



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur



Empowered Autonomous Institution
(Affiliated to Swami Ramanand Teerth Marathwada University, Nanded)

NAAC A+ Grade (Cycle IV) with CGPA 3.49,
ISO: 2015, UGC-CPE (Phase III), DST-FIST Status

Report on

Certificate Course in

“Plant Tissue Culture and Plant Molecular Biology”
(PTC&PMB-2026)

PM-USHA Sponsored

(Date: 20th Jan and 31st March 2026)

पीएम-उषा PM-USHA

Organized by

Department of Botany

Rajarshi Shahu Mahavidyalaya, Latur

Empowered Autonomous Institution

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Introduction: About certificate course in Plant Tissue Culture and Plant Molecular Biology (PTC&PMB-2026)

The Department of Botany Rajarshi Shahu Mahavidyalaya, a reputed institution established in 1970, is committed to imparting quality education and developing scientific temper among students. Keeping pace with advancements in life sciences. The department of Botany proposes a **Certificate Course in Plant Tissue Culture and Plant Molecular Biology**. This course aims to provide hands-on training and theoretical knowledge in plant tissue culture & molecular Biology techniques, which are essential for crop improvement, conservation, and research.

The Certificate Course in Plant Tissue Culture and Plant Molecular Biology is designed to provide students with fundamental knowledge and practical skills in modern plant biotechnology. With the increasing demand for sustainable agriculture, crop improvement, and conservation of plant genetic resources, these advanced techniques have become essential tools in biological sciences.

Plant Tissue Culture focuses on in vitro cultivation of plant cells, tissues, and organs under sterile and controlled environmental conditions. This technique enables rapid clonal propagation, production of disease-free plants, conservation of rare and endangered species, and also supports plant breeding programs.

Plant Molecular Biology deals with the study of genetic material at the molecular level, including DNA isolation, gene expression, genetic transformation, and molecular marker techniques. These approaches help in understanding plant genetics, improving crop traits, and developing stress-resistant and high-yielding varieties.

This course integrates theoretical concepts with hands-on laboratory training, enabling students to develop technical competence in aseptic techniques, media preparation, micropropagation, DNA extraction, PCR, and basic bioinformatics tools. It is particularly beneficial for students as well as individuals seeking career opportunities in research, seed industries, and biotech laboratories.

The course aims to bridge the gap between classical plant sciences and modern molecular techniques, preparing learners for academic research and industrial applications.

A total 50 student participants and 06 faculty members attended the course. The course was conducted under the dynamic leadership of Chief Organizer Dr. Mahadev Gavhane, Principal, whose continuous encouragement reinforced the academic objectives of the initiative, Prof. Sadashiv Shinde, Vice Principal, PM-USHA Coordinator, Convener, and Head of the Department Botany, offered valuable guidance for the smooth execution of the program, Dr. K. D. Savant played a pivotal role in planning and coordination.

Faculty members Mr. Dnyanoba Awad, Miss Pranjali Kumbhar, Miss Pooja Maskepatil, Miss Pratima Gore, and Miss Neha Kamble actively assisted in logistics and participant management.

The dedicated teamwork and coordinated efforts of the faculty members ensured the successful and impactful completion of the Certificate Course.

Objectives of the Course:

1. To develop laboratory competence and research-oriented skills among students.
2. To provide fundamental knowledge of plant tissue culture techniques and plant molecular biology.
3. To develop practical skills in aseptic techniques, media preparation, and in vitro culture of plant materials.
4. To train students in micropropagation methods for rapid multiplication of plants.
5. To familiarize learners with modern tools such as PCR, electrophoresis, and molecular markers.
6. To enhance understanding of plant genetic improvement of plants through Plant Tissue Culture.
7. To promote the application of tissue culture techniques in agriculture, horticulture, and conservation of rare and endangered plants.
8. To create awareness about the industrial applications of plant biotechnology in pharmaceuticals, agriculture, and biotechnology sectors.
9. To prepare students for higher studies, research careers, and employment in related fields.

पीएम-उषा

PM-USHA

Notice:



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya Latur
Empowered Autonomous Institute
Department of Botany
Notice
Certificate Course in
"Plant Tissue Culture and Plant Molecular Biology"
(Under PM-USHA)

Date: 18/12/2025

All the students of B.Sc. & M.Sc. are hereby informed that, Department of Botany organizes, certificate course in "Plant Tissue Culture and Plant Molecular Biology" Under PM-USHA which starts from 22nd Dec. 2025. The interested students should register their names towards Prof. P.V. Kumbhar and Prof. N.S. Kamble till 23rd Dec. 2025.

Venue: Department of Botany

Head
Head

Department of Botany
UG, PG and Research Centre
Rajarshi Shahu Mahavidyalaya (Autonomous),
LATUR-413 512

Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)



Structure and Curriculum of
Certificate Course in
Plant Tissue Culture and Plant Molecular Biology
(Under PM-USHA)

For UG and PG Students

Approved by
Board of Studies in Botany
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)

w.e.f. Dec, 2025



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)



Department of Botany
Certificate Course under PM- USHA
Plant Tissue Culture and Plant Molecular Biology
SYLLABUS

Total Teaching Hours: 30 Hrs (Theory and Practicals)

Learning Objectives:

- LO 1 To analyse the effective media and plant tissue culture techniques.
- LO 2 To understand different cells and organs used in tissue culture.
- LO 3 To evaluate the various culture techniques in plant tissue culture.
- LO 4 To explain genome organization, gene expression and regulation in eukaryotes.

Course Outcomes:

After completion of course, the student will be able to-

- CO 1 Analyse the effective media and plant tissue culture techniques.
- CO 2 Explain different cell and organs used in tissue culture.
- CO 3 Evaluate the various culture techniques in plant tissue culture.
- CO 4 Explain genome organization, gene expression and regulation in eukaryotes.

Unit No.	Title of Unit & Contents	Hrs.
I	Introduction of Plant Tissue Culture	06
	<ul style="list-style-type: none">i. History of plant tissue cultureii. Tissue Culture Laboratoryiii. Equipment's in Tissue Culture Laboratoryiv. Preparation of Media, Media Composition, Plant Growth Regulators and their rolev. Selection of explants and Sterilization Techniquesvi. Process of plant tissue culture.	
	Unit Outcome: UO 1. Analyse the effective media and plant tissue culture techniques.	
II	Cell and Organ Culture	04
	<ul style="list-style-type: none">i. Plant organ cultureii. Shoot apical meristemiii. Shoot tips Culture	

Unit No.	Title of Unit & Contents	Hrs.
	iv. Root, Leaf, Flower, Ovary culture v. Embryo rescue vi. Protoplast culture and Somatic Embryogenesis Unit Outcome: UO.1 Explain different cell and organs used in tissue culture.	
III	Single Cell Culture and Techniques	04
	i. Regeneration of protoplast ii. Synthetic seeds iii. Cryopreservation of plant cells iv. Micropropagation v. Application of plant tissue culture Unit Outcome: UO 1. Describe the various culture techniques of plant tissue culture.	
IV	Plant Molecular Biology	02
	i. Genome Organization in Higher plants ii. Gene Expression and Regulation in Eukaryotes Unit Outcome: UO 1. Describe genome organization, expression and regulation in eukaryotes	


Practical No.	Unit	
1	Study of Equipments used in Plant Tissue Culture.	
2	Study of Sterilizing techniques used in Plant Tissue Culture.	
3	Preparation of MS medium..	
4	Study of in-vitro selection, sterilization and inoculation of explants for callus culture.	
5	Study of characterization of callus.	
6	Study of Micro propagation.	
7	Study of Somatic Embryogenesis	
8	Study of embryo culture	

Learning Resources:

1. Plant cell culture: Secondary metabolism towards industrial application- Dicosmo F and Misawa M, Edt 1996, CRC press, Boca Raton, N.Y.
2. Principles of gene manipulation. Primrose SB, Twyman RM and Old RW, 6th Edition, Blackwell Science, Oxford, 2001
3. Secondary products from plant tissue culture- Charlwood B.V. and Rhodes MV Edt. 1999, Clarendon Press, Oxford. Shepherd RJ, NY Acad. Of Science Publishers 1996.
4. Robert Smith. Plant tissue culture: Techniques and Experiments. South Asia Edition.
5. Gamborg and Phillip. Plant Cell, Tissue and Organ Culture. Narosa.
6. Dixon and Gonzales. Plant Cell Culture.
7. Panima. Narayanswamy. Plant Cell and Tissue Culture.
8. Mc Graw Hill. Bhojwani, S.S. and Rajdan, M.K. Plant Tissue Culture: Theory and Practices arevised Edition. Elsevier.
9. Razdan, M.K. Introduction to plant tissue culture. Oxford & IBH Publishers.
10. Chawla, H.S. Introduction to Plant Biotechnology. Oxford & IBH Publishers.


