
11.	172AM2/ U212AM2	Algebra, ODE and Trigonometry	Environmental & Sustainability	To emphasize more on application oriented problems.
12.	171AM1/ U211AM1	Calculus and Fourier Series	Environmental & Sustainability	To emphasize more on application oriented problems.
13.	171AM1:CS/ U211AM1:CS	Numerical Methods	Environmental & Sustainability	In order to resolve problems relating to environmental protection and safety engineering analyses, numerical approaches are essential.
14.	MCNMEC1/ U21M3NME 1:2	Mathematics for Competitive Examinations - I	Environmental & Sustainability	According to the public service exams, consecutive applications are include.

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15.	U21MC102	Programming in C	Environmental & Sustainability	Skill developments are added.
16.	U21MC204P	Programming in C - Lab	Environmental & Sustainability	Applications for C programming can be found in MATLAB, Mathematica and the creation of a wide range of graphics and gaming applications.
17.	17MC202/ U21MC203	Analytical Geometry (3D) and Trigonometry	Environmental & Sustainability	Geometry of three dimensions are wide in science and engineering.
18.	17MC101/ U21MC101	Differential and Integral Calculus	Environmental & Sustainability	Differential calculus is a tool used by biologists to calculate the precise rate of development in a bacterial culture when several factors, such as temperature and food source are modified. Integral calculus is used in electrical engineering to calculate the precise length of power lines required to connect two substations that are miles apart from one another.
19.	17MC405/ U21MC306	Mathematical Statistics	Professional Ethics, Environmental & Sustainability	In order to avoid misleading clients, students learn that it is their professional responsibility to act fairly when deriving conclusion from quantitative data. They must use professional judgment and make ethical decisions. The principles of statistics are used to construct weather forecast models.
20.	17MC406P1/ U21MC408P	Mathematical Statistics Practical(Using SPSS)	Environmental & Sustainability	To improve the software Skill and to Provide employability.
21.	17MC304/ U21MC407	Sequences and Series	Environmental & Sustainability	Concentrate more on application oriented problems.
22.	17MC203/ U21MC305	Theory of Equations and Vector Calculus	Environmental & Sustainability	More applications are needed.
23.	U21MC511	Mechanics	Environmental & Sustainability	By creating technology to employ low carbon types of energy, recycling waste materials and energy and other methods, mechanics tries to lessen its negative effects on the environment.

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DEPARTMENT OF MATHEMATICS – POST GRADUATE

SL. NO	COURSE CODE	COURSE NAME	ISSUED ADDRESSED	FOCUS OF THE COURSE
1.	P21MC102	Real Analysis – I	Environmental & Sustainability	A step to Topology.
2.	P17MC102/ P21MC206	Real Analysis – II	Environmental & Sustainability	Measurable sets and functions; Basic ideas of measure theory.
3.	P17MC206/ P21MC207	Complex Analysis	Environmental & Sustainability	Complex functions, Elementary functions, Contour Integration; Used in Photostat machine and fax.
4.	P17MC104/ P21MC103	Graph Theory	Environmental & Sustainability	Degree of vertex, Connected Graphs, Planar; Industrial needs in network Analysis.
5.	P17MC205/ P21MC205	Algebra	Environmental & Sustainability	Irreducible Polynomials; used to design military communication systems.
6.	P17MC310/ P21MC311	Topology	Environmental & Sustainability	Topological spaces and Separation Axioms; used in Designing Products.
7.	P17MC101/ P21MC101	Linear Algebra	Professional Ethics	Linear operator, rank of a matrices, Eigen Values and Eigen vectors; used in machine learning.
8.	P21M1SE1P	Introduction to Latex (for scientific documentation)	Professional Ethics	Computer Practical sessions; Typesetting Mathematical documents.
9.	P17M3EC3/ P21M2MBE2:1	Stochastic Processes	Professional Ethics	Proper model selection for the process.
10.	P17MC312/ P21MC414	Differential Geometry	Environmental & Sustainability	To apply the notation of geodesics on surfaces and their properties

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SL. NO	COURSE CODE	COURSE NAME	ISSUED ADDRESSED	FOCUS OF THE COURSE
11.	P17MC309/ P21MC310	Measure Theory and Integration	Environmental & Sustainability	For consecutive learning with applications.
12.	P21M1MBE1:1	Probability Theory	Environmental & Sustainability	For consecutive learning with applications.
13.	P17MC208/ P21MC309	Partial Differential Equations	Environmental & Sustainability	Applications of PDE are wide in science and engineering. So advanced topics are included.
14.	P21M3MBE3:1	Fuzzy Mathematics	Environmental & Sustainability	Recent trends in Mathematics and its applications.
15.	P17MC413/ P21MC413	Functional Analysis	Environmental & Sustainability	For consecutive learning with applications.
16.	P21M4MBE4:2	Optimization Techniques	Professional Ethics, Human Values	Solving integer Programming Problems. NLPP Programming algorithms and inventory models are taught.
17.	P17MC103/ P21MC104	Ordinary Differential Equations	Environmental & Sustainability	Latest reference needed for higher level concepts.