SRI VENKATESWARA UNIVERSITY:: TIRUPATI

CENTRE FOR DISTANCE AND ONLINE EDUCATION

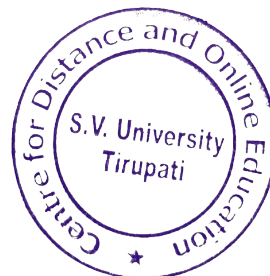PPR for M.Sc. Mathematics

Choice Based Credit System (CBCS)

Amended as per NEP-2020

(w.e.f. the Academic Year 2024-2025)

PROGRAMME: M.Sc., (MATHEMATICS)
SRI VENKATESWARA UNIVERSITY: TIRUPATI
CENTRE FOR ONLINE AND DISTANCE EDUCATION

Mission of the Mathematics Department:

1. To emerge as a global centre of learning academic excellence and innovative research.
2. To pursue collaborative programs with highly reputed National and International institutions.

Vision of the Mathematics Department:

1. Imparting quality mathematical education and inculcating the spirit of research through innovative teaching and Research methodologies.
2. To achieve high standards of excellence in generating and propagating knowledge in mathematics
3. To provide an environment where students can learn, become competent users of mathematics and understand the use of mathematics in other disciplines.

Program Out Comes (PO) of PG in Mathematics & Applied Mathematics: Students are

Expected to know or able to do by the time of graduation. At the end of the programme, the students will be to:

1. Apply Knowledge in Mathematics in all the fields of learning including higher research and its extensions.
2. Utilize Number Theory in the field of Cryptography that helps in hiding information and maintaining secrecy in military information, transmission, computer password and e-commerce.
3. Facilitate the study of groups in crystallography in chemistry and Lie symmetry groupsin physics.
4. Ability to think, acquire knowledge and skills through logical reasoning and in culture the habit of self- learning throughout life.
5. Inculcate critical thinking to carry out scientific investigation objectively.
6. Equip the student with skills to analyse problems, formulate the hypothesis, evaluate and draw reasonable conclusions.
7. Imbibe effective, scientific / technical communications in both oral and write.
8. Demonstrate the high standards of ethical issues.
9. Investigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry.
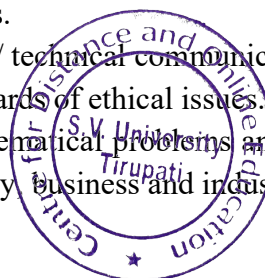
10. Illustrate solutions using numeric or graphical or programming methods.
11. Investigate and solve unfamiliar math problems and allow to think on unsolved mathematical problems.
12. Able to qualify Lectureship and fellowship exams approved by UGC like CSIR-NET, GATE and SET.

Program Specific Outcomes:
1. To develop problem – solving skills and apply them independently to problems in pure and applied mathematics.
2. To assimilate complex mathematical ideas and argument.
3. To develop abstract mathematical thinking.
4. To improve own learning and performance.
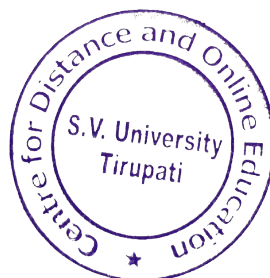
SRI VENKATESWARA UNIVERSITY::TIRUPATI
CENTRE FOR ONLINE AND DISTANCE EDUCATION

(Syllabus common for SV University College and affiliated colleges offered P.G. Courses in SVU Area)

(Revised Scheme of Instruction and Examination, Syllabus etc., with effect from the Academic Years 2021-22 for I and II Semesters and 2022-23 for III and IV Semesters)
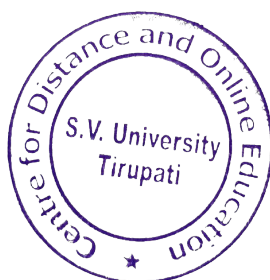
M.Sc. MATHEMATICS

SCHEME OF INSTRUCTION AND EXAMINATION
Semester-I

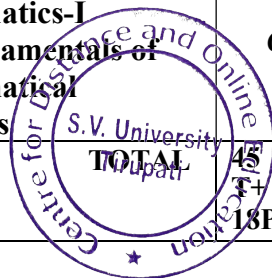| Sl. no	Components of study	Code	Title of the course	Hrs / week	No. of Credits	Uni. Exams (Hour	IA	Semester end exam	Total Marks
1.	Core	MA 101	Algebra	6	4	3	20	80	100
2.	Core	MA 102	Real Analysis	6	4	3	20	80	100
3.	Compulsory Foundation	MA 103	A) Ordinary Differential equations B) Linear Algebra	6 6	4	3	20	80	100
4.	Elective foundation	MA 104	A) Numerical Methods B) Lattice theory	6 6	4	3	20	80	100
5.	Theory	MA 105	Complex Analysis	6	4	3	20	80	100
6.	Theory	MA 106	Discrete Mathematics	6	4	3	20	80	100
			TOTAL	48	24		120	480	600

Semester-II

Sl. no	Components of study	Code	Title of the course	Hrs/week	No. of Credits	Uni. Exams (Hour	IA	Semester end exam	TotalMar ks
1.	Core	MA 201	Galois Theory	6	4	3	20	80	100
2.	Core	MA 202	Partial Differential Equations	6	4	3	20	80	100
3.	Compulsory Foundation	MA 203	A) Topology B) Semi group Theory	6 6	4	3	20	80	100
4.	Elective foundation	MA 204	A) Advanced Complex Analysis B) Nonlinear Analysis	6 6	4	3	20	80	100
5.	Theory	MA 205	Measure and Integration	6	4	3	20	80	100
6.	Theory	MA 206	Mathematical Statistics	6	4	3	20	80	100
			TOTAL	48	24		120	480	600

Semester-III

Sl. no	Components of study	Code	Title of the course	Hrs / week	No. of Credits	Uni. Exams (Hour	IA	Semester end exam	Total Mar ks
1.	Core	MA-301	Commutative Algebra	6	4	3	20	80	100
2.	Core	MA-302	Functional Analysis	6	4	3	20	80	100
3.	Generic Elective	MA 303	A) Differential Geometry B) Algebraic codingtheory	6 6	4	3	20	80	100
4.	Course	MA 304	Classical Mechanics	6	4	3	20	80	100
5.	Skill Oriented course	MA 305	MAT-LAB	3T + 18P	4	3	20	80 (50T+ 30P)	100
6.	Open Elective (Other Departmets s	MA 306	A) Business Mathematics-I B) Fundamentals of Mathematical Statistics	6 6	4	3	20	80	100
			TOTAL	45 T+ 18P	24		120	480	600

Semester-IV

Sl. no	Components of study	Code	Title of the course	Hr/week	No.of Credits	Uni. Exams (Hour	IA	Semester endexam	Total Marks
1.	Core	MA-401	**Number Theory**	6	4	3	20	80	100
2.	Core	MA 402	**Banach Algebra**	6	4	3	20	80	100
3.	Generic Elective	MA 403	**A) Graph Theory** **B) Approximation Theory**	6 6	4	3	20	80	100
4.	Practical/ Course	MA 404	**Operations Research for Industry and Community Development**	6	4	3	20	80	100
5.	Multi Disciplinary Course /Project Work	MA 405	**Computer Oriented Numerical Methods**	3T +18P	4	3	20	80 (50T+ 30P)	100
6.	Open Elective (Other Departments)	MA 406	**A) Business Mathematics-II** **B) Mathematics for SocialSciences**	6 6	4	3	20	80	100
	TOTAL			45 T+ 18 P	24		120	480	600