

GOVERNMENT COLLEGE FOR WOMEN(A), KUMBAKONAM
PG & RESEARCH DEPARTMENT OF MATHEMATICS
B.Sc., MATHEMATICS – REVISED COURSE STRUCTURE UNDER CBCS
(For the Candidates admitted from the Academic year – 2021– 2022 onwards)

Department : MATHEMATICS

Programme Code: USMASEMESTER - I

Part	Course Type	CourseCode	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	Ability Enhancement	U211T1	Tamil	6	3	3	25	75	100
II	Ability Enhancement	U211E1	English	6	3	3	25	75	100
III	Core - I	U21MC101	Differential and Integral Calculus	6	5	3	25	75	100
III	Core - II	U21MC102	Programming in C	3	3	3	25	75	100
III	Allied - I	U211ACH1	Chemistry - I	5	4	3	25	75	100
III	Allied - II	U212ACH2P	--	2	--	--	--	--	---
IV	Ability Enhancement	U211VE	Value Education	2	2	3	25	75	100
Total				30	20				600

SEMESTER - II

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	Ability Enhancement	U212T2	Tamil	6	3	3	25	75	100
II	Ability Enhancement	U212E2	English	4	1	3	25	75	100
III	Core - III	U21MC203	Analytical Geometry 3D and Trigonometry	6	5	3	25	75	100
III	Core - IV	U21MC204P	Programming in C - Lab	3	3	3	40	60	100
III	Allied -II	U212ACH2P	Chemistry - II	2	4	3	40	60	100
III	Allied - III	U212ACH3	Chemistry - III	5	4	3	25	75	100
IV	Ability Enhancement	U212ES	Environmental Studies	2	2	3	25	75	100
IV	Naan Muthalvan Course	U23NM2LP	Language proficiency for employability	2	2	-	25	75	100
Total				30	24				700

SEMESTER - III

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	Ability Enhancement	U213T3	Tamil	6	3	3	25	75	100
II	Ability Enhancement	U213E3	English	6	3	3	25	75	100
III	Core V	U21MC305	Theory of Equations and vector calculus	6	5	3	25	75	100
III	Core VI	U21MC306	Mathematical Statistics	3	3	3	25	75	100
III	Allied – IV	U213APH4	Physics - I	5	4	3	25	75	100
III	Allied – V	U214APH5P	--	2	--	--	--	--	--
IV	Non Major Elective – I	U21M3NME1:1	Commercial Mathematics	2	2	3	25	75	100
		U21M3NME1:2	Mathematics for Competitive Examinations – I						
Total				30	20				600
	Self Study Course - I	U213SSC1		-	2	2	-	100	100

SEMESTER - IV

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	Ability Enhancement	U214T4	Tamil	6	3	3	25	75	100
II	Ability Enhancement	U214E4	English	6	3	3	25	75	100
III	Core -VII	U21MC407	Sequences and Series	4	4	3	25	75	100
III	Core – VIII	U21MC408P	Mathematical Statistics Practical(Using SPSS)	3	3	3	40	60	100
III	Allied - V	U214APH5P	Physics - II	2	4	3	40	60	100
III	Allied - VI	U214APH6	Physics - III	3	3	3	25	75	100
IV	Non Major Elective– II	U21M4NME2:1	Mathematics for Competitive Examinations – II	2	2	3	25	75	100
		U21M4NME2:2	Biostatistics						
IV	Skill Enhancement – I Theory	U214SE1	Interpersonal skill	2	2	3	25	75	100
IV	Naan Muthalvan Course	U23NM4DS	Digital skills for employability	2	2	-	25	75	100
Total				30	26				800
	Self Study	U214SS2	--	-	2	2	-	100	100

Course – II									
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SEMESTER - V

