



B. L. D. E. ASSOCIATION'S  
**S. B. ARTS AND K. C. P. SCIENCE COLLEGE**  
BLDEA'S New Campus, Shri B. M. Patil Road (Solapur Road), Vijayapur-586103  
(Affiliated to Rani Channamma University, Belagavi)



## DEPARTMENT OF BOTANY



### VALUE ADDED COURSE IN BOTANY

### PLANT TISSUE CULTURE TECHNIQUES (Sub Code: 23UGVABOT02)

B.SC 2<sup>nd</sup> SEMESTER  
(FOR THE ACADEMIC YEAR 2023-24)

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BLDE Association's  
**S.B. ARTS AND K.C.P. SCIENCE COLLEGE, VIJAYAPUR.**

**DEPARTMENT OF BOTANY  
VALUE ADDED COURSE**

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**Department of Botany**

Date: 17/11/2023

**To**

**The Principal**

**S. B. ARTS AND K. C. P. SCIENCE COLLEGE**

**Subject:** Permission for conducting value added course in Botany Department for B.Sc II<sup>nd</sup> Semester students, during the year 2023-24.

Respected madam

With respect to the above subject, we are planning to conduct value added course entitled "Tissue Culture Techniques" for BSc Botany IInd Sem students. The course will be benefiting the students to bridge curriculum gap between first year learning and higher semesters prerequisite by training them on Tissue Culture Techniques experiments. Herewith, we kindly request you to grant permission for conducting the VAC Course.

**Objective:** To provide additional learners-centric graded skill oriented technical training with primary objectives of improving the employability skill.

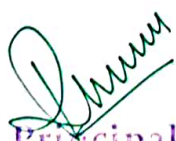
**Out Come:** At the end of the course the student will be able to understand and conservation of plant species with the help of biotechnical tools.

**Name of the Department :** Botany  
**Title of the Course :** Tissue Culture Techniques  
**Course code :** 23UGVABOT02  
**Semester :** II Sem  
**Duration of the Course :** 30 Hours  
**Course Coordinator :** Dr. Ramachandra Naik. M  
**Type of Assessment :** Theory 30 marks and Practical 20 marks (Total 50 marks)

Thanking you.

  
HOD Sign

Department of Botany  
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## SKILL BASED VALUE ADDED COURSE IN BOTANY

### PLANT TISSUE CULTURE TECHNIQUES

(Sub Code: 23UGVABOT02)

#### Course structure for II B.Sc. NEP Students

1. Objective and scope
2. Syllabus
3. Duration of the course
4. Evaluation and certificate
5. Time table

#### 1. Objective and scope:

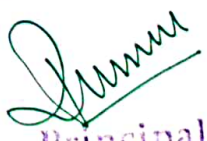
Although the B.Sc. (NEP) Botany will mold and equip students for the present educational scenario, the department of Botany is introducing this skill based value added course in “PLANT TISSUE CULTURE TECHNIQUES” to encourage and support the growing demands and challenging trends in the biotechnical education. Our training focuses on the all-round development of the student's to face the competitive World.

#### The objectives and scope of the program:

1. Understand the scope and significance of the discipline.
2. Clear, comprehensive and advanced mastery in the field of Botany.
3. Understand the advanced areas of biological sciences with special reference to Botany and its applied branches.
4. Skill in practical work, experiments, use of biological tool and techniques.
5. Awareness to explore the intricacies of life forms at the cellular, molecular and nano level and inspire to disseminate the concept of biodiversity conservation.
6. Motivation and enthusiasm to appreciate the beauty of different life forms.
7. Problem-solving skills in students to carry out innovative research projects thereby enkindling in them the spirit of knowledge creation.
8. Proficiency in the use of recent and advanced biological technologies.