Head
Head
Department of Botany
UG, PG and Research Centre
Rajarshi Shahu Mahavidyalaya (Autonomous),
LATUR-430 510




Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latour,
(Autonomous)

Letters: Invitation, Gratitude and Reliving



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur.
(Empowered Autonomous Institution)
Kaku Sheth Ukka Marg, Chandra Nagar, Latur - 413512 (Maharashtra)
Affiliated To Swami Ramanand Teerth Marathwada University, Nanded
Arts, Commerce, Science, Comp.Sci. & I.T., Biotechnology and B. Voc.
NAAC A*Grade (4th Cycle) With 3.49 CGPA, UGC-CPE (Phase-III) & DST-FIST Status

Dr. Gopalrao Patil
President

B. B. Thombare
Secretary

Dr. Mahadev Gavhane
Principal

Ref No: RSML/Botany/PM-USHA/20256-26/492

Date: 17/01/2026

To,
Prof. Dr. Rahul Chavan,
Assistant Professor, Department of Plant Biotechnology,
V.D. College of Agricultural Biotechnology, Latur

**Subject: Invitation as Inaugurator for Certificate Course in Plant Tissue Culture & Plant
Molecular Biology**

Respected Sir,

It gives us immense pleasure to invite you as the Inaugurator for the PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* organized by the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution for the academic year 2025–26.

The certificate course comprises 30 hours of theory and practical sessions and is scheduled from 20 January 2026 to 31 March 2026. The inaugural programme will be held on 20 January 2026.

We would be highly honoured by your gracious presence and valuable guidance on this occasion. Your expertise and inspirational words will greatly motivate the students and enrich the programme.

We kindly request you to accept our invitation and grace the inaugural function with your presence.

Thank you.


PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)

Ref No: RSML/Botany/PM-USHA/20256-26/492

Date: 17/01/2026

To,

Prof. Dr. Rahul Chavan,
Assistant Professor, Department of Plant Biotechnology,
V.D. College of Agricultural Biotechnology, Latur

Subject: Invitation as Inaugurator for Certificate Course in **Plant Tissue Culture & Plant Molecular Biology**

Respected Sir,

It gives us immense pleasure to invite you as the Inaugurator for the PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* organized by the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution for the academic year 2025-26.

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We would be highly honoured by your gracious presence and valuable guidance on this occasion. Your expertise and inspirational words will greatly motivate the students and enrich the programme.

We kindly request you to accept our invitation and grace the inaugural function with your presence.

Thank you.

dc
Received
Chavan


PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)

Ref No: RSML/Botany/PM-USHA/20256-26/493

Date: 17/01/2026

Letter of Gratitude

To,

Prof. Dr. Rahul Chavan,

Assistant Professor, Department of Plant Biotechnology,

V.D. College of Agricultural Biotechnology, Latur

Respected Sir,

On behalf of the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution, we express our heartfelt gratitude for gracing the inaugural function of the PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* as the Inaugurator.


Your esteemed presence, valuable guidance, and inspiring words greatly encouraged the students and added dignity to the programme. Your contribution made the inaugural session meaningful and memorable for all the participants.

We sincerely appreciate your valuable time, support, and cooperation extended towards the successful commencement of the certificate course.

Thank you once again for your kind presence and encouragement. We look forward to your continued support in future academic activities.

With warm regards,

ok Received
Chavan


PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)

Ref No: RSML/Botany/PM-USHA/20256-26/LAH

Date: 17/01/2026

Relieving Letter

To,

Prof. Dr. Rahul Chavan,

Assistant Professor, Department of Plant Biotechnology

V.D. College of Agricultural Biotechnology, Latur

Respected Sir,

This is to certify that you graciously served as the Inaugurator for the PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* organized by the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution for the academic year 2025-26.

The inaugural function was successfully conducted on 20 January 2026. Your valuable presence, inspiring guidance, and encouraging words greatly motivated the students and contributed to the successful commencement of the programme.

We hereby relieve you from the responsibilities assigned to you as the Inaugurator of the said certificate course. We sincerely appreciate your support and cooperation and extend our heartfelt thanks for your valuable contribution.

Regards,

dr Received
Chavan


PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur.
(Autonomous)



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur.

(Empowered Autonomous Institution)

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Dr. Gopalrao Patil
President

B. B. Thombare
Secretary

Dr. Mahadev Gavhane
Principal

Ref No: RSML/Botany/PM-USHA/20256-26/ 495

Date: 17/01/2026

To,

Mr. Abhijit S. Deshmukh

Assistant Professor, Department of Plant Biotechnology

V.D. College of Agricultural Biotechnology, Latur

Subject: Invitation as Resource Person for the Certificate Course in Plant Tissue Culture & Plant Molecular Biology

Respected Sir,

With reference to the above subject, the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution, is organizing a PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* for the academic year 2025–26. The course comprises 30 hours of theory and practical sessions and will commence from 20 January 2026 onwards.

On this occasion, we are pleased to invite you as a Resource Person for the said certificate course. We sincerely request you to accept our invitation and share your valuable knowledge and expertise with the students.

The course is scheduled from 20 January 2026 to 31 March 2026. We hope you will kindly accept our invitation and grace the programme with your presence and guidance.

Thank you.


PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)

Ref No: RSML/Botany/PM-USHA/20256-26/492

Date: 17/01/2026

To,
Prof. Dr. Rahul Chavan,
Assistant Professor, Department of Plant Biotechnology,
V.D. College of Agricultural Biotechnology, Latur

Subject: Invitation as Inaugurator for Certificate Course in **Plant Tissue Culture & Plant Molecular Biology**

Respected Sir,

It gives us immense pleasure to invite you as the Inaugurator for the PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* organized by the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution for the academic year 2025-26.

The certificate course comprises 30 hours of theory and practical sessions and is scheduled from 20 January 2026 to 31 March 2026. The inaugural programme will be held on 20 January 2026.

We would be highly honoured by your gracious presence and valuable guidance on this occasion. Your expertise and inspirational words will greatly motivate the students and enrich the programme.

We kindly request you to accept our invitation and grace the inaugural function with your presence.

Thank you.

dc
Received
Chavan


PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)

Ref No: RSML/Botany/PM-USHA/20256-26/493

Date: 17/01/2026

Letter of Gratitude

To,
Prof. Dr. Rahul Chavan,
Assistant Professor, Department of Plant Biotechnology,
V.D. College of Agricultural Biotechnology, Latur

Respected Sir,

On behalf of the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution, we express our heartfelt gratitude for gracing the inaugural function of the PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* as the Inaugurator.

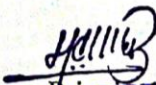
Your esteemed presence, valuable guidance, and inspiring words greatly encouraged the students and added dignity to the programme. Your contribution made the inaugural session meaningful and memorable for all the participants.