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
III	Core – IX	U21MC509	Abstract Algebra	6	5	3	25	75	100
III	Core – X	U21MC510	Real Analysis	5	5	3	25	75	100
III	Core – XI	U21MC511	Mechanics	5	5	3	25	75	100
III	Core – XII	U21MC512	Differential Equations	5	4	3	25	75	100
III	Major Based Elective – I	U21M5MPE1:1	Operations Research	5	5	3	25	75	100
		U21M5MPE1:2	Mathematical Modeling						
		U21M5MPE1:3	Special functions						
IV	Skill Enhancement –II Theory	U215MASE2	Office Management– Theory	2	2	3	25	75	100
IV	Skill Enhancement –III Theory	U215MASE3	1. Office Communication 2. Mathematical Reasoning	2	2	3	25	75	100
Total				30	8				700

SEMESTER - VI

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
III	Core – XIII	U21MC613	Complex Analysis	6	5	3	25	75	100
III	Core – XIV	U21MC614	Graph Theory	6	5	3	25	75	100
III	Core – XV	U21MC615	Linear Algebra	6	5	3	25	75	100
III	Major Based Elective – II	U21M6MBE2:1	Numerical Analysis	6	5	3	25	75	100
		U21M6MBE2:2	Object oriented programming in C ⁺⁺						
		U21M6MBE2:3	Number theory						
III	Major Based Elective – III	U21M6MBE3:1	Laplace and Fourier Transforms	5	4	3	25	75	100
		U21M6MBE3:2	Discrete Mathematics						
		U21M6MBE3:3	Astronomy						

V	Ability Enhancement	U21GS	Gender Studies	1	1	3	25	75	100
V		U21EA	Extension Activities	-	1	-	-	-	-
Total				30	26				600

Courses offered by the Department of Mathematics

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
III	AC-I	U211AM1	Calculus and Fourier Series	5	4	3	25	75	100
III	AC-II	U212AM2	Algebra, ODE and Trigonometry	4	4	3	25	75	100
III	AC-III	U212AM3	Laplace Transforms, Calculus and Vector Calculus	5	4	3	25	75	100
III	AC-I	U211AM1:CS	Numerical Methods	5	4	3	25	75	100
III	AC-II	U212AM2:CS	Operations Research	4	4	3	25	75	100
IV	AC-III	U213AM3:CS	1. Probability and Statistics 2. Discrete Mathematics	5	4	3	25	75	100

**Course Structure Abstract for B.Sc.,
Programme 2021-2022 onwards**

Part	Course	Total No. of Papers	Hours	Credit	Mark	
I	Language course (LC)	4	24	12	400	
II	English Language course (ELC)	4	24	12	400	
III	Core Course (CC)	15	74	62	1500	
III	Allied Course (AC)	6	27	24	600	
III	Major Based Elective Course (MBEC)	3	16	14	300	
IV	Non Major Elective Course (NMEC)	2	4	4	200	
IV	Skill Enhancement (SEC)	3	6	6	300	
IV	Ability Enhancement Course (AEC)	Value Education	1	2	2	100
IV		Environmental Studies	1	2	2	100
IV		Gender Studies	1	1	1	100
V	Extension Activities	--	-	1	---	
Total		40	180	140	4000	
Extra Credit Courses						
	Self Study Course (SSC)	2	-	4	200	
Total		42	-	144	4200	

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), KUMBAKONAM

(Curriculum – M.Sc., MATHEMATICS – 2021 - 2022)

Department: MATHEMATICS

Programme Code : PSMA

SEMESTER – I

Course Type	Course Code	Title of the Course	Hrs / Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CCI	P21MC101	LINEAR ALGEBRA	6	5	3	25	75	100
CCII	P21MC102	REAL ANALYSIS - I	6	5	3	25	75	100
CC III	P21MC103	GRAPH THEORY	6	4	3	25	75	100
CC IV	P21MC104	ORDINARY DIFFERENTIAL EQUATIONS	5	4	3	25	75	100
MBEC - I	P21M1MBE1:1	PROBABILITY THEORY	5	4	3	25	75	100
	P21M1MBE1:2	APPLIED CRYPTOGRAPHY						
	P21M1MBE1:3	MATHEMATICAL STATISTICS						
SEC – I (Practical))	P21M1SE1P	INTRODUCTION TO LATEX (for Scientific Documentation)	2	2	2	40	60	100
Total			30	24				600