  
HEAD  
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**SKILL BASED VALUE ADDED COURSE IN BOTANY**

**SYLLABUS**

**PLANT TISSUE CULTURE TECHNIQUES**

**(Sub Code: 23UGVABOT02)**

**Teaching: 18 hrs, weakly 5 hrs**

**Theory**

**Unit-I** (Introduction to Plant Tissue culture) Introduction to Plant Tissue culture, Terms and definitions, Historical background, Laboratory organization, Tools and techniques, methods of sterilization. Laboratory contaminants- it's control and measures. **- 4 Hrs**

**Unit-II** (Media and Culture Preparation) Role of Micro and macro nutrients, Vitamins and carbon source in tissue culture, Media preparation- pH, Temperature, Solidifying agents, Slant Preparations etc. Maintenance of cultures, Environmental Conditions, explants characteristics. **- 5 Hrs**

**Unit-III** (Culture techniques) Explants selection, sterilization and inoculation; Various media preparations; MS, B5,; Callus and cell suspension culture. **- 4 Hrs**

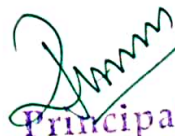
**Unit-IV** (Initiation of Cultures) Induction and growth parameters, Culture initiation, Callus culture, Micropropagation through various explants (Leaf, Stem). **- 5 Hrs**

**Books for Reference:**

1. Pullaiah. T. and M.V.Subba Rao. 2009. Plant Tissue culture. Scientific Publishers, New Delhi.
2. Bhojwani, S.S. and Razdan, M.K., (1996). Plant Tissue Culture: Theory and Practice. Elsevier Science Amsterdam. The Netherlands.
3. Glick, B.R., Pasternak, J.J. (2003). Molecular Biotechnology- Principles and Applications Of recombinant DNA. ASM Press, Washington.
4. Bhojwani, S.S. and Bhatnagar, S.P. (2011). The Embryology of Angiosperms. VikasPublicationHouse Pvt. Ltd., New Delhi. 5th edition.
5. Snustad, D.P. and Simmons, M.J. (2010). Principles of Genetics. John Wiley and Sons, U.K. 5th edition.
6. Stewart, C.N. Jr. (2008). Plant Biotechnology & Genetics: Principles, Techniques and Applications. John Wiley & Sons Inc. U.S.A.

  
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# PLANT TISSUE CULTURE TECHNIQUES

(Sub Code: 23UGVABOT02)

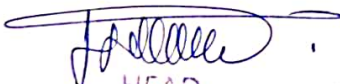
## Practical syllabus

Total Practical: 4x3= 12 hrs,

3 hrs /practical

| Lab. No. | Aim of the Experiment                                                                      | Experiments |
|----------|--------------------------------------------------------------------------------------------|-------------|
| 1        | Requirements for Plant Tissue Culture Laboratory                                           | Minor       |
| 2        | Techniques in Plant Tissue Culture                                                         | Minor       |
| 3        | Media components and preparations                                                          | Major       |
| 4        | Sterilization techniques and Inoculation of various explants                               | Minor       |
| 5        | Aseptic manipulation of various explants                                                   | Major       |
| 6        | Callus induction and Plant Regeneration                                                    | Minor       |
| 7        | Micro propagation of important crops and hardening / acclimatization of regenerated plants | Major       |
| 8        | Anther, Embryo and Endosperm culture                                                       | Minor       |
| 9        | Somatic embryogenesis and synthetic seed production                                        | Minor       |
| 10       | Isolation of protoplast                                                                    | Minor       |

Minor experiments- For Demonstration, Major experiments – For hands on training

  
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**DEPARTMENT OF BOTANY**

Date: 22/05/2024

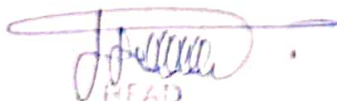
**VALUE ADDED COURSE**

**NOTICE**

Department of Botany is conducting "Value Added Course (18 hours theory and 12 hours Practical duration) on **Plant tissue culture techniques**" for B.Sc Students during the year of 2023-24. Interested Students give their names to Head of the Department on before 26/05/2024.

Certificate will be issued to students after completing the value added course from the college.

Department of : Botany  
Last date of registration : 26/05/2024  
Course Coordinator : Dr. Ramachandra Naik. M  
Mail. Id : [rcnaik1@gmail.com](mailto:rcnaik1@gmail.com)  
Mobile number : 9620720591

  
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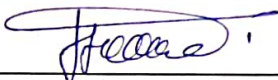
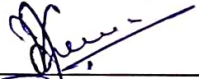
  
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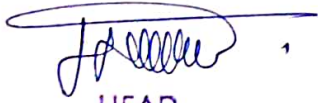
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**DEPARTMENT OF BOTANY**  
VALUE ADDED COURSE

SKILL BASED VALUE ADDED COUSE IN BOTANY  
**PLANT TISSUE CULTURE TECHNIQUES**  
(Sub Code: 23UGVABOT02)