We sincerely appreciate your valuable time, support, and cooperation extended towards the successful commencement of the certificate course.

Thank you once again for your kind presence and encouragement. We look forward to your continued support in future academic activities.

With warm regards,

ole
Received
Chavan


PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)

Ref No: RSML/Botany/PM-USHA/20256-26/RL

Date: 17/01/2026

Relieving Letter

To,
Prof. Dr. Rahul Chavan,
Assistant Professor, Department of Plant Biotechnology
V.D. College of Agricultural Biotechnology, Latur

Respected Sir,

This is to certify that you graciously served as the Inaugurator for the PM-USHA sponsored Certificate Course in *Plant Tissue Culture & Plant Molecular Biology* organized by the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution for the academic year 2025–26.

The inaugural function was successfully conducted on 20 January 2026. Your valuable presence, inspiring guidance, and encouraging words greatly motivated the students and contributed to the successful commencement of the programme.


We hereby relieve you from the responsibilities assigned to you as the Inaugurator of the said certificate course. We sincerely appreciate your support and cooperation and extend our heartfelt thanks for your valuable contribution.

Regards,

dx
Received
Chavan



PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur.
(Autonomous)

Flyer of Certificate Course:



शिव छत्रपती
शिक्षण संस्था
लातूर
॥ अतोद तमसे ज्योतिः ॥
स्थापना - १९७०


Shiv Chhatrapati Shikshan Santha's
Rajarshi Shahu Mahavidyalaya Latur
Empowered Autonomous Institution





पीएम-उवा PM-USHA

DEPARTMENT OF BOTANY

Certificate Course In
PLANT TISSUE CULTURE
AND
PLANT MOLECULAR BIOLOGY
Under PM-USHA





 **DURATION**
20 January 2026
To
31 March 2026


 **VENUE**
Department
Of Botany


 **EARN A CERTIFICATE**
Enhance your knowledge.
Build your skills.
Shape your future.




COURSE HIGHLIGHTS


- Introduction to Plant Tissue Culture
- Aseptic Techniques and Media Preparation
- Micropropagation Techniques
- Callus Culture and Organogenesis
- Somatic Embryogenesis
- Introduction to Plant Molecular Biology
- DNA Isolation and Analysis
- PCR and Its Applications
- Molecular Markers and Their Applications
- Applications in Plant Biotechnology



PM-USHA COORDINATOR
 **Prof. Sadashiv Shinde**


PRINCIPAL
 **Dr. Mahadev Gavhane**

 02382-245933
 botany@rsm.latur.org.in
 www.rsm.latur.org.in



Scan for
more details


Brochure of Certificate Course:



SHIV CHHATRAPATI SHIKSHAN SANTHAS
RAJARSHI SHAHU MAHAVIDYALAYA LATUR
Empowered Autonomous Institution


DEPARTMENT OF BOTANY

Committed to excellence in teaching, learning and research in plant sciences for the betterment of society and environment.




ABOUT THE COURSE

This certificate course is designed to provide hands-on training and theoretical knowledge in plant tissue culture techniques and plant molecular biology. The course aims to build practical skills for research and applications in modern plant biotechnology.



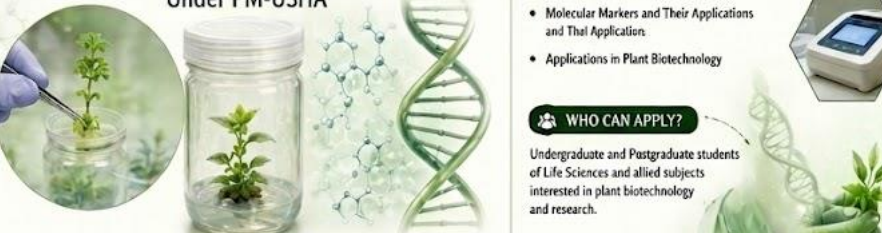
SHIV CHHATRAPATI SHIKSHAN SANTHAS
RAJARSHI SHAHU MAHAVIDYALAYA LATUR
(Empowered Autonomous Institution)



Certificate Course In

PLANT TISSUE CULTURE AND PLANT MOLECULAR BIOLOGY

Under PM-USA



DURATION
20 Jan 2026 To 31 March 2026

VENUE
Department Of Botany

EARN A CERTIFICATE
Enhance your knowledges. Build your skills. Shape your future.

COURSE HIGHLIGHTS

- Hands-on training in plant tissue culture techniques
- Fundamentals and applications of molecular biology
- Modern laboratory approaches
- Skill development for research and careers

COURSE CONTENTS

- Introduction to Plant Tissue Culture
- Aseptic Techniques and Media Preparation
- Micropropagation Techniques
- Callus Culture and Organogenesis
- Somatic Embryogenesis
- Introduction to Plant Molecular Biology
- DNA Isolation and Analysis
- PCR and Its Applications
- Molecular Markers and Their Applications and Their Application.
- Applications in Plant Biotechnology

WHO CAN APPLY?

Undergraduate and Postgraduate students of Life Sciences and allied subjects interested in plant biotechnology and research.

PM-USA Coordinator:
Prof Sadashiv Shinde

Principal:
Dr. Mahadev Gavhane


Contact: 9922086789

Knowledge | Skills | Research | Innovation
Towards a Greener Tomorrow

Schedule of Certificate Course:

Date	Theory and practical
20.01.2026	History of plant tissue culture and Tissue Culture Laboratory
20.01. 2026	Study of Equipments used in Plant Tissue Culture.
21.01. 2026	Equipment's in Tissue Culture Laboratory and Preparation of Media, Media Composition, Plant Growth Regulators and their role
22.01. 2026	Selection of explants and Sterilization Techniques
23.01. 2026	Process of plant tissue culture.
27.01. 2026	Study of Sterilizing techniques used in Plant Tissue Culture.
29.01. 2026	Plant organ culture
30.01. 2026	Preparation of MS medium.
31.01. 2026	Preparation of MS medium.
10.02. 2026	Shoot apical meristem
13.02. 2026	Shoot tips Culture
20.02. 2026	Root, Leaf, Flower, Ovary culture Embryo rescue Protoplast culture and Somatic Embryogenesis.
24.02. 2026	Study of in-vitro selection, sterilization and inoculation of explants for callus culture.
09.03. 2026	Regeneration of protoplast Synthetic seeds Cryopreservation of plant cells Micropropagation Application of plant tissue culture.
09.03. 2026	Study of characterization of callus.
10.03. 2026	Study of Micro propagation.
16.03. 2026	Study of Micro propagation.
17.03. 2026	Genome Organization in Higher plants Gene Expression and Regulation in Eukaryotes
25.03. 2026	Study of Somatic Embryogenesis
31.03. 2026	Study of embryo culture
04.04.2026	Examination of Certificate course