SEMESTER – II

Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CC V	P21MC205	ALGEBRA	6	5	3	25	75	100
CC VI	P21MC206	REAL ANALYSIS – II	5	5	3	25	75	100
CC VII	P21MC207	COMPLEX ANALYSIS	5	5	3	25	75	100
CC VIII	P21MC208	THEORY OF NUMBERS	5	4	3	25	75	100
MBEC – II	P21M2MBE2:1	STOCHASTIC PROCESSES	5	3	3	25	75	100
	P21M2MBE2:2	CODING THEORY						
	P21M2MBE2:3	ALGEBRIC NUMBER THEORY						
EDC	P21M2EDC	1.GENERAL INTELLIGENCE 2.RESOURSE MANAGEMENT	2	2	3	25	75	100
SEC – II	P21M2SE2P	INTRODUCTION TO SCIENTIFIC COMPUTING (MATLAB)	2	1	2	40	60	100
Total			30	25				700
Self Study Course -I	P212SS1	General Studies for Research Fellowship and Lectureship.		2	2	-	100	100
NCGPA (Internship)	INT			2		-	-	-

SEMESTER – III

Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CC– IX	P21MC309	PARTIAL DIFFERENTIAL EQUATIONS	6	5	3	25	75	100
CC– X	P21MC310	MEASURE THEORY AND INTEGRATION	6	5	3	25	75	100
CC – XI	P21MC311	TOPOLOGY	6	5	3	25	75	100
CC– XII	P21MC312	CLASSICAL DYNAMICS	6	4	3	25	75	100
MBEC– III	P21M3MBE3:1	FUZZY MATHEMATICS	6	3	3	25	75	100
	P21M3MBE3:2	OPERATOR THEORY						
	P21M3MBE3:3	RESEARACH METHODOLOGY						
Total			30	22				500
SSC- II	P20SSC2	MATHEMATICAL SCIENCES		2	2	-	100	100

SEMESTER – IV

Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CC – XIII	P21MC413	FUNCTIONAL ANALYSIS	6	5	3	25	75	100
CC– XIV	P21MC414	DIFFERENTIAL GEOMETR	6	4	3	25	75	100
CC – XV (Project)	P21MPW415	PROJECT	12	6	-	-	100	100
Major Based Elective – IV	P21M4MBE4:1	1. AUTOMATA THEORY AND COMPILER CONSTRUCTION	6	4	3	25	75	100
	P21M4MBE4:2	2.OPTIMAZATION THECHNIQUES						
	P21M4MBE4:3	3. INTEGRAL TRANSFORMS						
Total			30	19				400

Course Structure Abstract for

M.Sc., Programme 2021-2022 onwards

Part	Course	Total No Papers	Hours	Credit	Mark
III	Core Course(CC)	14	80	65	1400
III	Core Project	1	12	6	100
III	Major Based Elective Course – IV(MBEC)	4	22	14	400
III	Extra Disciplinary Course (EDC)	1	2	2	100
III	Skill Enhancement (SEC)	2	4	3	100
Total		22	120	90	2200
Extra Credit Courses					
	Self Study Course (SSC)	2	-	4	200
	NCGPA Course (Internship)	---	-	2	---
	Value Added Course	1	-	2	100
Total		3		98	2500

2017 – 2018) - UG NEW COURSE HIGHLIGHTER
GOVERNMENT COLLEGE FOR WOMEN(A), KUMBAKONAM
PG & RESEARCH DEPARTMENT OF MATHEMATICS
B.Sc., MATHEMATICS – REVISED COURSE STRUCTURE UNDER CBCS
(For the Candidates admitted from the Academic year – 2017 – 2018 onwards)

Department: MATHEMATICS

Programme Code: USMA

SEMESTER – I

Part	Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	LC	17GT1	Tamil-1	6	3	3	25	75	100
II	ELC	17GE1	English-I	6	3	3	25	75	100
III	CC-I	17MC101	Differential and Integral Calculus	6	5	3	25	75	100
III	CC-II	17MC202	Analytical Geometry (3D) and Trigonometry	3	*	-	-	-	-
III	AC-I	AACH1/ 171ACS	Allied Chemistry I/Allied Computer Science I	6	4	3	25	75	100
III	AC-II	BACH2P/17 2ACS2P	Chemistry / Computer Science (Practical)	3	*	-	-	-	-
TOTAL				30	15				400

