

Organizing committee

Prof. D R Jayashree, HoD
Faculty of Dept. of Biotechnology & Genetics

Conveners

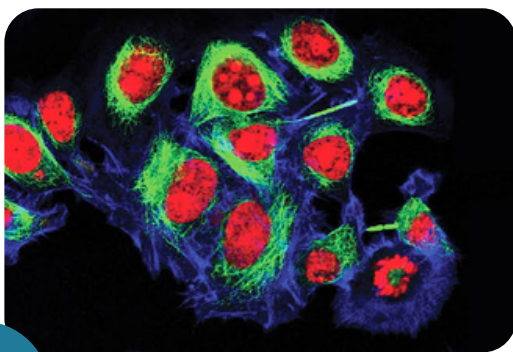
Dr. Sowbhagya R
Dr. Muktha H
Assistant Professors,
Dept. of Biotechnology and Genetics.

Resource Persons

Ms. Anantika Chnadra
PMRF fellow, Dept. of Biochemistry
Dept. of Biochemistry, IISc, Bengaluru

Dr. Sowbhagya R
Assistant Professor,
Dept. of Biotechnology and Genetics, MSRCASC

Dr. Muktha H
Assistant Professor,
Dept. of Biotechnology and Genetics, MSRCASC



The plant cell, like the animal cell, is a type of laboratory of cellular tissues that organize themselves and develop within its innermost substance..." — **François-Vincent Raspail**

About the College

M.S. Ramaiah College of Arts, Science and Commerce (MSRCASC), established in 1994 under the Gokula Education Foundation, is a leading autonomous institution in Bengaluru known for academic excellence and holistic education. Affiliated to Bengaluru City University and recognized by UGC and AICTE, the college holds an "A" grade from NAAC and is ranked 67th among top colleges in India in NIRF 2025.

MSRCASC offers diverse undergraduate and postgraduate programs across Science, Commerce, Humanities, and Management, with a strong focus on interdisciplinary learning. The institution provides a dynamic academic environment supported by modern infrastructure, including advanced laboratories, digital classrooms, and a well-equipped library.

Research and innovation are key priorities, with recognized research centres in Biotechnology, Microbiology, and Commerce, along with industry collaborations such as Biocon Academy. Initiatives like the DBT-STAR College Scheme further strengthen scientific research and skill development.

Beyond academics, the college promotes holistic student development through co-curricular, extracurricular, and community engagement activities. Participation in national programmes like Unnat Bharat Abhiyan fosters social responsibility and experiential learning. With strong placement support and industry exposure, MSRCASC prepares students for successful careers and meaningful societal contributions.

About the Department

The Department of Biotechnology and Genetics at MS Ramaiah College of Arts, Science, and Commerce, established in 1999, has been a hub of academic excellence and research innovation for over two decades. The department focuses on hands-on training and research guidance, encouraging students to engage in projects equipping them with essential practical and research skills, writing and publishing research articles.

About the Course and Objectives

The hands-on programme offers structured practical and theoretical training in fundamental mammalian cell culture methodologies:

- Understanding aseptic laboratory protocols & sterile practices
- Aseptic media preparation, optimization & supplement handling.
- Practical proficiency in adherent cell morphology & sub-culturing.
- Cell counting using Trypan blue viability assay.
- Cryopreservation and cell thawing mechanisms.
- Transfection & GFP expression in HEK293 cells.



**M S Ramaiah College of Arts, Science
and Commerce - Autonomous**
MSRIT Post, Mathikere, Bengaluru - 560054

Department of Biotechnology & Genetics

organizes

Value Added Programme

on

**“Mammalian Cell Culture Techniques: A Skill-
Based Value Added Programme”**



Date: 12-16 October 2026

**Venue: Biotechnology Lab, and Gallery room,
MSRCASC, Bengaluru**

Participants

III Sem MSc Lifescience students

PROGRAMME SCHEDULE

Day 1 (12th October, 2026)		Day 2 (13th October, 2026)	
10:00 am-10:30 am	About the programme	09:30 am-11:00 am	Module 3 (Theoretical Session): Maintenance and know-hows of Mammalian Cell Cultures · Applications of Mammalian Cell Culture · Common Challenges and Contamination in Cell Culture · Ethical and Safety Considerations · Troubleshooting Common Issues
10:45 am-11:00 am	Tea Break	11:00 am-11:15 am	Tea Break
11:00 am-12:30 pm	Module 1 (Theoretical Session): Introduction to mammalian cell culture · Definition and Importance of Mammalian Cell Culture · Types of Mammalian Cell Cultures · Laboratory Requirements and Aseptic Techniques · Culture Media and Supplements · Cell Growth and Maintenance · Cryopreservation and Thawing of Cells	11:15 am-12:30 pm	Module 4 (Theoretical Session): Introduction to transfection · Introduction to Transfection · Types of Transfection · Choosing the Right Transfection Method · Optimization of Transfection · Applications of Transfection
		12:30 pm-01:15 pm	Lunch Break
12:30 pm-01:15 pm	Lunch Break	01:15 pm-04:00 pm	Module 5 (Hands-on Practical Session): Student Group I · Aseptic cell culture and adherent Cell Morphology · Sub-culturing adherent cell lines
01:15 pm-04:00 pm	Module 2 (Practical Session): · Adherent Cell Morphology · Cell counting and Trypan Blue staining · Cryopreservation and Thawing of Cells · Expression of GFP in Hek293 cells	Day 4 (15th October, 2026)	
Day 3 (14th October, 2026)		09:30 am-11:00 am	Module 5 (Hands-on Practical Session): Student Group III · Aseptic cell culture and adherent Cell Morphology • Sub-culturing adherent cell lines
		11:00 am-11:15 am	Tea Break
09:30 am-11:00 am	Module 5 (Hands-on Practical Session): Student Group II · Aseptic cell culture and adherent Cell Morphology • Sub-culturing adherent cell lines	11:15 am-12:30 pm	Module 5 (Hands-on Practical Session): Student Group III · Aseptic cell culture and adherent Cell Morphology · Sub-culturing adherent cell lines
		12:30 pm-01:15 pm	Lunch Break
11:00 am-11:15 am	Tea Break	01:15 pm-04:00 pm	Module 5 (Hands-on Practical Session): Student Groups III & IV · Aseptic cell culture and adherent Cell Morphology · Sub-culturing
11:15 am-12:30 pm	Module 5 (Hands-on Practical Session): Student Group II · Aseptic cell culture and adherent Cell Morphology · Sub-culturing adherent cell lines	Day 5 (16th October, 2026)	
		09:30 am-11:00 am	Module 5 (Hands-on Practical Session): Student Group IV · Aseptic cell culture and adherent Cell Morphology • Sub-culturing adherent cell lines
12:30 pm-01:15 pm	Lunch Break	11:00 am-11:15 am	Tea Break
01:15 pm-04:00 pm	Module 5 (Hands-on Practical Session): Student Groups I & II · Aseptic cell culture and adherent Cell Morphology · Sub-culturing	11:15 am-12:30 pm	Module 5 (Hands-on Practical Session): Student Group IV · Aseptic cell culture and adherent Cell Morphology · Sub-culturing adherent cell lines
		12:30 pm-01:30 pm	Lunch Break
		01:30 pm-02:30 pm	Distribution of certificates