Resource Persons

Sr. No.	Photograph	Brief Resume
1		<p>Dr. Rahul Lahu Chavan is currently serving as an Assistant Professor (Senior Scale) in the Department of Plant Biotechnology at V.D. College of Agricultural Biotechnology, Latur. He has been actively engaged in teaching, research, and academic activities since joining the institution on 17th October 2008.</p> <p>Dr. Chavan possesses an excellent academic background. He completed his B.Sc. (Agriculture) and M.Sc. in Agricultural Biotechnology from Vasant Rao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani. He earned his Ph.D. in Biotechnology from Swami Ramanand Teerth Marathwada University (SRTMU), Nanded, with specialization in Plant Biotechnology.</p> <p>He has more than a decade of experience; He has made significant contributions in the field of plant biotechnology, particularly in molecular diagnostics, plant disease management, and genetic engineering. He has successfully handled several major research projects funded by prestigious agencies such as the Department of Biotechnology (DBT), SERB, RKVY, and State Government bodies.</p> <p>Dr. Chavan has an impressive research portfolio, with over 45 research papers, numerous technical articles, book chapters, and patents to his credit. He has guided several postgraduate and doctoral students, contributing to academic excellence and research development.</p> <p>He has received numerous awards and recognitions at national and international levels, including the Young Scientist Award, DBT Incentive Awards, and several Best Paper and Poster Presentation Awards. He is also a life member of reputed scientific societies such as the Indian Society for Plant Pathology and the Asian PGPR Society, and serves as a reviewer for reputed journals including Indian Phytopathology and 3 Biotech.</p> <p>Dr. Chavan has also contributed to innovation through the development of molecular detection kits for plant pathogens and has been associated as an expert member in Institutional Biosafety Committees (IBSC).</p> <p>His vast experience, research excellence, and dedication to agricultural biotechnology make him a distinguished academician and an inspiring resource person for students and researchers.</p>

2



Mr. **Deshmukh Abhijit Subhash** is a distinguished professional in the field of Agricultural Biotechnology with significant academic, research, and practical experience. He completed his M.Sc. in Agricultural Biotechnology in 2018 from Vasanttrao Naik Marathwada Krushi Vidyapeeth, securing a commendable CGPA of 8.03. He also holds a B.Sc. degree in Agricultural Biotechnology from Mahatma Phule Krushi Vidyapeeth. His academic excellence is further reflected through his qualification in the Indian Council of Agricultural Research Junior Research Fellowship (AIR 565) and his achievement in the DBT-JNU entrance examination (AIR 175).

He has seven years of professional experience, Mr. Deshmukh is currently working as a Senior Research Analyst at Vilasrao Deshmukh College of Agricultural Biotechnology, Government of Maharashtra. His work primarily focuses on DNA fingerprinting (hybrid testing) and plant virus indexing in tissue culture plants. His master's research on *Agrobacterium-mediated genetic transformation in sunflower* highlights his expertise in molecular biology and genetic engineering.

Mr. Deshmukh has made noteworthy contributions to scientific innovation, holding multiple design patents, including detection kits for Banana Bunchy Top Virus and Alternaria blight in sunflower. He has also filed a utility patent for rapid virus detection in banana, demonstrating his commitment to applied research and technological advancement in agriculture.

He has received several prestigious awards, including Best Poster Awards at national and international seminars, and recognition at the 46th Joint Agresco Meeting for his work on virus detection technologies. His research contributions are well-documented through numerous publications in reputed journals and book chapters, covering areas such as plant stress physiology, molecular diagnostics, and bioinformatics.

In addition to his research achievements, Mr. Deshmukh has actively participated in various national workshops and training programs related to molecular biology and bioinformatics. He is proficient in Marathi, Hindi, and English, and is known for his strong interpersonal skills, leadership qualities, and ability to work collaboratively.

Mr. Abhijit Deshmukh brings a rich blend of academic knowledge, research expertise, and practical experience, making him a highly competent and valuable resource person for academic and training programs in plant tissue culture and molecular biology.

Inaugural Function of the Certificate Course

The Certificate Course in Plant Tissue Culture and Plant Molecular Biology was formally inaugurated in Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur Empowered Autonomous Institution, on 20th January 2026 with great enthusiasm and academic fervor. The inaugural function marked the commencement of a skill-oriented initiative aimed at enhancing students' knowledge and practical exposure in modern plant biotechnology.

The program began with a warm welcome of the dignitaries by Prof Sadashiv N. Shinde, Head of the Department of Botany. The course was inaugurated by Prof. Dr Rahul Chavan, Vilasrao Deshmukh College of Agriculture Latur, a distinguished expert in the field of plant biotechnology, through the traditional lighting of the ceremonial lamp. In his inaugural address, he emphasized the significance of plant tissue culture and molecular biology techniques in agriculture, research, and industrial applications.

Prof. Sadashiv Shinde presided over the function and highlighted the importance of such certificate courses in bridging the gap between theoretical understanding and practical skills. He also encouraged students to actively participate and make optimum use of the laboratory facilities available in the institution.

Dr. Kalyan Savant briefed the participants about the course structure, objectives, and expected learning outcomes. The students showed keen interest and enthusiasm for acquiring hands-on experience in advanced laboratory techniques.

The session concluded with inspiring remarks from the dignitaries, motivating students to engage actively, participate in meaningful discussions, and make the most of the learning opportunities. The course was effectively coordinated and gracefully anchored by Ms. Neha Kamble, who ensured smooth transitions between various segments. The inaugural session ended with a formal vote of thanks by Mr. D.R. Awad expressing sincere gratitude to the dignitaries, organizing committee, and participants for their valuable presence and support, thereby setting a positive and scholarly tone for the sessions that followed.

Date: 20.01.2026

Day: Tuesday

Inaugurators Address: Prof. Dr. Rahul Chavan, Assistant Professor, Department of Plant Biotechnology at V.D. College of Agricultural Biotechnology, Latur.

Prof. Dr. Rahul Chavan delivered inaugural address on the occasion of the inaugural function of the Certificate Course in Plant Tissue Culture and Plant Molecular Biology organized by the Department of Botany, Rajarshi Shahu Mahavidyalaya, Latur under PM-USHA.

He told that today's rapidly advancing scientific world and plant biotechnology has emerged as a powerful tool for addressing major challenges in agriculture, environment, and food security.

Techniques like plant tissue culture enable rapid multiplication of plants, production of disease-free planting material, and conservation of rare and endangered species. On the other hand, plant molecular biology allows us to understand the genetic makeup of plants and develop improved, high-yielding, and stress-resistant varieties.

He appreciated the initiative taken by the Department of Botany to introduce this skill-based certificate course. Such programs not only enhance theoretical knowledge but also provide hands-on training, which is essential for students to meet the demands of research and industry.

He motivated the students to take full advantage of this opportunity. The skills like aseptic techniques, micropropagation, DNA isolation, PCR will open doors to careers in biotechnology industries, research institutions, and higher education. Your active participation, curiosity, and dedication will determine how much you benefit from this course.

He congratulated the faculty members for their efforts in designing and organizing this valuable course. This will help you to gain practical exposure and scientific insight.

He said that this certificate course great success and hope it will contribute significantly to the academic excellence of the institution and the bright future of the students.

Date: 20.01.2026

Day: Tuesday

Desk of Chairperson: Prof. Sadashiv N. Shinde, Rajarshi Shahu Mahavidyalaya, Latur

Prof. Sadashiv N. Shinde addressed during inaugural function of the Certificate Course in Plant Tissue Culture and Plant Molecular Biology organized by Department of Botany under PM-USHA. He emphasized the present era of rapid scientific advancement; there is a growing need to equip students with practical skills and advanced knowledge in the field of plant biotechnology.

This course has been thoughtfully designed to provide students with both theoretical understanding and hands-on training in essential techniques such as plant tissue culture, micropropagation, DNA isolation, and molecular analysis. Such competencies are crucial for addressing current challenges in agriculture, biodiversity conservation, and sustainable development.

At our institution, we are committed to offer value-based and skill-oriented education that enhances employability and research aptitude among students. This certificate course is a step forward in bridging the gap between traditional learning and modern scientific applications.

He said that this program will empower students with the necessary technical expertise and inspire them to pursue careers in research, biotechnology industries, and higher education. He appreciated the dedicated efforts of the Department of Botany in organizing this course and wish all the participants a successful and enriching learning experience.

Photographs of Inaugural Function:



Dr. K.D. Savant while introducing the resource person.



Resource person Dr. Rahul Chavan while discussing the Techniques in plant tissue culture.



Prof. S. N. Shinde Head & Vice-Principal while delivering the Presidential speech.



