

M.Sc Biochemistry

- **Year of Establishment:** 2014
- **Head of Department:** Jacintha Fernandez. M.Sc. Associate professor (Chemistry)
- **Academic coordinator:** Dr. Kavitha G Singh. M.Sc, M.Phil, Ph.D. Associate professor

Mission

- Development of innovative method of understanding the course and initiate research programmes.
- Application of biochemistry knowledge in their day to day life.
- Development of highest quality PG programme.
- To impart a firm theoretical foundation together with excellent practical training.
- To bridge the gap between academics and industry with regular industrial visits.

Vision

- Advancement of Biochemistry through Education, research and service.

About the course

- Choice Based Credit System enables students to choose papers of their interest.
- Content on the lines of UGC- NET/ SLET requirements
- Provides job oriented hands-on skill training such as internships and industrial visits.
- Prepare the students for higher education both in INDIA and abroad.

Courses offered

Post Graduation: M.Sc Biochemistry

Eligibility criteria for admission: Candidate must have secured minimum 50% aggregate in B.Sc with either Chemistry or Biochemistry as one of the cognate subject.

Scope of Post Graduate Program

- The students would have been well equipped with the skills with which they can enter into any dry lab/wet lab such as biocon, quintiles, molecular connections, cognizant, sami labs etc.
- Students can enter into teaching field as lecturers.
- Students are encouraged to pursue their higher studies. Students can involve in research activities leading to a Ph.D program.

M. Sc. Biochemistry (choice based credit system) Course Contents

I semester	Biomolecules
	Microbiology
	Metabolism –I
	General physiology
	Basic biostatistics
	Organic chemistry
II semester	Biochemical Techniques
	Metabolism II
	Nutritional and Clinical Biochemistry
	Enzymology
	Advanced Biostatistics
	Genetics for Biologists
III semester	Immunology
	Plant Biochemistry
	Molecular Biology-I
	Cell and Membrane Biology
	Bioinformatics
	Research Methodology
IV semester	Molecular Biology-II
	Molecular Pharmacology/Biotechnology
	Biochemical Genetics
	Project
	Entrepreneurship

Infrastructure :

The Department has well equipped lab to facilitate course work as well as research by students and staff. The labs are equipped with high-end instruments like the clinical analyzer, fluorescence spectrophotometer, flame photometer, deep freezer, UV-Vis spectrophotometer, cooling centrifuge, laminar air flow, orbital shaker incubator etc.

Department Activities :

Paper Publications by faculty – 60
Paper Publications by Students – 12
Conference Presentations by faculty – 45
Conference Presentations by Students – 10

Student end semester Projects – Academic year 2014-16

1. Synbiotification of Fruit Juices by Different Starins of Lactic Acid Bacteri
2. Isolation Characterization and Comparison of Caseinophosphopeptides from different milk Samples
3. Vegetable Waste as a potent substrate for cultivation of oyster mushroom
4. Extraction and Purification of Phenolics from *Star anise*
5. Antimutagenic Anti cytotoxic and Cytoprotective Activity of *Carica papaya* leaf extracts
6. In vitro antioxidant and anti-inflammatory activity of *Tinospora cordifolia* (Giloy) and *Leucas aspera* (Thumbai)
7. In vitro Studies of Medicinal Honey as an Alternative Approach to Treat Burn wound Infections
8. Biochemical Response of Eggplant (*Solanum melongena*) to Salinity Stress
9. The reduction of cortisol activity by the phytochemicals present in *Cleodendrum colebrookianum* by *ex vivo* studies on *Sus scrofa domesticus* hepatocytes

Industry/ Institute visits-

Enzene Biosciences Ltd.



Anthem Biosciences Pvt. Ltd



Sami Labs Ltd.



Hindustan Unilever Research Centre.



Guest Lectures

By eminent scientists from premier institutes and industry are regularly arranged.

Community Development Programme



Summer Internship

The students interned at Azymes biosciences, Jayanagar, Bangalore for a month, where they worked on the isolation, purification, characterization and immobilization of various bacterial enzymes. In the process gaining hands on experience of various biochemical techniques.

Few students interned at Baptist Hospital, Hebbal, Bangalore. Here they learned the general diagnostic procedures and techniques for detection of diseases in hospital.

Few students interned at GKVK, Yelahanka, Bangalore. Here they learned the general procedures and techniques involved in plant sciences.

Students achievements

1. Darshana H. and Shaheda T. won **first place in Poster presentation** at UGC Sponsored National Conference-“Recent Trends in Chemistry”, Jyothi Nivas College, Bengaluru, 24th Feb, 2016 for the paper entitled “Nutritional analysis and development of value added product from 7th day wheatgrass”.

2. Shwetha R. and Tahareen S. won **second place in Poster presentation** at UGC Sponsored National Conference-“Recent Trends in Chemistry”, Jyothi Nivas College, Bengaluru, 24th Feb, 2016 for the paper entitled In vitro antioxidant and anti-inflammatory activity of Giloy (*Tinospora cardifolia*) and Thumbai (*Leucas aspera*).
3. Joanne Thangi J, Ashwini H.A, Kavitha G Singh., won **first place in oral presentation for the title**. The reduction of cortisol activity by the phytochemicals present in *Cleodendrum colebrookianum* by *ex vivo* studies on *Sus scrofa domestica* hepatocytes, *UGC Sponsored National Conference-“Recent Trends in Chemistry”*, Jyothi Nivas College, Bengaluru, 24th Feb, 2016 (Oral).

Placements for 2014-16 batch

- 08 students have been placed in Molecular connections, Bengaluru as clinical analyst
- 01 student has been placed as an environmental analyst in Piraximel at Delhi
- 01 student has been placed as a biochemical analyst in Austin Medical Services at Bengaluru.
- 01 student has been placed as a biochemical analyst in Glaxosmithkline

Collaborations/ MOU

- Collaborative projects with Hindustan Unilever Research Centre, Bengaluru
- Consultancy services with St. Joseph’s College, Bengaluru

Faculties area of specialization:

Phytochemistry, Clinical biochemistry, Stress physiology, Plant biochemistry, Protein chemistry, Molecular mycology, Probiotics (Nutraceuticals), Waste management Plant molecular biology.

Contact:

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