



**PERIYAR
MANIAMMAI**
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University)
Established Under Sec. 3 of UGC Act, 1956 • NAAC Accredited
think • innovate • transform

Criterion 1 – Curricular Aspects

Key Indicator	1.2	Academic Flexibility
Metric	1.2.2	Percentage of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented (Data for the latest completed academic year)

DEPARTMENT OF MATHEMATICS STRUCTURE OF THE PROGRAM CLEARLY INDICATING COURSES, CREDITS/ELECTIVES

Programmes

1. B.SC MATHEMATICS
2. M.SC MATHEMATICS

1. CURRICULUM STRUCTURE OF B.SC MATHEMATICS

SEMESTER 1

Category	Code	Course Name	L	T	P	SS	H	C
Part – I	XGT101/XFT101	Tamil – I/ Foundational Tamil- I	3	0	0	0	3	3
Part – II	XGE102	English – I	3	0	0	0	3	3
Core -1	XMT103	Differential Calculus and Trigonometry	4	1	0	0	5	4
Core -2	XMT104	Analytical geometry 3-D and Integral Calculus	4	1	0	0	5	4
Allied -1	XPG105	Physics – I	3	1	0	0	4	4
	XPG106	Physics Practical - I	0	0	4	0	4	2
UMAN - 1	XUM001	Human Ethics, Values, Rights and Gender Equality	1	0	0	1	2	1
		Mentoring	0	0	0	0	1	0
		Library/E-Library	0	0	0	0	1	0
		Extension Activities (NSS, NCC, NSO, RRC and YRC)	0	0	0	0	2	0
Total			16	3	4	1	30	21

SEMESTER II

Category	Code	Course Name	L	T	P	SS	H	C
Part – I	XGT201/ XFT201	Tamil – II/ Foundational Tamil – II	3	0	0	0	3	3
Part – II	XGE202	English – II	3	0	0	0	3	3
Core-3	XMT203	Classical Algebra	3	1	0	0	4	4
Core-4	XMT204	Sequence and Series	3	1	0	0	4	4
Allied -2	XPG205	Physics – II	3	1	0	0	4	4
	XPG206	Physics Practical - II	0	0	4	0	4	2
SEC -1	XMT207	Skill Based Elective Course - 1	2	0	0	0	2	2
UMAN - 2	XUM002	Environmental Studies	1	0	0	1	2	1
		Field Visit/Industrial Visit	0	0	0	0	0	2
		Mentoring	0	0	0	0	1	0
		Library/E-Library	0	0	0	0	1	0
		Extension Activities (NSS, NCC, NSO, RRC and YRC)	0	0	0	0	2	0
Total			18	3	4	1	30	25

SEMESTER III								
Category	Code	Course Name	L	T	P	SS	H	C
Core -5	XMT301	Differential Equations and Laplace Transforms	3	1	0	0	5	4
Core -6	XMT302	Vector Calculus, Fourier Series and Fourier Transforms	3	1	0	0	5	4
Allied -3	XMT303	Mathematical Statistics - 1	3	1	0	0	5	4
	XMT304	Mathematical Statistics Practical -1	0	0	4	0	4	2
GE - 1		Open Elective- I	3	0	0	0	3	3
SEC - 2	XMT305	Skill Based Elective Course -2- Quantitative Aptitude - II	2	0	0	0	2	2
UMAN -3	XUM003	Disaster Management	1	0	0	1	2	1
		Mentoring	0	0	0	0	1	0
		Library/E-Library	0	0	0	0	1	0
		Extension Activities (NSS, NCC, NSO,RRC and YRC)	0	0	0	0	2	0
Total			15	3	4	1	30	20

SEMESTER IV								
Category	Code	Course Name	L	T	P	SS	H	C
Core -7	XMT401	Abstract Algebra	3	1	0	0	5	4
Core -8	XMT402	Mechanics	3	1	0	0	5	4
Allied - 4	XMT403	Mathematical Statistics - 2	3	1	0	0	5	4
	XMT404	Mathematical Statistics Practical - 2	0	0	4	0	4	2
GE- 2		Open Elective- 2	3	0	0	0	3	3
SEC - 3	XMT405	Skill Based Elective Course -3- Quantitative Aptitude - III	2	0	0	0	2	2
UMAN - 4	XUM004	Introduction to Entrepreneurship Development	1	0	0	1	2	1
		Mentoring	0	0	0	0	1	0
		Library/E-Library	0	0	0	0	1	0
		Extension Activities (NSS, NCC, NSO,RRC and YRC)	0	0	0	0	2	0
Total			15	3	4	1	30	20

SEMESTER V								
Category	Code	Course Name	L	T	P	SS	H	C
Core -9	XMT501	Real Analysis	3	1	0	0	5	4
Core-10	XMT502	Discrete Mathematics	3	1	0	0	4	4
DSE – 1	XMT503	Discipline Specific Course - 1	4	1	0	0	5	5
DSE–2	XMT504	Discipline Specific Course - 2	4	1	0	0	5	5
GE -3		Open Elective- 3	3	0	0	0	3	3
NME	XMT505	Fundamentals of Data Science & R Programming	1	1	0	0	2	2
SEC–4	XMT506	Skill Based Elective Course –4- Quantitative Aptitude -IV	2	0	0	0	2	2
IPT	XMT507	IPT	0	0	0	0	0	4
		Mentoring	0	0	0	0	1	0
		Library/E-Library	0	0	0	0	1	0
		Extension Activities (NSS, NCC, NSO,RRC and YRC)	0	0	0	0	2	0
Total			20	5	0	0	30	29

