RAMAIAH
College of Arts, Science & Commerce

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M S Ramaiah College of Arts, Science and Commerce
Re-accredited 'A' by NAAC, Permanently Affiliated to Bengaluru City University,
Approved by Government of Karnataka, Approved by AICTE, New Delhi,
Recognized by UGC under 2f & 12B of UGC act 1956
(National Institutional Ranking Framework, Ministry of Education, Govt of India)
Ranked 55th in NIRF India Ranking by MHRD, New Delhi
DBT Star College Scheme

Ref: **09-09-2022**

CIRCULAR

DEPARTMENT OF BIOTECHNOLOGY AND GENETICS

This is to inform all the M.Sc. Biotechnology students that the Department of Biotechnology and Genetics, M S Ramaiah College of Arts, Science and Commerce, Bengaluru is organizing a 10 days Value added course on " HANDS ON TRAINING ON ANIMAL CELL CULTURE" from 12th to 22nd September 2022.

Interested participants can kindly register offline. Certificates will be provided for the registered participants on successful completion at the end of the Course.

Inaugural Guest: Dr. Arathi B P, Post Doctoral Fellow, IISc, Bengaluru

Resource Persons: Dr. Abhijith K R, Asst. Professor, Dept. of Biotechnology, MSRIT

Dr. Uma S, Asst. Professor, Dept. of Forensic Science, Bangalore University, Bengaluru

Dr. Sowbhagya R, Asst. Professor, Dept. of Biotechnology, MSRCASC

Dr. Muktha H, Asst. Professor, Dept. of Biotechnology, MSRCASC

Registration Fee: **Rs. 1000/-**

Venue & Time: **Sir M Vishweshwariah Seminar hall and Animal Cell culture lab (1.30 – 4.30 pm)**

Mayashree

HEAD OF THE DEPARTMENT

Department of Biotechnology
M.S. Ramaiah College of
Arts, Science & Commerce

Valisale '4
10/09/22

PRINCIPAL

Principal,
M.S. Ramaiah College of Arts, Science & Commerce
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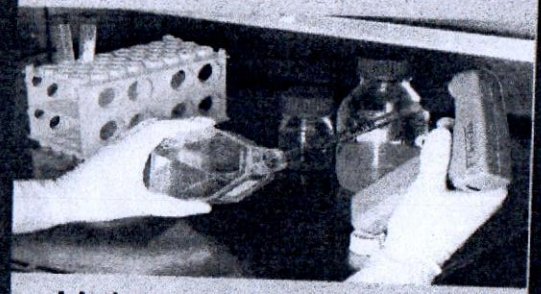

Value added course

for MSc students

12 - 22 September, 2022

"HANDS ON TRAINING ON ANIMAL CELL CULTURE"

Organized by

Department of Biotechnology and Genetics

M S Ramaiah College of Arts, Science and Commerce

Bengaluru – 560054

Venue: Sir M Vishveswaraiah Seminar Hall and Animal Cell Culture Lab

Date: 12-22 September, 2022
Time: 1.00 to 4.30 p.m.
Duration: 30 hr
Registration fee: Rs. 1000/-
Intake: 25 only

https://msrcasc.edu.in

About the College:

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, M S Ramaiah College of Arts, Science and Commerce (MSRCASC) 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 workshops, international and national conferences in various disciplines of Science, Commerce and Management in addition to Quality Initiatives in Higher Education.

About the Department:

Department of Biotechnology and Genetics" in the MS Ramaiah College of Arts, Science and Commerce, was established in the year 2000 offering both UG and PG programs. The main objective of the programs is to provide conducive learning environment for the students and to mitigate the shortage of biotechnologists in the field of food, agriculture, medicine and environmental management. Highly qualified and experienced faculty members deliver the lectures and conduct the practical in various subjects of as per the curriculum developed by the Bangalore City University. The department focuses mainly on teaching the basics, applications and hands-on-training in a state-of-the-art classroom and laboratory environment. It also facilitates students to broaden their knowledge for multitasking opportunities by conducting various curricular and extra-curricular activities.

About the Value-added course:

Animal cell culture is a type of biotechnological technique where animal cell are artificially grown in a favorable environment.

- Animal cell culture is a common and widely used technique for the isolation of cells and their culture under artificial conditions.
- This technique was developed as a laboratory technique for particular studies; however, it has since been developed to maintain live cell lines as a separate entity from the original source.
- The development of animal cell culture techniques is due to the development of basic tissue culture media, which enables the working of a wide variety of cells under different conditions.
- In vitro culture of isolated cells from different animals has helped in the discovery of different functions and mechanisms of operations of different cells.
- Some of the areas where animal cell culture has found most applications include cancer research, vaccine production, and gene therapy.

