

Department of Biotechnology

Organises

Value Added Programme
On

Elevating Science :
Unleashing the potential
of Animal Cell Culture

27 May - 1 June 2024
(For MSc Biotechnology Students)



Convenors
Dr. Sowbhagya R
Dr. Muktha H

About Us

Dr. M S Ramaiah's legacy through the Gokula Education Foundation (GEF) has left an indelible mark on education and healthcare. Established in 1962, the foundation's commitment to the betterment of mankind led to the establishment of M S Ramaiah College of Arts, Science and Commerce (MSRCASC) in 1994.

MSRCASC boasts an impressive array of credentials. It holds re-accreditation with an "A" Grade by the National Assessment and Accreditation Council (NAAC), ensuring quality standards. Autonomous approved by UGC and Bengaluru City University, the college maintains its commitment to academic excellence and relevance.

Moreover, recognition under section 2(f) & 12(B) of the UGC Act 1956 further solidifies its standing in the academic sphere. The college's impact is evident through the accomplishments of its alumni, who hold positions in distinguished institutions worldwide and include several rank holders. The institution has been selected under the DBT STAR College scheme in 2021 by DBT, Ministry of Science and Technology.

Beyond academic achievements, MSRCASC has fostered a culture of intellectual engagement and innovation. Its legacy includes organizing workshops, international and national conferences across various disciplines of Science, Commerce, and Management. These initiatives not only enrich the academic environment but also contribute to the advancement of knowledge in these fields.

About the Department

The Department of Biotechnology and Genetics at MS Ramaiah College of Arts, Science and Commerce was established in 2000, offering both undergraduate (UG) and postgraduate (PG) programs. These programs are designed with a primary objective: to create a conducive learning environment for students while addressing the shortage of biotechnologists in critical sectors such as food, agriculture, medicine, and environmental management. The department boasts a team of highly qualified and experienced faculty members who deliver lectures and conduct practical sessions in various subjects, adhering to the curriculum developed by Bangalore City University. The emphasis lies on teaching the fundamentals, applications, and hands-on training, ensuring students are well-equipped with both theoretical knowledge and practical skills. State-of-the-art classrooms and laboratory facilities provide an ideal environment for learning and experimentation. This infrastructure allows students to gain practical experience and exposure to modern techniques and technologies in biotechnology and genetics. The Department has been recognised as the research centre by BCU in 2022.

Beyond academics, the department is committed to facilitating holistic development among students. Various curricular and extracurricular activities are organized to broaden their knowledge base and enhance their skill set. These activities not only supplement their academic learning but also prepare them for multitasking opportunities in the dynamic field of biotechnology and genetics.

About the Value added Course

The Value-added course on Animal Cell Culture offers students a comprehensive understanding and practical experience in a fundamental biotechnological technique. Here are some key points about the course:

1. **Introduction to Animal Cell Culture:** Students will learn about the principles and techniques involved in growing animal cells in a controlled environment.
2. **Isolation and Culture of Cells:** The course covers the process of isolating cells from animal tissues and culturing them under artificial conditions, providing insights into cell behaviour and growth dynamics.
3. **Historical Perspective:** Students will explore the evolution of animal cell culture from its origins as a laboratory technique to its current applications in various fields.
4. **Media Development:** The development of basic tissue culture media is discussed, highlighting its crucial role in enabling the growth of a wide range of cells under different conditions.
5. **Functional Studies:** Through in vitro culture of isolated cells from different animals, students gain insights into the functions and mechanisms of operation of various cell types, contributing to the advancement of biological knowledge.
6. **Applications:** The course delves into the diverse applications of animal cell culture, including its role in cancer research, vaccine production, and gene therapy. Students understand how this technique is pivotal in these areas and its contribution to scientific and medical advancements.
7. **Practical Training:** Hands-on training in laboratory settings allows students to gain practical experience in handling cell cultures, performing experiments, and analysing results, preparing them for future research or professional endeavours in biotechnology.

PATRONS

Dr. M.R. Jayaram, Chairman, GEF
Sri M.R. Janakiram, Director, GEF
Sri M.R. Kondandaram, Director, GEF
Sri B.S. Ramaprasad, Chief Executive, GEF
Sri G. Ramachandra, Chief of Finance, GEF
Dr. Vatsala G, Principal, MSRCASC
Dr. Anandappa I, Registrar Academics,
Prof . Suresh J, Deputy Registrar Admin
Dr. Pushpa H, Vice Principal & DBT-Star
College Co- Ordinator

RESOURCE PERSONS

Dr. Abhijith K R , Assistant Professor,
Dept of Biotechnology, MSRIT
Dr. Uma. S, Assistant Professor, Dept.
of Forensic Science, Bangalore
University
Dr. Anupama S K, Assistant Professor,
Dept. of Microbiology &
Biotechnology, Bangalore University

ORGANIZING COMMITTEE

Dr. Lakshmikanth R N, HoD, Dept. of
Biotechnology
Dr.Channarayapa, R& D Head
Dr. Jayashree D R, Professor
Dr.Sowbhagya.R, Asst Professor
Dr.Muktha H, Asst Professor
Dr. Ramesha N, Professor
Dr. Vinay Hegde , Asst Professor

Course Modules

- **Fundamentals of Animal Cell Culture:** Understanding the basic principles and techniques involved in animal cell culture.
- **Cell Subculturing and Maintenance Protocols:** Practical guidance on subculturing techniques and maintaining cell lines for sustained growth and viability.
- **Drug Efficacy Testing using Cell Lines:** Exploring methods and protocols for assessing the effectiveness of drug samples on cultured cell lines.
- **Cell Viability Assessment Techniques:** Hands-on training in various assays and methods used to evaluate cell viability and cell counting techniques.
- **Exploring Applications in Biotechnology and Medicine:** Examining real-world applications of cell culture techniques in biotechnology, cancer research, vaccine development, and regenerative medicine.



Course Duration : 30 Hours
Time: 11.00 am - 4.30 pm
Scan for Registration



Last date for registration:
20 May 2024
Certificate will be provided upon
successful completion
of the course.

Course outcome

On successful completion of the course Students will be able to:

- Gain a comprehensive understanding of the fundamental principles underlying cell culture techniques
- Develop proficiency in utilizing animal cell culture systems to investigate cellular metabolism, unravel the intricacies of cellular function in health and disease.
- Acquire practical skills in manipulating the microenvironment of cultured cells, and optimizing cell-substrate attachment, thereby facilitating experimental design and data interpretation.
- Explore the diverse applications of animal cell culture in biomedical research and biotechnology, recognizing its pivotal role in advancing scientific knowledge and therapeutic innovations