Participants of the inaugural programme.

1 Week 1 Report: Introduction to Plant Tissue Culture

During the first week of the certificate course, Mr. Deshmukh delivered an insightful session on the **history and fundamentals of plant tissue culture**. He explained that the foundation of plant tissue culture is based on the concept of *totipotency*, which refers to the ability of a single plant cell to regenerate into a complete plant under suitable conditions.

He highlighted the major milestones in the development of plant tissue culture:

- **Gottlieb Haberlandt (1902)** proposed the concept of totipotency, although his experiments were unsuccessful due to the lack of appropriate nutrients and growth regulators.
- **Philip R. White (1934)** successfully cultured excised root tips, demonstrating that plant cells can survive and grow in artificial media.
- **Skoog and Miller (1957)** discovered the critical role of auxin and cytokinin ratio in organ differentiation.
- **Murashige and Skoog (1962)** developed the MS medium, which remains the most widely used culture medium.

These pioneering contributions laid the foundation for plant tissue culture as a powerful tool in both research and commercial applications.

Mr. Deshmukh further elaborated on the **construction and layout of a plant tissue culture laboratory**, emphasizing the importance of maintaining sterile conditions to prevent contamination and ensure successful culture growth. The major sections of a well-equipped laboratory include:

1. **Washing Area** – Used for cleaning glassware with detergents and distilled water.
2. **Media Preparation Room** – Involves preparation of nutrient media using chemicals, vitamins, and plant growth regulators.
3. **Sterilization Area** – Equipped with an autoclave for sterilizing media and instruments at 121°C under pressure.
4. **Inoculation Room (Aseptic Area)** – Contains laminar airflow cabinets to maintain sterile conditions during the transfer of explants.
5. **Culture Room** – Maintains controlled environmental conditions such as temperature (25±2°C), light (16-hour photoperiod), and humidity for optimal growth.

In addition, he discussed the **various equipment used in a tissue culture laboratory and their functions**, which are essential for maintaining precision and sterility:

- **Laminar Airflow Cabinet** – Provides sterile air using HEPA filters and prevents contamination.
- **Autoclave** – Sterilizes media and instruments using steam under pressure.
- **Hot Air Oven** – Used for dry heat sterilization of glassware.
- **pH Meter** – Measures the pH of the medium (ideal range: 5.6–5.8).
- **Analytical Balance** – Ensures accurate measurement of chemicals.
- **Magnetic Stirrer** – Facilitates uniform mixing of media components.
- **Incubator/Growth Chamber** – Maintains controlled environmental conditions.
- **Microscope** – Helps in observing cell growth and detecting contamination.
- **Refrigerator** – Used for storage of media, hormones, and explants.

All the sessions provided a strong theoretical foundation and practical understanding of plant tissue culture and laboratory requirements.

Photos of Week –I



Latur, Maharashtra, India 🇮🇳
Office Shahu Collage, Near Bus Stand, Jay Nagar,
Sawe Wadi, Latur, Maharashtra 413512, India
Lat 18.39808° Long 76.579853°
Thursday, 29/01/2026 02:58 PM GMT +05:30

Prof.S.N.Shinde while guiding the students about the Certificate Course



Latur, Maharashtra, India 🇮🇳
In Front Shahu College, Near Sbi Main Branch, Chandra
Nagar, Sawe Wadi, Latur, Maharashtra 413512, India
Lat 18.398229° Long 76.579813°
Thursday, 29/01/2026 02:57 PM GMT +05:30

Dr. K.D. Savant while giving instructions to students about handling of instruments.



Latur, Maharashtra, India 🇮🇳
Rajarshi Shahu College, Jay Nagar, Sawe Wadi,
Latur, Maharashtra 413512, India
Lat 18.398063° Long 76.579895°
Saturday, 31/01/2026 03:55 PM GMT +05:30

Mr. Abhijeet Deshmukh while explaining the basic aspects of Tissue Culture Laboratory.



Latur, Maharashtra, India 🇮🇳
Office Shahu Collage, Near Bus Stand, Jay Nagar,
Sawe Wadi, Latur, Maharashtra 413512, India
Lat 18.398064° Long 76.579877°
Friday, 30/01/2026 03:11 PM GMT +05:30

Mr. Abhijeet Deshmukh while explaining how to prepare stock solutions for M.S Media.



Latur, Maharashtra, India 🇮🇳
Rajarshi Shahu College, Jay Nagar, Sawe Wadi,
Latur, Maharashtra 413512, India
Lat 18.39803° Long 76.579922°
Friday, 30/01/2026 03:13 PM GMT +05:30

Mr. Abhijeet Deshmukh while explaining how to prepare stock solutions for M.S Media



Latur, Maharashtra, India 🇮🇳
Rajshree Shahu Maharaj Complex, Old, Railway
Compound Road, Near Bsnl Tower, Jay Nagar, Sawe Wadi,
Latur, Maharashtra 413512, India
Lat 18.398034° Long 76.580032°
Thursday, 29/01/2026 03:37 PM GMT +05:30

Students weighing the chemicals for preparation of stock solution



Students while preparing stock solution.



Mr. Abhijeet Deshmukh and Kalyan savant while discussing about explants selection.

2. Week 2 Report: Media Preparation and Plant Growth Regulators

During the second week of the certificate course, Mr. Deshmukh delivered detailed lectures on **Media preparation, media composition, and the role of plant growth regulators (PGRs)** in plant tissue culture.

He explained that plant tissue culture media must supply all the essential nutrients required for the growth and development of plant cells under in vitro conditions. The major components of culture media include:

- **Macronutrients** – These are required in large quantities and include elements such as nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), and sulfur (S)
- **Micronutrients** – Required in trace amounts, these include iron (Fe), zinc (Zn), manganese (Mn), copper (Cu), and other essential elements.
- **Carbon Source** – Sucrose is commonly used as an energy source because cultured plant cells are not able to photosynthesize efficiently under laboratory conditions.
- **Vitamins** – These are essential for supporting various enzymatic and metabolic activities in cultured tissues.
- **Agar** – A solidifying agent used to prepare semi-solid media for supporting explant growth.

Mr. Deshmukh emphasized the importance of **Murashige and Skoog (MS) medium**, which is one of the most widely used culture media due to its rich composition, particularly its high nitrogen content. It is extensively used for plant regeneration and micropropagation studies.

The session also covered the **role of plant growth regulators (PGRs)** in controlling growth and differentiation of plant tissues:

- **Auxins** – Promote root formation and callus induction.
- **Cytokinins** – Stimulate shoot formation and cell division.
- **Gibberellins** – promotes elongation of shoots.
- **Absciscic Acid (ABA)** – Acts as a growth inhibitor and induces dormancy.

He further explained that the **ratio of auxins to cytokinins plays a crucial role in organogenesis:**

- High auxin concentration leads to **root formation**
- High cytokinin concentration promotes **shoot formation**
- A balanced ratio of both results in **callus formation**

All the sessions provided a clear understanding of the composition of culture media and the critical role of plant growth regulators in successful plant tissue culture practices.

Photos of Week -II



3. **Week 3 Report: Selection of Explants, Sterilization Techniques and Plant Tissue Culture Processes**

During the third week of the certificate course, Mr. Deshmukh delivered a comprehensive lecture on the selection of explants, sterilization techniques, and various processes involved in plant tissue culture.

He explained that the success of plant tissue culture largely depends on the proper selection of explants. An ideal explant should be young, actively dividing, and free from diseases and contamination. Commonly used explants include leaf, stem, root, and meristematic tissues.

Mr. Deshmukh further elaborated on the sterilization procedures, which are essential to prevent microbial contamination during in vitro culture. The standard steps involved in sterilization are:

1. Washing under running tap water to remove surface impurities.
2. Treatment with detergent to eliminate dust and debris.