**List of Faculty 2023-24**

| Sl. No | Name of the Faculty    | Faculty sign                                                                          |
|--------|------------------------|---------------------------------------------------------------------------------------|
| 1      | Dr. Ramachandra Naik.M |    |
| 2      | Mr. Krishna Mandla     |   |
| 3      | Miss. Anita Desai      |  |

  
**HEAD**  
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**DEPARTMENT OF BOTANY**

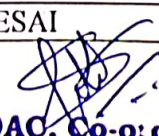
**PLANT TISSUE CULTURE TECHNIQUES**

**Students Admission List 2023-24**  
**B.Sc II Semester Students**

| Sl.No | Name of the Students            | UUCMS        |
|-------|---------------------------------|--------------|
| 1     | ANJANA VEERANNA MURKHANDE       | U15KM23S0012 |
| 2     | ZIYA KHATOON                    | U15KM23S0013 |
| 3     | MEENAKSHI IRASANGAYYA MATHPATI  | U15KM23S0023 |
| 4     | HARANI SURESH NAIKAR            | U15KM23S0024 |
| 5     | RAGINI DASAGOND                 | U15KM23S0026 |
| 6     | SHEELAVANTI ALOOR               | U15KM23S0027 |
| 7     | NARESH PAWAR                    | U15KM23S0029 |
| 8     | GURANAGOUDA PARAGOUDA BIIRADAR  | U15KM23S0052 |
| 9     | VIJAYALAXMI BASAVARAJ GUNNAPUR  | U15KM23S0141 |
| 10    | MADIHA MAKANDAR                 | U15KM23S0143 |
| 11    | SANKET SOMAPUR                  | U15KM23S0148 |
| 12    | SANIA SHAIKH                    | U15KM23S0152 |
| 13    | SACHIN BIRADAR                  | U15KM23S0173 |
| 14    | SHIVANAND GANGAPPA NAYAK        | U15KM23S0179 |
| 15    | SHABEENA REHAMANSAB CHAPPARBAND | U15KM23S0183 |
| 16    | MISBA PATIL                     | U15KM23S0196 |
| 17    | BHUMIKA CHOURAD                 | U15KM23S0198 |
| 18    | PREETI A KOLUR                  | U15KM23S0199 |
| 19    | SAHANA SHIVANAND VADDAR         | U15KM23S0200 |
| 20    | SHILPA YANKANNA KURI            | U15KM23S0202 |
| 21    | BASAYYA REVANAYYA CHIKKAPATTA   | U15KM23S0218 |
| 22    | SAVITA KALLAPPA ADIHUDI         | U15KM23S0219 |
| 23    | M RAKSHITA                      | U15KM23S0220 |
| 24    | SHREYA KATTI                    | U15KM23S0232 |
| 25    | PRUTHVIRAJ KALLUR               | U15KM23S0233 |
| 26    | PATIL PRATIK MALAKARASIDDHA     | U15KM23S0237 |
| 27    | SAYIL SANTOSH CHAVAN            | U15KM23S0239 |
| 28    | SANTOSH SHIVASHANKAR NAVI       | U15KM23S0254 |
| 29    | KEERTI KALAGI                   | U15KM23S0263 |
| 30    | ROHIT KALLAPPA DESAI            | U15KM23S0266 |

  
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**DEPARTMENT OF BOTANY**

**VALUE ADDED COURSE**

**TIME TABLE FOR THE YEAR 2023-24**

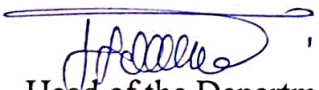
Theory Classes Starts from: 01/06/2024

Practical Starts from: 05/06/2024

Course Tenure : 1 Months

| TIME<br>DAYS | V.A.C<br>- | Practical                                  | THEORY<br>8.20 am -9.20 am |
|--------------|------------|--------------------------------------------|----------------------------|
| Monday       |            |                                            | LH No. 4 -RCN              |
| Tuesday      |            |                                            | LH No. 4 - KM              |
| Wednesday    |            | 7:20AM to 10:20 AM,<br>Lab 2, time- 3.0 Hr |                            |
| Thursday     |            |                                            | LH No. 4 -KM               |
| Friday       |            |                                            | LH No. 4 -AD               |
| Saturday     |            |                                            | LH No. 4 -RCN              |

Faculty: Dr. Ramachandra Naik.M – RCN, Mr. Krishna Mandla – KM, Miss. Anita Desai – AD.