SEMESTER - II

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	LC	17GT2	Tamil-II	6	3	3	25	75	100
II	ELC	17GE2	English-II	6	3	3	25	75	100
III	CC-II	17MC202	Analytical Geometry (3D) and Trigonometry	3	5	3	25	75	100
III	CC-III	17MC203	Theory of Equations and vector calculus	5	5	3	25	75	100
III	AC-II	BACH2P/172 ACS2P	Chemistry / Computer Science (Practical)	2	3	3	40	60	100
III	AC-III	BACH3/172A CS3	Allied Chemistry I / Allied Computer Science I	4	3	3	25	75	100
IV	AEC	18UVE	Value Education	2	2	3	25	75	100
IV	AEC	UGCES	Environmental Studies	2	2	3	25	75	100
TOTAL				30	26				800

SEMESTER-III

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	LC	17GT3	Tamil-III	6	3	3	25	75	100
II	ELC	17GE3	English-III	6	3	3	25	75	100
III	CC-IV	17MC304	Sequences and Series	6	5	3	25	75	100
III	CC- V	17MC405	Mathematical Statistics	3	*	-	-	-	-
III	AC-I	CAPH1	Allied Physics I	5	4	3	25	75	100
III	AC-II	APH2P	Allied Physics Practical	2	*	-	-	-	-
IV	NMEC-1	MCNM EC1:1	Mathematics for Competitive Examinations – I	2	2	3	25	75	100
		MCNM EC1:2	Commercial Mathematics						
TOTAL				30	17				500

SEMESTER - IV

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
I	LC	17GT3	Tamil-IV	6	3	3	25	75	100
II	ELC	17GE3	English-IV	6	3	3	25	75	100
III	CC-V	17MC40 5	Mathematical Statistics	2	4	3	25	75	100
III	CC- VI	17MC40 6P1	Mathematical Statistics Practical (Using spss)	5	4	3	40	60	100
III	AC-II	DAPH2P	Allied Physics Practical	3	3	3	40	60	100
III	AC-III	DAPH3	Allied Physics II	4	3	3	25	75	100
IV	Skill Based Elective Course-I	SBEC1	Inter Personal Skills	2	4	3	25	75	100
IV	NMEC2	MDNME C2:1	Mathematics for Competitive Examinations – II	2	2	3	25	75	100
		MDNME C2:2	Bio Statistics						
TOTAL				30	26				800

SEMESTER –V

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
III	CC-VII	Part-III (CCVII) 17MC507	Abstract Algebra	6	5	3	25	75	100
III	CC-VIII	17MC508	Real Analysis	5	4	3	25	75	100
III	CC-IX	17MC509	Statics	5	4	3	25	75	100
III	CC-X	17MC510	Differential Equations, Laplace Transforms and Fourier series	5	4	3	25	75	100
III	EC-1	17M5EC3:1	Operations Research	5	5	3	25	75	100
		17M5EC3:2	Mathematical Modeling						
IV	Skill Based Course -II	SBEC2	Office Management	2	4	3	25	75	100
IV	Skill Based Course -III	SBEC3	Office Communication	2	4	3	25	75	100
TOTAL				30	30				700

SEMESTER - VI

Part	Course Type	Course Code	Title of the Course	Hrs / Week	Credits	Exam Hrs	Marks		
							CIA	ESE	Total
III	CC- XI	17MC611	Complex Analysis	6	5	3	25	75	100
III	CC-XII	17MC612	Graph theory	6	5	3	25	75	100
III	CC-XIII	17MC613	Dynamics	6	5	3	25	75	100
III	EC- II	17M6EC4:1	Numerical Analysis	5	4	5	25	75	100
		17M6EC4:2	Astronomy						
III	EC-III	17M6EC5	Discrete Mathematics	4	3	3	25	75	100
IV	Skill Based Course-II	GS	Gender Studies	1	1	3	25	75	100
III	Naan Mudhalvan	U23NM6DA	Data analysis with advanced tools	2	2		25	75	100
TOTAL				30	25				600
	Self Study Course	USSC1	Mathematics Aptitude for Recruitment Board Examinations	-	2	2	-	-	100