Modules / Contents of the course:

1. INTRODUCTION TO ANIMAL CELL CULTURE
2. SUBCULTURING OF CELLS AND THEIR MAINTENANCE
3. TESTING THE EFFICACY OF THE DRUG SAMPLES ON CELL LINES
4. CELL VIABILITY ASSAYS
5. ANTIOXIDANT ENZYME ASSAYS
6. APPLICATIONS OF CELL CULTURE

Course outcome:

- Primarily, cell culture is used to understand the fundamental changes that occur to cells and tissues in disease states. Additionally, these same systems can be used to determine whether the cells or tissues under investigation respond to drugs or other treatments.
- Animal cell culture enables studies related to cell metabolism and understand the biochemistry of cells.
- It also allows observation of the effects of various compounds like proteins and drugs on different cell types.
- It is possible to control the micro-environment of the cells in the culture such as regulation of matrix, cell-cell interactions and cell substrate attachment.

Guidelines for students:

1. Wear clean and neat aprons before entering the lab.
2. Maintain hygiene which stands the major priority
3. Wash of hands before and after performance of the protocol
4. 100% attendance mandatory.

Registration:

- **Offline registration**
- **Registration and course fee : Rs. 1000/-**
- **Certificate** will be provided after successful completion and upon fulfilling mandatory requirements of the course.
- **Participants** restricted to 25 numbers and course is only for MSc Biotechnology students.
- **Last date** for registration– 10th September 2022

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*

ORGANIZING COMMITTEE MEMBERS

Prof. Jayashree, HoD, Dept. of Biotechnology and Genetics
Prof. Channarayappa, Head R & D, RCASC
Dr. Radha Dayanidhi, Assistant Professor
Dr. Geetika Pant, Assistant Professor
Dr. Vinutha M, Assistant Professor
Dr. Prashanthi R, Assistant Professor
Dr. Beaulah Angel, Assistant Professor
Dr. Pavithra Kumari H G, Assistant Professor
Dr. Savitha G, Assistant Professor
Dr. Pramod Desai, Assistant Professor

INAUGURAL GUEST SPEAKER

Dr. Arathi BP
Post-Doctoral fellow
IISc, Bengaluru

RESOURCE PERSONS

Dr. Abhijith S R, *Assistant Professor, Dept. of Biotechnology, MSRIT*
Dr. Uma S, *Assistant Professor, Dept. of Forensic Science, Bangalore University*
Dr. Sowbhagya R and Dr. Muktha H
Assistant Professors
Dept. of Biotechnology and Genetics, MSRCASC

COURSE CO-ORDINATORS

Dr. Sowbhagya R and Dr. Muktha H,

Assistant Professors, Dept. of Biotechnology and Genetics
Email: sowbhagya_biotech@msrcasc.edu.in; muktaharsha@gmail.com

Co Co-ordinators

Dr. Ramakrishnaiah T N , Assistant Professor

Dr. Lakshmikanth R N, Associate Professor

If you can modify a cell, it's only a short step to modifying a mouse, and if you can modify a mouse, it's only a step to modifying a higher animal, even man. - *Author: Erwin Chargaff*

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"Hands on training on Animal cell culture"

From: 12th to 22nd September 2022

Venue: Sir M Vishweshwaraiah Seminar Hall

Time:1.30 to 4.30 p.m.

Programme schedule

Sl no.	Date	Event	Guest/Resource Person	Content
1	12-09-2022	Inauguration (10 a.m. to 1.00 p.m.)	Dr. Arathi BP, PDF, IISc, Bengaluru	Inaugural address
2	13-09-2022	Theory class	Dr. Abhijith S R, Asst. Professor, Dept. of Biotechnology, MSRIT	Introduction to AC Subculturing and maintenance
3	14-09-2022	Theory class	Dr. Abhijith S R, Asst. Professor, Dept. of Biotechnology, MSRIT	Testing of the effic of drugs by cell viability assays
4	15-09-2022	Theory class	Dr. Uma S, Asst. Professor, Dept. of Forensic Science, Bangalore University	Antioxidant assays
5	16-09-2022	Theory class	Dr. Uma S, Asst. Professor, Dept. of Forensic Science, Bangalore University	Applications of AC
6	17-09-2022	Theory class (10 a.m. to 1.00 p.m.)	Dr. Sowbhagya R and Dr. Muktha H	Assay Protocols ar calculations
7	19-09-2022	Practicals (ACC Lab)	Dr. Sowbhagya R and Dr. Muktha H	Trypsinization, subculturing of cel and seeding of cell
8	20-09-2022	Practicals (ACC Lab)	Dr. Sowbhagya R and Dr. Muktha H	Treatment of cells.
9	21-09-2022	Practicals (ACC Lab)	Dr. Sowbhagya R and Dr. Muktha H	Cell viability assay
10	22-09-2022	Practicals (ACC Lab)	Dr. Sowbhagya R and Dr. Muktha H	Antioxidant assays

