

THIRUVALLUVAR UNIVERSITY
MASTER OF SCIENCE

M.Sc. MATHEMATICS
DEGREE COURSE
UNDER CBCS
(With effect from 2020-2021)

The Course of Study and the Scheme of Examination

Sl. No.	Study Components		ins. hrs / week	Credit	Title of the Paper	Maximum Marks		
	Course Title					CIA	Uni. Exam	Total
SEMESTER I								
1.	Core	Paper -1	6	5	Algebra-I	25	75	100
2.		Paper -2	6	5	Real Analysis –I	25	75	100
3.		Paper -3	6	4	Ordinary Differential Equations	25	75	100
Internal Elective for same major students (Choose any one)								
4.	Core Elective	Paper-1	6	3	(to choose one out of 3) A. Probability Theory B. Mechanics C. Graph Theory	25	75	100
External Elective for other major students (Inter/multi disciplinary papers)								
5.	Open Elective	Paper-1	6	3	(to choose one out of 3) A. Basic Mathematics B. Mathematical Foundations C. Mathematical Modeling	25	75	100
			30	20		125	375	500
SEMESTER II						CIA	Uni. Exam	Total
6.	Core	Paper-4	6	5	Algebra-II	25	75	100
7.		Paper-5	6	5	Real Analysis –II	25	75	100
8.		Paper-6	6	4	Partial Differential Equations	25	75	100
Internal Elective for same major students (Choose any one)								
9.	Core Elective	Paper-2	5	3	(to choose one out of 3) A. Mathematical Statistics B. Fuzzy Set Theory C. Difference Equations	25	75	100
External Elective for other major students (Inter/multi disciplinary papers)								
10.	Open Elective	Paper-2	5	3	(to choose one out of 3) A. Fundamentals of Insurance B. Numerical Methods C. Fundamentals of Business Statistics	25	75	100
11.	*Field Study		-	2		100	-	100
12.	Compulsory Paper		2	2	Human Rights & Duties	25	75	100
			30	24		250	450	700

SEMESTER III						CIA	Uni. Exam	Total
13.	Core	Paper-7	6	6	Complex Analysis –I	25	75	100
14.		Paper-8	6	5	Topology	25	75	100
15.		Paper-9	6	5	Differential Geometry	25	75	100
Internal Elective for same major students								
16.	Core Elective	Paper-3	6	3	(to choose one out of 3) A. LaTeX B. Discrete Mathematics C. Operations Research	25	75	100
External Elective for other major students (Inter/multi disciplinary papers)								
17.	Open Elective	Paper-3	6	3	(to choose one out of 3) A. Mathematical Biology B. Quantitative Techniques C. SCILAB	25	75	100
18.	**MOOC Courses		-	-				100
			30	22		125	375	600
SEMESTER IV						CIA	Uni. Exam	Total
19.	Core	Paper-10	5	4	Complex Analysis –II	25	75	100
20.		Paper-11	5	4	Fluid Dynamics	25	75	100
21.		Paper-12	5	5	Functional Analysis	25	75	100
22.	Core	Project	5	5	Project with viva voce	100 (75 Project +25 viva)		100
Internal Elective for same major students								
23.	Core Elective	Paper-4	5	3	(to choose one out of 3) A. Number Theory and Cryptography B. Advanced Numerical Analysis C. Calculus of Variations and Integral Equations	25	75	100
External Elective for other major students (Inter/multi disciplinary papers)								
24.	Open Elective (Non-Major)	Paper-4	5	3	(to choose one out of 3) A. Mathematical Economics B. Entrepreneurial Development C. Programming in C++	25	75	100
			30	24		125	375	600
			120	90				2400



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*** Field Study**

There will be field study which is compulsory in the first semester of all PG courses with 2 credits. This field study should be related to the subject concerned with social impact. Field and Topic should be registered by the students in the first semester of their study along with the name of a mentor before the end of the month of August. The report with problem identification and proposed solution should be written in not less than 25 pages in a standard format and it should be submitted at the end of second semester. The period for undergoing the field study is 30 hours beyond the instructional hours of the respective programme. Students shall consult their mentors within campus and experts outside the campus for selecting the field and topic of the field study. The following members may be nominated for confirming the topic and evaluating the field study report.

- (i). Head of the respective department
- (ii). Mentor
- (iii). One faculty from other department

****Mooc Courses**

Inclusion of the Massive Open Online Courses (MOOCs) with zero credits available on SWAYAM, NPTEL and other such portals approved by the University Authorities.



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