3. Surface sterilization using chemical agents, such as:

- 70% ethanol for quick sterilization
- Sodium hypochlorite as a commonly used disinfectant
- Mercuric chloride, a strong but toxic sterilizing agent

4. Rinsing with sterile distilled water to remove traces of sterilizing chemicals

The lecture also covered the various processes and techniques of plant tissue culture, which are widely used in research and plant propagation:

- Shoot Apical Meristem Culture – Utilizes small meristematic tissues to produce virus-free plants, as viruses generally do not reach the meristem region.
- Shoot Tip Culture – Used for rapid multiplication of plants while maintaining genetic stability.
- Root, Leaf, Flower, and Ovary Culture – These cultures are useful in physiological and developmental studies. Ovary culture is particularly important for hybrid development.
- Protoplast Culture – Involves enzymatic removal of the cell wall, making it useful for genetic engineering and somatic hybridization.

In addition, Mr. Deshmukh discussed somatic embryogenesis, which refers to the formation of embryos from somatic (non-reproductive) cells. This technique is highly significant for large-scale plant production and clonal propagation.

All, the session provided in-depth knowledge of explant handling, sterilization methods, and advanced plant tissue culture techniques.

Photos of Week -II



Sterilization of Explant.



Mr. Abhijeet Deshmukh while demonstrating the working of laminar air flow.



Mr. Yash Shinde while inoculating the sterilized seeds in M.S.Media bottles.



Mr. Abhijeet Deshmukh while preparing HgCl₂ solution for surface sterilization



Students and staff while performing and observing the inoculation of explants.



Mr. Abhijeet Deshmukh while demonstrating surface sterilization.

4. **Week 4 Report: Advanced Techniques, Applications of Plant Tissue Culture and Introduction to Plant Molecular Biology**

During the fourth week of the certificate course, Mr. Deshmukh delivered a comprehensive lecture on **Advanced techniques in plant tissue culture, their applications, and fundamental concepts of plant molecular biology.**

He began the session by explaining several **advanced techniques in plant tissue culture:**

- **Regeneration of Protoplast** – Protoplasts, which are plant cells devoid of cell walls, have the ability to divide and regenerate into a complete plant under suitable in vitro conditions.
- **Synthetic Seeds** – These are artificial seeds produced by encapsulating somatic embryos. They are highly useful for storage, handling, and transportation of plant material.
- **Cryopreservation** – A technique used for long-term storage of plant material at ultra-low temperatures (-196°C) in liquid nitrogen. It is widely applied in **germplasm conservation.**
- **Micropropagation** – A method for rapid multiplication of plants under controlled laboratory

conditions. The process involves four main stages: **initiation, multiplication, rooting, and acclimatization.**

Mr. Deshmukh further discussed the **applications of plant tissue culture**, highlighting its importance in modern agriculture and biotechnology:

- Production of **disease-free plants**
- Rapid multiplication of **elite plant varieties**
- Conservation of **endangered plant species**
- Production of **secondary metabolites** such as alkaloids
- Use in **genetic engineering and development of transgenic plants**

In the latter part of the session, he introduced the basics of **plant molecular biology.**

He explained the **genome organization in higher plants**, which consists of three major components:

- **Nuclear genome** – Contains the majority of genetic information
- **Chloroplast genome** – Plays a key role in photosynthesis
- **Mitochondrial genome** – Responsible for energy production

The lecture also covered the fundamentals of **gene expression and regulation:**

- **Transcription** – The process by which DNA is converted into RNA
- **Translation** – The process by which RNA is translated into proteins
- Gene expression is regulated by elements such as **promoters, enhancers, and transcription factors**

Additionally, Mr. Deshmukh highlighted the role of **epigenetic modifications**, such as DNA methylation and histone modification, in regulating gene activity without altering the DNA sequence. All, the session provided valuable insights into advanced tissue culture techniques and the molecular basis of plant biotechnology.



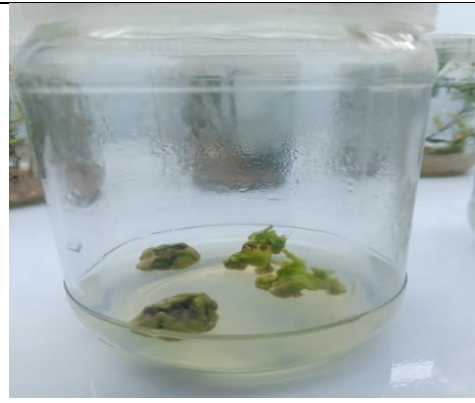
Explant of *Glycine max.*



Inoculation of Explant.



Inoculation of Explant.



Callus of *Glycine max.*



Student while observing callus.



Callus of *Glycine max.*

5. Practical Work conducted during the course

As part of the certificate course, various practical sessions were conducted to provide hands-on training in plant tissue culture techniques. The details of the practical work carried out are as follows:

1. Study of Equipment:

Students were introduced to different instruments used in the tissue culture laboratory. The session focused on understanding the **functions, operation, and proper handling** of essential equipment.

2. Sterilization Techniques:

Practical training was provided on maintaining **aseptic conditions**. Students learned various sterilization methods to prevent contamination during culture procedures.

3. Preparation of MS Medium:

Students were trained in the preparation of Murashige and Skoog (MS) medium stock and culture medium through the following steps:

- Weighing of required chemicals accurately

- Dissolving chemicals in distilled water
- Adjusting the pH of the medium
- Addition of agar for solidification
- Sterilization of the medium using an autoclave

4. **Callus Culture**

In this experiment, explants was inoculated onto nutrient media under sterile conditions. Over time, an **undifferentiated mass of cells (callus)** was formed, demonstrating cellular dedifferentiation.

5. **Characterization of Callus**

The developed callus was studied based on its physical characteristics such as:

- **Color** – white, green, or brown
- **Texture** – friable (loose) or compact

6. **Micropropagation**

Students performed clonal propagation of plants under controlled laboratory conditions, demonstrating rapid multiplication of genetically identical plants.

After the successful completion of the Certificate Course on PTC, an MCQ-based examination was conducted to assess the knowledge and understanding gained by the participants during the course. The examination covered the major concepts and topics included in the curriculum. All participants appeared for the test with great enthusiasm and demonstrated a satisfactory level of comprehension. The examination was conducted smoothly under proper supervision, and the results reflected the effectiveness of the course in enhancing the participants' knowledge and skills. The assessment served as an important tool for evaluating the learning outcomes of the certificate course.



Dr. K.D. Savant while conducting examination



Dr. K.D. Savant while conducting examination

Registration Forms:



Rajarshi Shahu Mahavidyalaya, Latur



(Empowered Autonomous Institute)

Registration/ Admission Form : 2025-26

Grant Sanctioned under the Component of Grants to Strengthen Colleges (GSC) by PM-USHA (RUSA)

Certificate Course in : plant tissue culture & plant molecular
Biology

Department of : Botany

Name of the Student : Bansode, Pramodini Goroba.
Surname Student Name Parent Name

Student ID. No. : 2302672

Class : B.Sc III Div. - Roll. No. 01

Date of Birth: 13072005 Male Female

Caste : OBC Category : Dhanger


Student Aadhar No.: 936110953009

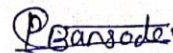
Student Mobile No.: 7709154597

Parent Mobile No. : 9325797719

Permanent Address : New Bhagya Nagar, Latur

Student e-mail : bansode.pramodini5@gmail.com.


Signature of HoD.


Signature of Student



Rajarshi Shahu Mahavidyalaya, Latur
(Empowered Autonomous Institute)



Registration/ Admission Form : 2025-26

Grant Sanctioned under the Component of Grants to Strengthen Colleges (GSC) by PM-USA (RUSA)

Certificate Course in : plant tissue Culture & plant Molecular Biology.