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Value added course on "Hands on training on Animal Cell culture" from 12th to 22nd September 2022

Attendance sheet

Sl no.	Name of the student	12-09-2022	13-09-2022	14-09-2022	15-09-2022	16-09-2022	17-09-2022	19-09-2022	20-09-2022	21-09-2022	22-09-2022
1	Ramya C	Ramya·C	Ramya·C	Ramya·C	Ramya·C	Ramya·C	Ramya·C	Ramya·C	Ramya·C	Ramya·C	Ramya·C
2	Harshiya kohli	Harshiya	Harshiya	Harshiya	Harshiya	Harshiya	Harshiya	Harshiya	Harshiya	Harshiya	Harshiya
3	Ranjith K R	Ranjith	Ranjith	Ranjith	Ranjith	Ranjith	Ranjith	Ranjith	Ranjith	Ranjith	Ranjith
4	Niveditha Pyatimath	Niveditha	Niveditha	Niveditha.	Niveditha	Niveditha	Niveditha	Niveditha	Niveditha	Niveditha	Niveditha
5	Suchitha N	Suchitha N	Suchitha N	Suchitha N	Suchitha N	Suchitha N	Suchitha N	Suchitha N	Suchitha N	Suchitha N	Suchitha N
6	Rajath Setty VR										
7	Manoj L	manoj·L	manoj·L	manoj·L	manoj·L	manoj·L	manoj·L	manoj·L	manoj·L	manoj·L	manoj·L
8	Disha S Patil										
9	Yashaswini R										
10	Payal Singh	Payal	Payal	Payal	Payal	payal	Payal	Payal	Payal	Payal	Payal
11	Sushma S M										
12	Tejaswini C	Tejaswini·C	Tejaswini·C	Tejaswini·C	Tejaswini·C	Tejaswini·C	Tejaswini·C	Tejaswini·C	Tejaswini·C	Tejaswini·C	Tejaswini·C
13	Raj Karmakar	Raj.kaemk	Raj.kaemk	Raj.kaemk	Raj.kaemk	Raj.kaemk	Raj.kaemk	Raj.kaemk	Raj.kaemk	Raj.kaemk	Raj.kaemk
14	Sanjana A K	Sanjana A.K	Sanjana A.K	Sanjana A.K	Sanjana A.K	Sanjana A.K	Sanjana A.K	Sanjana A.K	Sanjana A.K	Sanjana A.K	Sanjana A.K
15	Sakshi Sharma	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi
16	Megha M	Megha·M	Megha·M	Megha·M	Megha·M	Megha M	Megha·M	Megha M	Megha·M	Megha M	Megha·M
17	Geetha B	Geetha	Geetha	Geetha	Geetha	Geetha	Geetha	Geetha	Geetha	Geetha	Geetha
18	Chandani K J	chandani	chandani	chandani	chandani	chandani	chandani	chandani	chandani	chandani	chandani
19	Anuradha N Gangapur	Anu	Anu	Anu	Anu	Anu	Anu	Anu	Anu	Anu	Anu
20	Unnathi S Shetty	Unnathi	Unnathi	Unnathi	Unnathi	Unnathi	Unnathi	Unnathi	Unnathi	Unnathi	Unnathi
21	Neha Deka	Neha	Neha	Neha	Neha	Neha	Neha	Neha	Neha	Neha	Neha
22	Ajith N	Ajith·N	Ajith·N	Ajith·N	Ajith·N	Ajith·N	Ajith·N	Ajith·N	Ajith·N	Ajith·N	Ajith·N
23	Bindhu V	Bindhu V	Bindhu V	Bindhu V	Bindhu V	Bindhu V	Bindhu V	Bindhu V	Bindhu V	Bindhu V	Bindhu V
24	Bhoomi Desai	Bhoomi	Bhoomi	Bhoomi	Bhoomi	Bhoomi	Bhoomi	Bhoomi	Bhoomi	Bhoomi	Bhoomi
25	M Chaitanya Venkata Sai	M Chaitanya	M Chaitanya	M Chaitanya	M Chaitanya	M Chaitanya	M Chaitanya	M Chaitanya	M Chaitanya	M Chaitanya	M Chaitanya
26	Shameer Basha N K	Shameer	Shameer	Shameer	Shameer	Shameer	Shameer	Shameer	Shameer	Shameer	Shameer

