BON SECOURS COLLEGE FOR WOMEN (AUTONOMOUS)

Accredited with NAAC A^{++} Grade in Cycle II

UGC Recognized 2(f) and 12(B) Institution

Affiliated with Bharathidasan University, Tiruchirappalli

Vilar Bypass, Thanjavur – 613006.

DEPARTMENT OF BIOTECHNOLOGY

B.Sc., Biotechnology

Vision of the College:

Transform the women learners especially rural in academic excellence with knowledge and skills to ensure intellectual, social and moral exercises, empowering them to meet the challenges of the world tomorrow.

Vision of the Department:

Build Life Science Community, for the betterment of humanity with multidisciplinary knowledge, skill, ethics and entrepreneurship.

Mission:

- Realising the full potential of biotechnology.
- Enhance scientific and technological empowerment of human resource.
- Provide a strong infrastructure for learning, teaching, research and commercialization.
- Enhance the knowledge base, nurturing the leads of potential utility, bringing the bioproducts to the marketplace.
- Socio-economic development/ applicants of biotech for generation of products, processes and technologies to uplift women especially rural community.
- Promote Bi entrepreneurship and start-ups.

GA No.	**Graduate Attributes**
GA 1	**Disciplinary Knowledge:** Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate Programme of study
GA 2	**Communication Skills:** Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express oneself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.
GA 3	**Critical Thinking:** Capability to apply analytic thought to a body of knowledge; analyze and evaluate evidence, arguments, claims, beliefs son 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.
GA 4	**Problem Solving:** Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

GA 5 Analytical reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples and addressing opposing viewpoints.

GA 6 Research-related skills: A sense of inquiry and capability for asking relevant/ appropriate questions, problematizing, synthesizing and articulating; Ability to 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; ability to plan, execute and report the results of an experiment or investigation.

GA 7 Cooperation / Teamwork: Ability to work effectively and respectfully 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

GA 8 Scientific reasoning: Ability to analyze, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.

GA 9 Reflective thinking: Critical sensibility to lived experiences, with self-awareness and reflexivity of both self and society.

GA 10 Information/Digital Literacy: Capability to 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

GA 11 Self-Directed Learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

GA 12 Multicultural competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

PROGRAMME OUTCOMES

On completion of the programme, the students will be able to

PO1: Demonstrate comprehensive knowledge and understanding of key concepts within the relevant science and technology discipline.

PO2: Efficiently comprehend and critically evaluate the core aspects of science and its different subfields, and its linkages with related disciplinary areas/subjects and fostering effective thinking.

PO3: Effectively communicate advanced educational experiences, evaluated to meet growing demands in science and technology, integrating multidisciplinary competencies.

PO4: Acquire analytical reasoning, problem-solving abilities, technical skills, and critical and reflective thinking through modern learning methods to enhance employability and entrepreneurship.

PO5: Create an encouraging environment for pursuing higher degrees in respective

disciplines, promoting further knowledge application and lifelong learning.

PO6: Conceptualize a comprehensive foundation in Science, Mathematical, and Computing Sciences integrating technological advancements and digital literacy to enhance creativity.

PO7: Foster cooperation, teamwork, and leadership, enhance social responsibility towards community and national development, and apply knowledge to assess social, economic, legal, and cultural issues considering current contexts and responsibilities

PROGRAMME SPECIFIC OUTCOMES

PSO1: Provide students with a strong foundation in the principles and practices of Biologicals Sciences, Biochemistry, Microbiology, Bioinformatics, Plant and Animal Biotechnology and enhance students' conceptual and analytical skills.

PSO2: Develop practical skills through experiential learning practices, in Up Stream and Down Stream Processing, Chromatography, Formulation and Standardization of Products, Biochemical and Microbiological techniques**.**

PSO3: Enhance students' intellectual, personal, interpersonal, and societal skills, focusing on relevant professional careers in Biotechnological Product Production, Quality Control, Formulation, Disease diagnosis, and Research.

PSO 4: Educate students on social responsibility and ethics to enhance their contributions to the business community and society and prepare them for employment and higher education.

PSO 5: Empower students with entrepreneurial skills and essential business education to improve their job market competitiveness.

PROGRAM EDUCATIONAL OBJECTIVES

PEO 1: Understand and evaluate the significance of biotechnological discoveries in educational and professional contexts

PEO 2: Apply a range of technological skills and laboratory techniques to addressing specific problems in the field of biological research

PEO 3: Use a range of analytical techniques for the interpretation of biological data to address specific hypotheses

PEO 4: Convey and relate professional and disciplinary information and ideas to diverse system in effective and appropriate ways.

PEO 5: Function in public and professional situations as an interpreter of biotechnological information in the public domain and exercise personal, professional and social responsibility as a global citizen.