

**M. S. RAMAIAH COLLEGE OF ARTS, SCIENCE AND COMMERCE
(MSRCASC)**

Dr. M S Ramaiah, a visionary and philanthropist established “Gokula Education Foundation (GEF)”, in the year 1962, to deliver education and healthcare for the betterment of mankind. Under the tutelage of GEF, Ramaiah College of Arts, Science and Commerce (RCASC) was established in 1994. MSRCASC is Re-accredited with “A” Grade by NAAC, Permanently affiliated to Bengaluru City University (BCU), and approved by AICTE. It is also recognized under section 2(f) & 12(B) of the UGC Act 1956. It has produced several rank holders and has alumni in distinguished institutions all over the world. The College has a legacy of organizing National Conferences and workshops in various disciplines of Science, Commerce and Management in addition to Quality Initiatives in Higher Education.

DEPARTMENT OF MICROBIOLOGY

The Department of Microbiology, established in the year 1999, offers both undergraduate and postgraduate courses. The faculty of the department are highly qualified with experience and expertise in various domains of Microbiology. The department has very good infrastructural facilities to carry out teaching and research activities. The theory and practical classes lay emphasis on ‘problem based learning’, knowledge content, utility value, application in real life, latest developments etc. The department is undertaking research projects in the major thrust areas of microbiology and attracted funds from various agencies. Also, the faculty of the department carry out multi-disciplinary research programs, encourage students to carryout in-house research projects, present papers, publish their research work and to participate in co-curricular and extra-curricular activities.

ABOUT THE ADD-ON PROGRAMME

The current ‘omics’ era, emphasizes the understanding and applications of molecular techniques, biological databases and computational tools for proteomics research.

Objective: The Value Added Programme aims to train the students with hands on experience on the basic and advanced concepts of proteomics which involves- SDS PAGE analysis of proteins, Western Blotting, Protein sequence databases and analysis tools, S and analysis of tertiary structure of Proteins using bioinformatics tools.

Outcome: This workshop envisions to make students well acquainted with emerging technologies in Proteomics which will help them to perform efficiently with better understanding and designing new approaches in the area of Proteomics research.

Modules

Module 1: Basic of Proteomics	Module 2: Advanced Concepts in Proteomics	Module 3: Experimental Techniques in Proteomics
<ul style="list-style-type: none"> •Introduction to proteomics •SDS PAGE analysis of proteins •Applications of SDS PAGE •Concepts of Blotting •Research approach for use of Western Blotting analysis •Bioinformatics in Proteomics 	<ul style="list-style-type: none"> •Protein sequence Databases and Retrieval of sequences •Sequence alignment methods •Sequence similarity search •PDB and retrieval of protein structures •Rasmol analysis of protein 3D structures 	<ul style="list-style-type: none"> •SDS PAGE analysis of proteins •Visualization of proteins on SDS PAGE gel •Western Blotting •Immuno-detection of proteins on membrane

Programme Schedule

Day 1	Introduction to the Workshop and Proteomics
	SDS PAGE analysis of proteins (Lecture)
	Applications of SDS PAGE
	Bioinformatics in Proteomics
	Protein sequence databases and Retrieval of Protein sequences from the protein databases
	Protein sequence alignment methods
	Protein sequence similarity search tools
	Protein Data Bank and retrieval of protein structures
	Visualization and analysis of 3D structure of proteins using Rasmol software
	SDS PAGE analysis of proteins (Experiment)
Day 2	Concepts of Blotting
	Research approach for use of western blotting analysis
	Western Blotting (Experiment)
	Visualization of proteins and Interpretation of Results
	Immuno-detection of proteins on membrane
	Discussion and Assessment
	Feedback and Valedictory