



**SENGAMALA THAYAAR EDUCATIONAL TRUST  
WOMEN'S COLLEGE (AUTONOMOUS)**

**(Affiliated to Bharathidasan University, Tiruchirappalli)  
(Accredited by NAAC) / (An ISO 9001: 2015 Certified Institution)  
SUNDARAKKOTTAI, MANNARGUDI – 614 016  
TIRUVARUR (Dist.), TAMIL NADU, INDIA.**

**PG AND RESEARCH DEPARTMENT OF BIOCHEMISTRY**

## **PROGRAMME OUTCOMES FOR B.Sc., DEGREE**

<b>PO No.</b>	<b>Program Outcomes</b> <i>(Upon completion of the B.Sc. Degree Programme, the Undergraduate will be able to)</i>
<b>PO-1</b>	<b>Disciplinary knowledge:</b> demonstrate comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study in Bachelor of Science.
<b>PO-2</b>	<b>Critical thinking and Problem Solving:</b> 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.
<b>PO-3</b>	<b>Scientific reasoning:</b> analyze, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.
<b>PO-4</b>	<b>Digital literacy and Effective Communication:</b> use ICT in a variety of learning situations and speak, 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.
<b>PO-5</b>	<b>Individual and Team Work:</b> 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.
<b>PO-6</b>	<b>Environment and Sustainability:</b> understand the impacts of technology and business practices in societal and environmental contexts, and sustainable development.
<b>PO-7</b>	<b>Human values and Gender Issues:</b> understand major ideas, values, beliefs, the nature of the individual and the relationship between self and the community and aware of the various issues concerning women and society
<b>PO-8</b>	<b>Self directed and Lifelong learning:</b> acquire knowledge and skills, including learning “how to learn”, that are necessary for participating in learning activities throughout life and to engage in independent and life-long learning in the broadest context of socio-technological changes.

**PROGRAMME SPECIFIC OUTCOMES FOR**  
**B.Sc., BIOCHEMISTRY**

<b>PSO No.</b>	<b>Program Specific Outcomes</b> <i>(Upon completion of the B.Sc., Biochemistry, the Undergraduate will be able to)</i>
<b>PSO-1</b>	Understand the basic concepts in the biochemical processes, metabolism and interactions in plants, animals, and microorganisms that are applicable to cell biology, molecular biology, genetics, enzymology, metabolism immunology, plant biochemistry and endocrinology.
<b>PSO-2</b>	Design and perform instrumental analyses and laboratory techniques to analyse and monitor various biochemical and pathological parameters.
<b>PSO-3</b>	Illustrate the basic knowledge in the biochemical basis of diseases, regulation of metabolic pathways and gene expression regulation.
<b>PSO-4</b>	Interpret the Biochemical basis of human diseases, protein structure and conformation, regulatory metabolic pathways, drug development, diagnostic and therapeutic mechanisms
<b>PSO-5</b>	Utilize fundamental concepts in modern biochemistry to meet the emerging trends.

## PROGRAMME OUTCOMES FOR M.Sc., DEGREE

PO No.	<b>Programme Outcomes</b> <i>(Upon completion of the M.Sc. Degree Programme, the postgraduate will be able to)</i>
<b>PO-1</b>	<b>Disciplinary Knowledge:</b> 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.
<b>PO-2</b>	<b>Critical Thinking and Problem Solving:</b> 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
<b>PO-3</b>	<b>Information/digital literacy and Communication Skills:</b> 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.
<b>PO-4</b>	<b>Research-related skills:</b> conduct independent inquiry in a chosen scientific discipline, demonstrate sense of inquiry and capability for asking relevant/appropriate questions, problematising, 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.
<b>PO-5</b>	<b>Scientific reasoning and Reflective Thinking:</b> 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.
<b>PO-6</b>	<b>Multidisciplinary Approach, Innovation and Entrepreneurship:</b> 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.
<b>PO-7</b>	<b>Moral and ethical awareness/reasoning:</b> 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.

<b>PO-8</b>	<b>Self directed Learning:</b> work independently, identify appropriate resources required for a project, and manage a project till completion.
<b>PO-9</b>	<b>Lifelong Learning:</b> 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 workplace through knowledge/skill development/reskilling.
<b>PO-10</b>	<b>Multicultural Competence, Social Interaction and Effective Citizenship:</b> 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.,**  
**BIOCHEMISTRY**

<b>PSO No.</b>	<b>Program Specific Outcomes</b> <i>(Upon completion of the M.Sc., Biochemistry., the Post Graduate will be able to)</i>
<b>PSO-1</b>	Understand and infer the principles and biological processes at the cellular and molecular level in cell biology, genetics, molecular biology, immunology, plant biochemistry, metabolism and enzymology.
<b>PSO-2</b>	Understand and Discuss the functions, principles and the structures of macromolecules and their participation in molecular interactions.
<b>PSO-3</b>	Appraise the dynamics and kinetics of biological macromolecules and their possible interactions and apply the same in the diagnosis of disease, genetic engineering, vaccine development and nutritional research.
<b>PSO-4</b>	Understand the principles and procedures in drug docking, drug designing and development, and application of bioinformatics towards drug discovery.
<b>PSO-5</b>	Develop skills to enable and begin a career in research laboratories, industries as well as to generate self-employability in the field of biochemistry.
<b>PSO-6</b>	Understand, evaluate and implement advanced techniques to predict, analyse, alter, induce and investigate various biochemical and pathological processes and reactions within the body for prevention and treatment of diseases.
<b>PSO-7</b>	Assess and turn ideas into actions related to biochemical mechanisms and processes in industries, industrial production and health.