SEMESTER VI								
Category	Code	Course Name	L	T	P	SS	H	C
Core -11	XMT601	Complex Analysis	3	1	0	0	5	4
Core -12	XMT602	Operations Research	3	1	0	0	4	4
DSE - 3	XMT603	Discipline Specific Course - 3	4	1	0	0	5	5
DSE - 4	XMT604	Discipline Specific Course - 4	4	1	0	0	5	5
Project	XMT605	Project	1	4	0	0	5	6
UMAN - 5	XUM005	Cyber Security	1	0	0	1	2	1
		Mentoring	0	0	0	0	1	0
		Library/E-Library	0	0	0	0	1	0
		Extension Activities (NSS, NCC, NSO,RRC and YRC)	0	0	0	0	2	2
Total			16	8	0	1	30	27

Note:

L – Lecture

SS – Self Study

T – Tutorial

H – Hours

P – Practical

C – Credits

LIST OF SKILL BASED ELECTIVE COURSES

Category	Semester	Code	Course Name	L	T	P	H	C
SEC -1	II	XMT207	Quantitative Aptitude – I	2	0	0	0	2
SEC -2	III	XMT305	Quantitative Aptitude - II	2	0	0	0	2
SEC -3	IV	XMT405	Quantitative Aptitude - III	2	0	0	0	2
SEC -4	V	XMT506	Quantitative Aptitude – IV	2	0	0	0	2

LIST OF DISCIPLINE SPECIFIC ELECTIVE COURSES

Semester – V

DSE – 1 (Any one of the following)

Category	Code	Course Name	L	T	P	H	C
DSE1A	XMT503A	Numerical Methods	4	1	0	5	5
DSE1B	XMT503B	Number Theory	4	1	0	5	5

DSE – 2 (Any one of the following)

Category	Code	Course Name	L	T	P	H	C
DSE2A	XMT504A	Graph Theory	4	1	0	5	5
DSE2B	XMT504B	Mathematical Modeling	4	1	0	5	5

Semester – VI

DSE – 3 (Any one of the following)

Category	Code	Course Name	L	T	P	H	C
DSE3A	XMT603A	Fuzzy sets and its applications	4	1	0	5	5
DSE3B	XMT603B	Introduction to Industry 4.0	4	1	0	5	5

DSE – 4 (Any one of the following)

Category	Code	Course Name	L	T	P	H	C
DSE4A	XMT604A	Astronomy	4	1	0	5	5
DSE4B	XMT604B	Stochastic Processes	4	1	0	5	5

2. CURRICULUMSTRUCTURE OF M.SC MATHEMATICS

Semester	Course Code	Course Name	L	T	P	H	C
I	YMA101	Algebra - I	4	1	0	5	5
	YMA102	RealAnalysis - I	4	1	0	5	5
	YMA103	Graph Theory	4	1	0	5	5
	YMA104	Ordinary Differential Equations	4	1	0	5	5
	YMA105	Optimization Techniques	4	1	0	5	5
	YMA1E*	One among the list of electives (1E)	3	0	0	3	3
		Mentoring	0	0	0	1	0
		Library/ E- Library	0	0	0	1	0
		Total	23	5	0	30	28

*Listof Electives (1E)

Elective Code	Course Name	L	T	P	C
1	Fuzzy sets and Fuzzy logic	3	0	0	3
2	Coding Theory	3	0	0	3
3	Neural Networks	3	0	0	3

Semester	Course Code	Course Name	L	T	P	H	C
II	YMA201	Algebra -II	4	1	0	5	5
	YMA202	Real Analysis -II	4	1	0	5	5
	YMA203	Partial Differential Equations	4	1	0	5	5
	YMA204	Classical Dynamics	4	1	0	5	5
	YMA2E*	One among the list of electives (2E)	3	0	0	3	3
NME	YMA205	Computer Programming (c++ Theory and Lab)	3	0	2	5	5
		Mentoring	0	0	0	1	0
		Library/ E- Library	0	0	0	1	0
		Total	22	4	2	30	28

• List of Electives (2E)

Elective Code	Course Name	L	T	P	C
1	Fluid Dynamics	3	0	0	3
2	Combinatorics	3	0	0	3
3	Cryptography	3	0	0	3

Semester	Course Code	Course Name	L	T	P	H	C
III	YMA301	Topology	4	1	0	5	5
	YMA302	Integral Equations, Calculus of Variations and Transforms	4	1	0	5	5
	YMA303	Functional Analysis	4	1	0	5	5
	YMA304	Differential Geometry	4	1	0	5	5
	YMA305	Complex Analysis	4	1	0	5	5
	YMA3E*	One among the list of Electives (3E)	3	0	0	3	3
		Mentoring	0	0	0	1	0
		Library/ E- Library	0	0	0	1	0
Total			23	5	0	30	28

• **List of Electives (3E)**

Elective code	Course Name	L	T	P	C
1	Elements of Stochastic Processes	3	0	0	3
2	Mathematical Modeling	3	0	0	3
3	Data Analysis using SPSS	3	0	0	3

Semester	Course Code	Course Name	L	T	P	H	C
IV	YMA401	Project	0	0	0	30	8
Total						30	8

Total Credits :92