Department of : Botany

Name of the Student : Shaikh Ummehabiba Abdul Khuddus.
Surname Student Name Parent Name

Student ID. No. : 2303206

Class : B.Sc.IIIrd Div. _____ Roll. No. 06

Date of Birth: 1 6 1 1 2 0 0 6 Male Female

Caste : open (Muslim) Category : Muslim

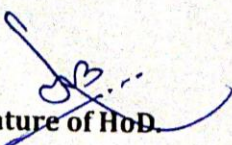
Student Aadhar No.: 9 8 1 2 1 5 7 1 9 2 7 0


Student Mobile No.: 9 3 0 9 7 3 5 7 1 0

Parent Mobile No. : 9 7 6 6 2 8 0 6 8 2

Permanent Address : Hatte Nagar, Latur.

Student e-mail : ummehabibashaikh06@gmail.com.


Signature of HoD


Signature of Student

Attendance Sheet:

		Rajarshi Shahu																				
		Certificate course :		Month and year																		
		Plant tissue culture &		Jan - March 2026																		
		Plant molecular Biology																				
Roll No.	Name of the Student	Class test Maximum Marks ()	DATES & INITIALS																			
			20.1.26	20.1.26	21.1.26	22.1.26	23.1.26	27.1.26	29.1.26	30.1.26	31.1.26	10.2.26										
01	Gaikwad Ganesh S.																					
02	Kumavat Gayatri S.																					
03	Mane Amruta G.																					
04	Panchal Durga N.																					
05	Yenchewad Madhuri D.																					
06	Pathan Mahak M.																					
07	Chavan Pruthviraj R.																					
08	Nalawade Sanika A.																					
09	Ratnaparkhe Aruna																					
10	Kallure Rajashri S.																					
11	Kallure Jayashri S.																					
12	Sonkamble Dikshas																					
13	Dongare Shrovan K.																					
14	Kamble Ritu P.																					

		College, Latur																				
		Name of the Teacher																				
		Mr. A.S. Deshmukh																				
		Sigs																				
Roll No.	Name of the Student	DATES & INITIALS																				
		20.1.26	20.2.26	24.2.26	3.3.26	9.3.26	10.3.26	16.3.26	17.3.26	25.3.26	30.3.26											
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		Certificate course: Plant Tissue Culture of Plant Mol. Biology		Rajarshi Shahu		Month and year Jan-March-2025														
Roll No.	Name of the Student	Class test Maximum Marks ()	DATES & INITIALS																	
			1	2	3	4	5	6	7	8	9	10								
15	Mengale Astha S.																			
16	Patil Rohit U.																			
17	Bansode Promodini G.																			
18	Dasud Pratik R.																			
19	Haridas Rutuja A.																			
20	Kate Aniti D.																			
21	Patil Uzma J.																			
22	Shaikh Vamne Habi																			
23	Shinde Shivani S.																			
24	Shinde Vaishnavi S.																			
25	Kardile Ashwini V.																			
26	Ground Pragati M.																			
27	Shaikh Muskan S.																			
28	Patil Vaishnavi P.																			

		College, Latur		Name of the Teacher																
Roll No.	Name of the Student	Class test Maximum Marks ()	DATES & INITIALS																	
			1	2	3	4	5	6	7	8	9	10								
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**Certificate course :
Plant tissue Culture &
Subject Plant mol. Biology**

Rajarshi Shahu

Month and year JAN- march-26

Roll No.	Name of the Student	Class test Maximum Marks ()	DATES & INITIALS																		
			1	2	3	4	5	6	7	8	9	10									
29.	Badade Vaishnavi R.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
30.	Bhasale Tejaswini V.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
31.	Chate Anjali B.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
32.	Giri Vrushi P.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
33.	Ladage Pratiksha A.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
34.	Patel Nishat F.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
35.	Karmale Divya S.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
36.	Shinde Tanuja A.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
37.	Shaikh Saniya S.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
38.	Birajdar mayawati D.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
39.	Gujare Supriya S.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
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41.	Pardeshi Harshika K.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
42.	Mule Geeta V.		VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB

College, Latur


Name of the Teacher M. A. S. Deshmukh Sign _____

Roll No.	Name of the Student	Class test Maximum Marks ()	DATES & INITIALS																		
			1	2	3	4	5	6	7	8	9	10									
11.			VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB	VB
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Rajarshi Shahu

certificate course: Plant tissue culture 9
 Subject Plant mol. Biology Month and year Jan-march-2021

Roll No.	Name of the Student	Class test Maximum Marks ()	DATES					INITIALS							
			1	2	3	4	5	6	7	8	9	10			
43	Padhe mahi N.														
44	Jagtap Anushka B.														
45	Jadhav Anushka A.														
46	Mashmi S. Anwarabbh														
47	Shinde Yash Y.														
48	Tope sumit A.														
49	Pati chandramukhi														
50	Gore maharudra D.														
51	Burjwanshi sampada														
52	Shinde sayli														

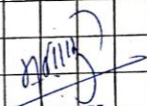

 Department of Botany
 UG, PG and Research Centre
 Rajarshi Shahu Mahavidyalaya, Latur
 Maharashtra - 431002



College, Latur

Name of the Teacher Mr. A. S. Deshmukh Signature _____

Roll No.	Name of the Student	Class test Maximum Marks ()	DATES					INITIALS							
			1	2	3	4	5	6	7	8	9	10			
11	Shinde Anil														
12	Shinde Anil														
13	Shinde Anil														
14	Shinde Anil														
15	Shinde Anil														
16	Shinde Anil														
17	Shinde Anil														
18	Shinde Anil														
19	Shinde Anil														
20	Shinde Anil														
21	Shinde Anil														
22	Shinde Anil														


PRINCIPAL
 Rajarshi Shahu Mahavidyalaya, Latur
 (Autonomous)



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur
(Empowered Autonomous Institute)
Department of Botany



Certificate Course under PM- USHA
Plant Tissue Culture and Plant Molecular Biology
2025-26
Examination Attendance Sheet

Sr. No.	Name of the Student	Class	Signature	Remark
CPTC-01	Gaikwad Ganesh Sandipan	B. Sc. II		
CPTC-02	Kumavat Gayatri Sunil	B. Sc. II		
CPTC-03	Mane Amruta Gunwant	B. Sc. II		
CPTC-04	Panchal Durga Narendra	B. Sc. II		
CPTC-05	Yenchewad Madhuri Datta	B. Sc. II		
CPTC-06	Pathan Mahek Mazhar	B. Sc. II		
CPTC-07	Chavan Pruthviraj Ravindra	B. Sc. II		
CPTC-08	Nalawade Sanika Ajit	B. Sc. II	ABSENT	
CPTC-09	Ratnaparakhe Prerana	B. Sc. II		
CPTC-10	Kallure Rajashri Shahuraj	B. Sc. II		
CPTC-11	Kallure jayashri Shahuraj	B. Sc. II		
CPTC-12	Sonkamble Diksha Subhash	B. Sc. II		
CPTC-13	Dongare Shravani Kiran	B. Sc. II	ABSENT	
CPTC-14	Kamble Ritu Prakash	B. Sc. II		
CPTC-15	Mengale Asha Shankar	B. Sc. II	ABSENT	
CPTC-16	Rathod Rohit Uttam	B. Sc. II		
CPTC-17	Bansode Pranodini Goroba	B. Sc. III		
CPTC-18	Dasud Pratik Ranmakant	B. Sc. III		
CPTC-19	Haridas Rutuja Anil	B. Sc. III		
CPTC-20	Kate Aarti Dipak	B. Sc. III		
CPTC-21	Pathan Uzmabi Jamil	B. Sc. III		
CPTC-22	Shaikh Uamme Habiba	B. Sc. III		
CPTC-23	Shinde Shivani Shivanand	B. Sc. III	ABSENT	
CPTC-24	Shinde Vaishnavi Shivaji	B. Sc. III		
CPTC-25	Kardile Ashwini Vishnudas	B. Sc. III		

