



YENEPOYA

(DEEMED TO BE UNIVERSITY)

Recognized under Sec 3(A) of the UGC Act 1956

Accredited by NAAC with 'A' Grade

Deralakatte, Mangaluru -575018

Value Added Course

Short term course in Cell Culture Techniques

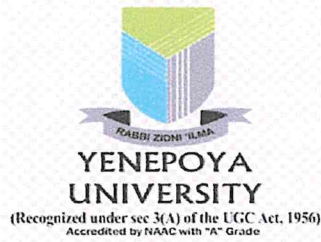
BS-STC 102

ATTESTED

Dr.Gangadhara Somayaji K.S.
Registrar
Yenepoya(Deemed to be University)
University Road, Deralakatte
Mangalore- 575 018, Karnataka

Sekha P. D.

Deputy Director
Yenepoya Research Centre
Yenepoya (Deemed to be University)
Deralakatte, Mangaluru-575018



SHORT TERM COURSE IN CELL CULTURE TECHNIQUES

Hands on training.....

- Cell line maintenance
- Cell revival and cryopreservation
- Total cell count by Trypan blue assay
- Cytotoxicity determination by MTT assay
- Fluorescence staining of cells
- Cell cycle analysis by Flow Cytometry

Total intake: 15

Duration of the course: One month (60 contact hours)

Registration fees: 3,000/-

Last date for registration: 15th February, 2016

For queries please contact
Yenepoya Research Centre
Email: research@yenepoya.edu.in
Call: +91-8242204668(ext. no: 2035)

ATTESTED

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Mangalore- 575 018, Karnataka

COMMENCING FROM FIRST WEEK OF MARCH @YRC



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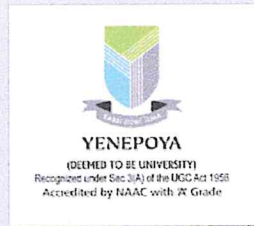
Last date for registration: 31st March, 2017

For queries please contact
Yenepoya Research Centre
Email: research@yenepoya.edu.in
Call: +91-8242204668(ext. no: 2035)

ATTESTED

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Derlakatte
Mangalore- 575 018, Karnataka

COMMENCING FROM FIRST WEEK OF APRIL @YRC



SHORT TERM COURSE IN CELL CULTURE TECHNIQUES

Hands on training.....

- Cell line maintenance
- Cell revival and cryopreservation
- Total cell count by Trypan blue assay
- Cytotoxicity determination by MTT assay
- Fluorescence staining of cells
- Cell cycle analysis by Flow Cytometry


Total intake: 15

Duration of the course: One month (60 contact hours)

Registration fees: 5,000/-

Last date for registration: 15th April, 2018

For queries please contact
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Email: research@yenepoya.edu.in
Call: +91-8242204668(ext. no: 2035)

ATTESTED

- **Dr. Gangadhara Somayaji K.S.**
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Mangalore- 575 018, Karnataka

COMMENCING FROM FIRST WEEK OF MAY@YRC



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UNIVERSITY**

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SHORT TERM COURSE IN CELL CULTURE TECHNIQUES

Hands on training.....

- Cell line maintenance
- Cell revival and cryopreservation
- Total cell count by Trypan blue assay
- Cytotoxicity determination by MTT assay
- Fluorescence staining of cells
- Cell cycle analysis by Flow Cytometry

Total intake: 15

Duration of the course: One month (60 contact hours)

Registration fees: 7,000/-

Last date for registration: 31st August, 2019

For queries please contact
Yenepoya Research Centre
Email: research@yenepoya.edu.in
Call: +91-8242204668(ext. no: 2035)

 **ATTESTED**

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Mangalore- 575 018, Karnataka