Vatsala

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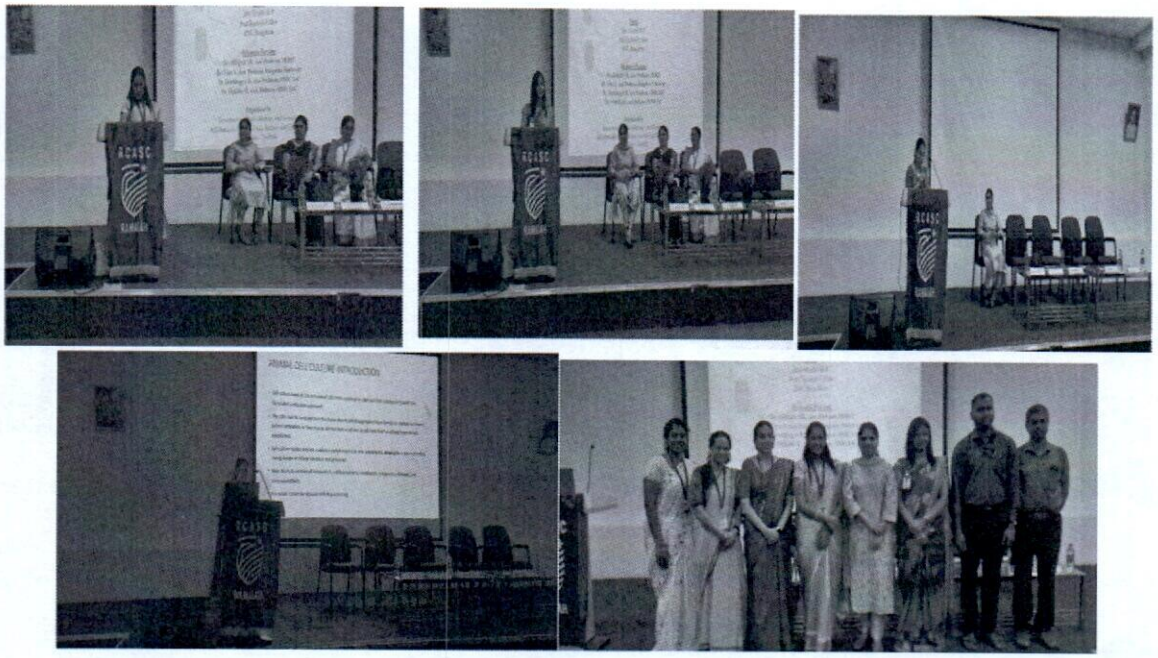
REPORT ON "HANDS ON TRAINING ON ANIMAL CELL CULTURE"

CONDUCTED FROM 12TH TO 22ND SEPTEMBER 2022

Value added courses are designed to enhance the standard of the students beyond those levels specified in the academic curriculum with this motto, we designed "Hands on training on Animal cell culture" to enhance the knowledge of our students and train them in Animal cell culture.

With the basic facility available in our college, we have tried to the best of our knowledge to give them effective hold on basics of Animal cell culture and train them how to handle and treat cancer cell lines thereby enhancing their research skills and utilize these values for their future research.

Day 1 we had Dr. Arathi BP, Post Doc fellow from IISc, Bengaluru, as our chief guest. The guest speaker gave insights on the basics of animal cell culture and to how to perform the protocols in aseptic conditions.



Day 1- Dr. Muktha hosting the programme, Dr Geetika Pant welcomed the gathering Introduction of Guest speaker, Dr. Arathi BP was given by Dr Sowbhagya R , , on the inauguration day, Dr. Radha Madam proposing vote of thanks, Dr. Arathi BP delivering lecture on Animal cell culture, Group Picture of teachers with the guest.

