SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)
(SILVER JUBILEE INSTITUTION)
(Affiliated to Bharathidasan University)
(Accredited by NAAC; An ISO 9001:2015 Certified Institution)
SUNDARAKKOTTAI, MANNARGUDI – 614 016.

DEPARTMENT OF MATHEMATICS

PROGRAMME OUTCOMES FOR B.Sc., MATHEMATICS

PO No.	PROGRAMME OUTCOMES (*Upon completion of the B.Sc. Degree Programme, the Undergraduate will be able to)*
PO-1	**Disciplinary knowledge**: Demonstrate comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study in Bachelor of Science.
PO-2	**Critical thinking and Problem Solving:** Think critically about the issues and identify, critically analyze and solve problems from the disciplines of concern using appropriate tools and techniques and the knowledge, skills and attitudes acquired and extrapolate the same to real life situations.
PO-3	***Scientific reasoning:*** Analyze, interpret and draw conclusions from quantitative/ qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded andreasoned perspective.
PO-4	**Digital literacy and Effective Communication:** Use ICT in a variety of learning situations and **s**peak, read, write and listen clearly in person and through electronic media in English and in one or more Indian languages, and make meaning of the world by connecting people, ideas, books, media and technology.
PO-5	**Individual and Team Work:** Effectively accomplish tasks individually as well as work effectively and respectfully as member or leader with diverse teams, facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.
PO-6	**Environment and Sustainability:** Understand the impacts of technology and business practices in societal and environmental contexts, and sustainable development.
PO-7	**Human values and Gender Issues:** Understand major ideas, values, beliefs, the nature of the individual and the relationship between self and the community and aware of thevarious issues concerning women and society

PO-8	**Self-directed and Lifelong learning:** Acquire knowledge and skills, including learning "how to learn", that are necessary for participating in learning activities throughout life andto engage in independent and life-long learning in the broadest context of socio-technological changes.

PROGRAMME SPECIFIC OUTCOMES FOR B.Sc., MATHEMATICS

PSO No.	PROGRAMME SPECIFIC OUTCOMES (B.Sc., MATHEMATICS)
PSO1	Demonstrate the basic concepts and the notion of Mathematics
PSO 2	Identify some specific methods and problem solving skills in the Context of Calculus, Sequences and Series, Number Theory, Vector Analysis, Laplace Transform and analytical geometry of 3D
PSO 3	Demonstrate procedural fluency with polynomial expressions, algebraicfunctions, including basic factoring in Algebra and Analysis
PSO 4	Develop and apply the concepts of expressions, equations and inequalities toinvestigate and describe relationships.
PSO 5	Acquire knowledge, skills, understanding of issues and facilitate idea generation and creativity

PROGRAMME OUTCOMES FOR M.Sc., MATHEMATICS

PO No.	PROGRAMME OUTCOMES (*Upon completion of the M.Sc. Degree Programme, the postgraduate will be able to)*
PO-1	**Disciplinary Knowledge:** Demonstrate in-depth knowledge and understanding of theories, policies, and practices in one or more disciplines that form a part of a Post Graduate program of study in Master of Science.
PO-2	**Critical Thinking and Problem Solving**: Apply analytic thought to a body of knowledge, analyze and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence, identify relevant assumptions or implications, formulate coherent arguments, critically evaluate practices, policies and theories by following scientific approach to knowledge development: solve problems and extrapolate the same to real life situation.
PO-3	**Information/digital literacy and Communication Skills**: Use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources, and use appropriate software for analysis of data: communicate thoughts and ideas analytically and effectively in writing and orally using appropriate media, and present complex information in a clear and concise manner to different groups.
PO-4	**Research-related skills*:*** Conduct independent inquiry in a chosen scientific discipline, demonstrate sense of inquiry and capability for asking relevant/appropriate questions, problematizing, synthesizing and articulating; recognize cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyze, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; plan, execute and report the results of an experiment or investigation.
PO-5	**Scientific reasoning and Reflective Thinking:** Analyze, interpret and draw conclusions from quantitative/qualitative data and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective; critically and sensibly evaluate life experiences, with self- awareness and reflexivity of both self and society.
PO-6	**Multidisciplinary Approach, Innovation and Entrepreneurship:** propose novel ideas of interdisciplinary approach in providing better solutions and new ideas for the sustainable developments; identify opportunities, entrepreneurship vision and use of innovative ideas to create value and wealth for the betterment of the individual and society.

PO-7	**Moral and ethical awareness/reasoning:** Embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work, demonstrate the ability to identify ethical issues related to one's work, avoid unethical behavior such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopt objective, unbiased and truthful actions in all aspects of work.
PO-8	**Self-directed Learning**: Work independently, identify appropriate resourcesrequired for a project, and manage a project till completion.
PO-9	**Lifelong Learning:** Engage in continuous learning for professional growth and development, acquire knowledge and skills, adapt to changing environment and adapt to changing trades and demands of work place through knowledge/skill development/reskilling.
PO-10	**Multicultural Competence, Social Interaction and Effective Citizenship:** Understand the values and beliefs of multiple cultures, global perspectives, engage and interact respectfully with diverse groups and elicit views of others, mediate disagreements and help reach conclusions in group settings, and demonstrate empathetic social concern and equity centered national development.

PROGRAMME SPECIFIC OUTCOMES FOR M.Sc., MATHEMATICS

PSO No.	PROGRAMME SPECIFIC OUTCOMES (M.Sc., MATHEMATICS)
PSO1	Develop strong foundation on Algebra, Analysis, Number Theory, Algebraic Topology and Graph Theory
PSO 2	Attain advanced knowledge on various topics of Pure and Applied Mathematics fields.
PSO 3	Adequate exposure to preparing for Competitive Examinations.
PSO 4	Develop mathematical curiosity and use inductive and deductive reasoning when solving problems
PSO 5	Demonstrate the ability to handle mathematical tools independently.
PSO 6	Use mathematical ideas to model real-world problems
PSO 7	Obtain opportunities to become system thinkers, problem – solvers, explorers, think divergently and learn to take creative risks.