CPTC-26	Gaund Pragati Mukteshwar	B. Sc. III	Pragati
CPTC-27	Shaikh Muskan Sagcer	B. Sc. III	Muskan
CPTC-28	Patil Vaishnavi Pratap	B. Sc. III	Patil
CPTC-29	Badade Vishnavi Ramesh	M. Sc. I	Badade
CPTC-30	Bhosale Tejaswini Virsen	M. Sc. I	Tejaswini
CPTC-31	Chate Anjali Balasaheb	M. Sc. I	Anjali
CPTC-32	Giri Vrushali Pandurang	M. Sc. I	Vrushali
CPTC-33	Landge Pratiksha Angad	M. Sc. I	Pratiksha
CPTC-34	Patel Nishat Fatema Amjad	M. Sc. I	Nishat
CPTC-35	Karmale Divya Santosh	M. Sc. I	Divya
CPTC-36	Shinde Tanuja Ashok	M. Sc. I	Tanuja
CPTC-37	Shaikh Saniya Sultan	M. Sc. I	Saniya
CPTC-38	Birajdar Mayawati Dhanaji	M. Sc. II	Mayawati
CPTC-39	Gujare Supriya Sanjay	M. Sc. II	Supriya
CPTC-40	Khose Jyoti Bharat	M. Sc. II	ABSENT
CPTC-41	Pardeshi Harshika Kamlesh	M. Sc. II	Harshika
CPTC-42	Mule Geeta Vijaykumar	M. Sc. II	Geeta
CPTC-43	Padile Mahi Navnath	B. Sc. I	Mahi
CPTC-44	Jagtap Anushka Bharat	B. Sc. I	Anushka
CPTC-45	Jadhav Anushka Achalkumar	B. Sc. I	Anushka
CPTC-46	Hashmi Sayyed Anwaroddin	B. Sc. I	Anwaroddin
CPTC-47	Shinde Yash Yuraj	B. Sc. I	Yash
CPTC-48	Tope Sumit Anil	B. Sc. I	Sumit
CPTC-49	Patil Chandramukhi Hansraj	B. Sc. I	Chandramukhi
CPTC-50	Gore Maharudra Dnyaneshwar	B. Sc. I	Maharudra

CPTC-51 Suryawanshi sampada
Suryaprakash B. Sc. I Anup.

CPTC-52 Shinde sayali Dnyaneshwar B. Sc. II Anil

Present = 47

Absent = 05

Total = 52

Result:



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur
(Empowered Autonomous Institute)



Department of Botany

Certificate Course under PM- USHA
Plant Tissue Culture and Plant Molecular Biology
2025-26

Examination Marks Sheet

Sr. No.	Name of the Student	Class	Marks 30	Internal 20	Total 50
CPTC-01	Gaikwad Ganesh Sandipan	B. Sc. II	18	19	37
CPTC-02	Kumavat Gayatri Sunil	B. Sc. II	21	15	36
CPTC-03	Mane Amruta Gunwant	B. Sc. II	15	15	30
CPTC-04	Panchal Durga Narendra	B. Sc. II	20	17	37
CPTC-05	Yenchewad Madhuri Datta	B. Sc. II	17	18	35
CPTC-06	Pathan Mahek Mazhar	B. Sc. II	26	18	44
CPTC-07	Chavan Pruthviraj Ravindra	B. Sc. II	17	18	35
CPTC-08	Nalawade Sanika Ajit	B. Sc. II	ABSENT	ABSENT	ABSENT
CPTC-09	Ratnaparakhe Prerana	B. Sc. II	23	18	41
CPTC-10	Kallure Rajashri Shahuraj	B. Sc. II	18	18	36
CPTC-11	Kallure jayashri Shahuraj	B. Sc. II	15	18	33
CPTC-12	Sonkamble Diksha Subhash	B. Sc. II	14	16	30
CPTC-13	Dongare Shravani Kiran	B. Sc. II	ABSENT	ABSENT	ABSENT
CPTC-14	Kamble Ritu Prakash	B. Sc. II	23	18	41
CPTC-15	Mengale Asha Shankar	B. Sc. II	ABSENT	ABSENT	ABSENT
CPTC-16	Rathod Rohit Uttam	B. Sc. II	16	15	31
CPTC-17	Bansode Pranodini Goroba	B. Sc. III	20	18	38
CPTC-18	Dasud Pratik Ranmakant	B. Sc. III	19	19	38
CPTC-19	Haridas Rutuja Anil	B. Sc. III	23	15	38
CPTC-20	Kate Aarti Dipak	B. Sc. III	25	19	44
CPTC-21	Pathan Uzmabi Jamil	B. Sc. III	18	18	36
CPTC-22	Shaikh Uamme Habiba	B. Sc. III	19	18	37
CPTC-23	Shinde Shivani Shivanand	B. Sc. III	ABSENT	ABSENT	ABSENT

CPTC-24	Shinde Vaishnavi Shivaji	B. Sc. III	16	16	32
CPTC-25	Kardile Ashwini Vishnudas	B. Sc. III	20	15	35
CPTC-26	Gaund Pragati Mukteshwar	B. Sc. III	22	18	40
CPTC-27	Shaikh Muskan Sageer	B. Sc. III	23	18	41
CPTC-28	Patil Vaishnavi Pratap	B. Sc. III	20	18	38
CPTC-29	Badade Vishnavi Ramesh	M. Sc. I	22	16	38
CPTC-30	Bhosale Tejaswini Virsen	M. Sc. I	24	16	40
CPTC-31	Chate Anjali Balasaheb	M. Sc. I	24	16	40
CPTC-32	Giri Vrushali Pandurang	M. Sc. I	23	16	39
CPTC-33	Landge Pratiksha Angad	M. Sc. I	21	16	37
CPTC-34	Patel Nishat Fatema Amjad	M. Sc. I	29	18	47
CPTC-35	Karmale Divya Santosh	M. Sc. I	29	16	45
CPTC-36	Shinde Tanuja Ashok	M. Sc. I	23	16	39
CPTC-37	Shaikh Saniya Sultan	M. Sc. I	26	16	42
CPTC-38	Birajdar Mayawati Dhanaji	M. Sc. II	25	19	44
CPTC-39	Gujare Supriya Sanjay	M. Sc. II	27	19	46
CPTC-40	Khose Jyoti Bharat	M. Sc. II	ABSENT	ABSENT	ABSENT
CPTC-41	Pardeshi Harshika Kamlesh	M. Sc. II	30	20	50
CPTC-42	Mule Geeta Vijaykumar	M. Sc. II	26	19	45
CPTC-43	Padile Mahi Navnath	B. Sc. I	26	15	41
CPTC-44	Jagtap Anushka Bharat	B. Sc. I	14	16	30
CPTC-45	Jadhav Anushka Achalkumar	B. Sc. I	19	15	34
CPTC-46	Hashmi Sayyed Anwaroddin	B. Sc. I	20	15	35
CPTC-47	Shinde Yash Yuraj	B. Sc. I	23	18	41
CPTC-48	Tope Sumit Anil	B. Sc. I	16	18	34
CPTC-49	Patil Chandramukhi Hansraj	B. Sc. I	18	16	34
CPTC-50	Gore Maharudra Dnyaneshwar	B. Sc. I	12	15	27
CPTC-51	Suryawanshi Sampada S.	B. Sc. I	23	15	38
CPTC-52	Shinde Sayali Dnyaneshwar	B. Sc. II	15	15	30

Present: 47

Absent: 05

Total: 52

Certificate:



Course Coordinator

PM USHA Coordinator

Principal