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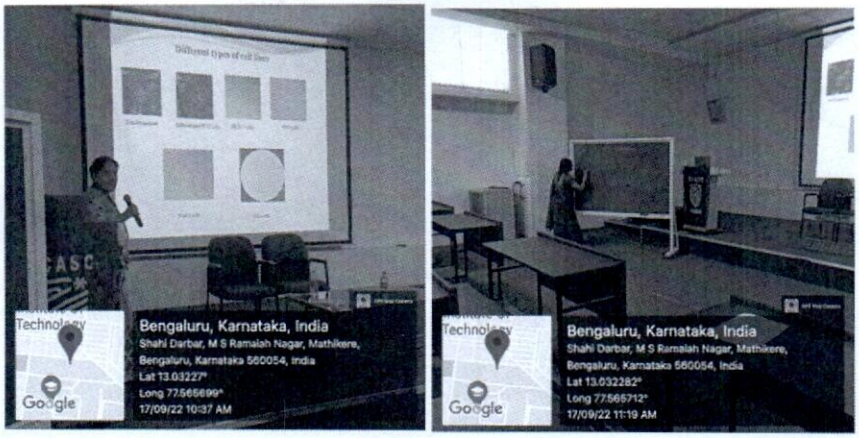
On day 2 and day 3, Dr. Abhijith S R, Asst. professor, Dept. of Biotechnology, MSRIT, was the Resource person. He briefed introduction on animal cell culture and also explained the protocol for testing the efficacy of the drugs by various cell viability assays.

Day 2 and Day 3- Dr. Abhijith S R explaining the basics of animal cell culture, the participant shared her opinion about his lecture, Group picture with the students

On Day 4 and Day 5, Dr. Uma S, Assistant Professor, Dept. of Forensic Science, Bangalore Univeristy, as the Resource person. She explained the role of antioxidants in nullifying the effects of free radicals. She also mentioned the applications of Animal cell culture in various industries.

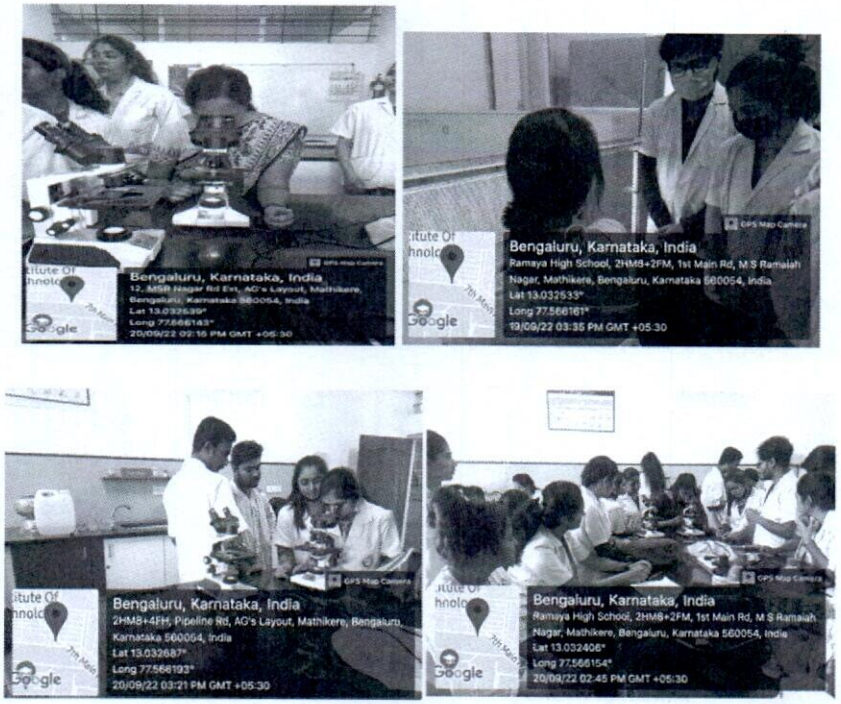
Day 4 and 5 – Dr. Muktha H welcomed Dr. Uma S with a sapling, Dr. Uma S explaining the role of antioxidants, Group picture with our M.Sc students

On Day 6, Dr. Sowbhagya R and Dr. Muktha H, Assistant Professors, Dept. of Biotechnology and Genetics, Ramaiah College of Arts, Science and Commerce, explained the protocols of cell viability assays and their calculations. Also, the stressed on some of the fluorescence dye assays.



Day 6- Dr. Muktha H and Dr. Sowbhagya R explaining the MTT assay protocol and calculations, respectively.

Day 7 to Day 10, the students experienced hands on training. They visited our Animal cell culture lab and observed HeLa cells under microscope and performed MTT cell viability assay and also catalase enzyme activity.



Day 6 to 9 – Hands on training sessions

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Day 10- Dr. Vatsala G, Principal, MSRCASC distributing certificates to the participants