Total No. of Papers : 38
 Total Hours : 180
 Total Credits : 139
 Extension Activities : 01
 Total Marks : 3800

Papers offered by the Department of Mathematics for Other Major Students

Part	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
III	171AM1	Calculus and Fourier Series	6	4	3	25	75	100
III	171AM1:CS	Algebra, ODE and Trigonometry	6	4	3	25	75	100
III	172AM2	Laplace Transforms, Calculus and Vector Calculus	6	4	3	25	75	100
III	172AM2:CS	Numerical Methods	4	3	3	25	75	100
III	172AM3	Operations Research	4	3	3	25	75	100
III	172AM3:CS	Probability and Statistics	4	3	3	25	75	100

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), KUMBAKONAM
(Curriculum – M.Sc., MATHEMATICS – 2021 - 2022)

Department: MATHEMATICS

Programme Code : PSMA

SEMESTER – I

Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CCI	P17MC101	Linear Algebra	6	5	3	25	75	100
CCII	P17MC102	Real Analysis	6	5	3	25	75	100
CC III	P17MC103	Ordinary Differential Equations	6	5	3	25	75	100
CC IV	P17MC104	Graph Theory	6	4	3	25	75	100
ECI	P17M1EC1:1	Mathematical Probability	6	4	3	25	75	100
	P17M1EC1:2	Theory of Computation						
Total			30	23				600

SEMESTER – II

Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CCV	P17MC205	Algebra	6	5	3	25	75	100
CCVI	P17MC206	Complex Analysis	6	5	3	25	75	100
CC VII	P17MC207	Theory of Numbers	6	5	3	25	75	100
CC VIII	P17MC208	Partial Differential Equations	6	5	3	25	75	100
ECII	P17M2EC2:1	Stochastic processes	6	4	3	25	75	100
	P17M2EC2:2	Applied Cryptography						
Total			30	24				500

SEMESTER – III

Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CCIX	P17MC309	Measure theory and Integration	6	5	3	25	75	100
CCX	P17MC310	Topology	6	5	3	25	75	100
CCXI	P17MC311	Classical Dynamics	6	5	3	25	75	100
CCXII	P17MC312	Differential Geometry	6	4	3	25	75	100

ECIII	P17M3EC3P:1	Introduction to scientific computing(Matlab)	6	4	3	40	60	100
	P17M3EC3:2	Optimization Techniques				25	75	
Total			30	23				600

SEMESTER – IV

Course Type	Course Code	Title of the Course	Hrs/ Week	Credits	Exam Hrs	Marks		
						CIA	ESE	Total
CCXIII	P17MC413	Functional Analysis	6	5	3	25	75	100
CCXIV	P17MC414	Integral Equations Calculus of variations and Fourier Transforms	6	5	3	25	75	100
CCXV	P17PWM415	Project	12	6	-	-	-	100
ECIV	P17M4EC4:1	Fuzzy mathematics	6	4	3	25	75	100
	P17M4EC4:2	Pure Geometry						
	P17M4EC4:3	Fluid Dynamics						
Total			30	20				500

Core Course Papers : 14

Elective Course Papers: 09

Project Paper : 01

Total credits : 90

Total Marks : 1900

Course Structure Abstract for

M.Sc., Programme 2017-2018 onwards

Part	Course	Total No Papers	Hours	Credit	Mark
III	Core Course(CC)	14	84	68	1400
III	Core Project	1	12	6	100
III	Major Based Elective Course – IV(MBEC)	4	24	16	400
Total		19	120	90	1900
Extra Credit Courses					
	Self Study Course (SSC)	1	-	2	100
Total		1	-	92	2000