COMMENCING FROM FIRST WEEK OF SEPTEMBER @YRC

Yenepoya Research Centre
Deralakatte, Mangalore - 575018

SHORT TERM COURSE IN CELL CULTURE TECHNIQUES

15th November to 15th December, 2020

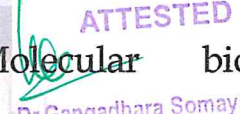
Hands on training

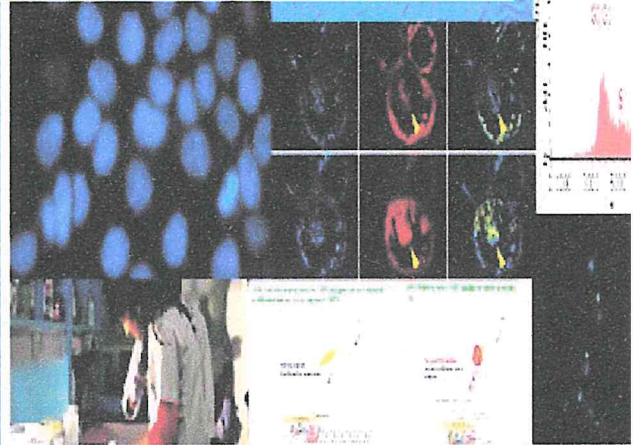
- Basics of Cell culture
- Maintenance of Aseptic Culture conditions and Sterilization Techniques
- Media Preparation
- Cell line maintenance
- Cryopreservation techniques
- Cytotoxicity Assays: MTT & Trypan Blue Dye Exclusion Techniques
- Cell Harvesting techniques
- Fluorescence staining technique
- Flow Cytometry Techniques
- Processing of Cells for Molecular biology Studies

Course Outcome

Participants will be well versed to

- Revive, maintain and cryopreserve cells without contamination
- Conduct Cytotoxicity assays and plan cell based Flow cytometry experiments independently
- Process cells for Molecular biology experimental setup

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Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Mangalore- 575 018, Karnataka



Total intake: 15
Registration fees: 5,000/-

Last date for registration:
10th November, 2020

Online Registration form is available at :

<https://yenepoya.res.in/2020/application-for-shortterm-course-in-cell-culture-techniques/>

Contact:

Email: research@yenepoya.edu.in

Call: +91-8242206000

(Extn: 2035)

- Training sessions will be conducted simultaneously in three batches of five students each in three Cell Culture Laboratories at Yenepoya Research Centre
- All Laboratories at Yenepoya Research Centre are GLP/ISO-17025:2017 Certified
- Social Distancing policies and other compliances associated with Covid 19 preventive measures as issued by the authorities shall be strictly followed

**Application Oriented Short Term Course on
Cell Culture Techniques**

(Fact Sheet, Regulations & Syllabus)

ATTESTED

[Signature]
Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Mangalore- 575 018, Karnataka

Rexla P. A.

Deputy Director
Yenepoya Research Centre
Yenepoya (Deemed to be University)
Deralakatte.
II-575018

11. Fees structure: Rs. 15,000/- per candidate

12. Academic calendar: Two batches in a year

Commencement of the course: First week of June and First week of December.

13. Award of certificate: The successful candidates will get certificates from the University.

14. Extra hours: In case of extra duration required to complete the course, additional contact hours will be arranged.

Rohita P.D.

Deputy Director
Yenepoya Research Centre
Yenepoya (Deemed to be University)
Deralakatte, Mangaluru-575018

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ATTESTED

[Signature]
Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Mangalore- 575 018, Karnataka

Short term course in cell Culture Techniques

Scanned with CamScanner

1. Preamble:

Mammalian cell culture technology has evolved as a major field in modern Biotechnology, especially in the area of human health. With the aid of cell culture techniques, a number of classical products like viral vaccines, monoclonal antibodies and recombinant therapeutic proteins can be generated. It serves as a reliable alternative to *in vivo* experiments. Hence, it is proposed to start an Application Oriented Short Term Course on Cell Culture Techniques.

2. Scope and Objectives:

The course is aimed at Faculty/Researchers/Technical staff from universities/colleges/other Institutions involved in research in biological/Health sciences who require skill development in cell culture technology.

The main objective of the course is to provide training in basic cell culture techniques and Cytotoxicity screening of certain drugs.

3. Eligibility:

As per the regulation of the course.

4. Duration of the course:

The duration of the course shall be one month.

5. Regulation and Curriculum:

Regulation and syllabus are prepared and appended.

6. Teaching-learning modalities:

The modalities for teaching-learning will include hands on training sessions and lectures/interactive sessions.

7. Evaluation:

Evaluation shall be as per the regulation of the course and declaration of results /class/ distinction are as per the regulation of the course.

8. Attendance requirement:

As per the regulation

9. Additional requirements:

- Additional CO₂ incubator is required for the maintenance of cultures.
- Textbooks related to Animal cell culture techniques need to be procured.

10. Budget requirement:

Recurring expenditure: Rs. 1,50,000/- (Manpower, Equipment, consumables and evaluation)

Rakha P. D.

2

Deputy Director
Yenepoya Research Centre
Yenepoya (Deemed to be University)
Deralaka

Short term course in cell Culture Techniques

Regulations governing the Application Oriented Short Term Course on Cell Culture Techniques

1. Title of the Programme:

The programme shall be called the "Application Oriented Short Term Course on Cell Culture Techniques" and regulation shall be called the "Regulation governing the Application Oriented Short Term Course on Cell Culture Techniques".

2. Eligibility for admission:

Graduates in Health Sciences, paramedical sciences and post-graduates in Biological Sciences with 45% marks in qualifying degree examination are eligible for admission. (May include Faculty/Researchers/Technical staff from universities/colleges/other Institutions/industries)

3. Duration of the programme:

The duration of the course shall be one month.

4. Medium of instruction:

The medium of instruction shall be English.

5. Subjects of study:

- The subject shall include one paper with five units covering both theory and practical aspects of different techniques in cell culture.

6. Attendance:

Candidates securing not less than 80% of the attendance shall be considered eligible to get the certificate.

7. Scheme of Evaluation:

Evaluation	Max. Marks	Min. marks
Skills acquired during practical sessions (Continuous scores)	100	50
Objective assessment (MCQ)*	50	25
Viva voce	50	25

*1 hour paper at the end of the course

8. Declaration of class:

Grade A: 75% and above in aggregate

Grade B: 60% and above in aggregate but less than 75%

Grade C: 50% and above in aggregate but less than 60%

Candidates securing less than 50% in aggregate shall not be eligible for certificate

Bhula P.D.

Deputy Director
Yenepoya Research Centre
Yenepoya (Deemed to be University)
Deralakatte, Mangaluru-575018

Short term course in cell Culture Techniques

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[Signature]
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Syllabus

Unit 1:

Overview of cell culture, aseptic techniques, media preparation, reconstitution and storage, applications of cell culture (6 hours)

Unit 2:

Morphology of normal and malignant cell types, quality control in cell culture, culturing techniques for normal and cancer cells, Plateau phase culture, checking for multiplicity of cells, cell synchronization, trypsinization process, total cell counts, viability counts using Trypan blue, sub-culturing of cells. (15 hours)

Unit 3:

Cryopreservation techniques: Preparation of cryopreservation media, thawing and retrieval of cells. (4 hours)

Unit 4:

Cell death analysis/Cytotoxicity assays: Clonogenic assay, MTT and SRB assays. (8 hours)

Unit 5:

Karyotyping from lymphocyte culture, staining techniques, banding techniques (7 hours)

References:

- Freshney RI. 2010. Culture of Animal Cells: A Manual of Basic Technique and Specialized Applications. Sixth Edition. John Wiley & Sons, New Jersey.
- Helgason, Cheryl D, Miller, Cindy L. 2005. Basic Cell Culture Protocols. Third edition. Humana Press Inc., New York.
- Pollard JW and Walker JM. 1997. Basic cell culture protocols. Second Edition. Humana Press Inc., New York.
- Mather JP and Roberts PE. 1998. Introduction to Cell and Tissue Culture: theory and technique. Springer Verlag Publishers, New York.

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Deputy Director 5
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