  
**Head of the Department**  
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**DEPARTMENT OF BOTANY**

**VALUE ADDED COURSE -18 Hours theory Attendance, 01/06/2024 to 30/6/2024**

| Sl.No | Name of the Students      | UUCNIS       | 1/6 | 3/6 | 4/6 | 6/6 | 7/6 | 8/6 | 10/6 | 11/6 | 13/6 | 14/6 | 15/6 | 17/6 | 18/6 | 20/6 | 21/6 | 22/6 | 24/6 | 27/6 |
|-------|---------------------------|--------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1     | ANJANA<br>V.MURKHANDE     | U15KM23S0012 | 1   | 2   | 3   | 4   | 4   | 5   | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
| 2     | ZIYA KHATOON              | U15KM23S0013 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 3     | MEENAKSHI<br>I.MATHPATI   | U15KM23S0023 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 4     | HARANI S. NAIKAR          | U15KM23S0024 | 0   | 1   | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   |
| 5     | RAGINI DASAGOND           | U15KM23S0026 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 6     | SHEELAV. ALOOR            | U15KM23S0027 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 7     | NARESH PAWAR              | U15KM23S0029 | 0   | 1   | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   |
| 8     | GURANAGOUDA P.<br>BIRADAR | U15KM23S0052 | 0   | 1   | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   |
| 9     | VIJAYALAXMI<br>B.GUNNAPUR | U15KM23S0141 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 10    | MADIHA<br>MAKANDAR        | U15KM23S0143 | 0   | 0   | 1   | 2   | 3   | 4   | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
| 11    | SANKET SOMAPUR            | U15KM23S0148 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 12    | SANTA SHAIKH              | U15KM23S0152 | 1   | 1   | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   |
| 13    | SACHIN BIRADAR            | U15KM23S0173 | 0   | 0   | 1   | 2   | 3   | 4   | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
| 14    | SHIVANAND G.<br>NAYAK     | U15KM23S0179 | 1   | 1   | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   |
| 15    | SHABEENA<br>R.CHAPPARBAND | U15KM23S0183 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 16    | MISBA PATIL               | U15KM23S0196 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 17    | BHUMIKA<br>CHOURAD        | U15KM23S0198 | 0   | 1   | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   |
| 18    | PREETI A KOLUR            | U15KM23S0199 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 19    | SAHANA S.VADDAR           | U15KM23S0200 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
| 20    | SHILPA Y. KURI            | U15KM23S0202 | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |





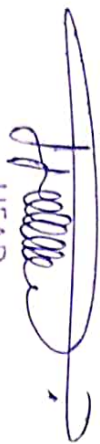









|    |                                |              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |
|----|--------------------------------|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|
| 21 | BASAYYAR.<br>CHIKKAPATTA       | U15KM23S0218 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 22 | SAVITA K. ADIHUDI              | U15KM23S0219 | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 23 | M RAKSHITA                     | U15KM23S0220 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 24 | SHREYA KATTI                   | U15KM23S0232 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 25 | PRUTHVIRAJ<br>KALLUR           | U15KM23S0233 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 26 | PATIL PRATIK<br>MALAKARASIDDHA | U15KM23S0237 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 27 | SAYIL S. CHAVAN                | U15KM23S0239 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 28 | SANTOSH S. NAVI                | U15KM23S0254 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 29 | KEERTI KALAGI                  | U15KM23S0263 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 30 | ROHIT K. DESAI                 | U15KM23S0266 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |

  
**HEAD**  
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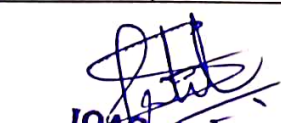
  
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**S.B. ARTS AND K.C.P. SCIENCE COLLEGE, VIJAYAPUR.****DEPARTMENT OF BOTANY**

VALUE ADDED COURSE – 12 Hr Practical's (5/6/2024 to 30/6/2024)  
Practical's Attendance Sheet, 4 Practical's, each practical 3 hours

| Sl.No | Name of the Students       | UUCMS        | 5/6 | 12/6 | 19/6 | 26/6 |
|-------|----------------------------|--------------|-----|------|------|------|
| 1     | ANJANA<br>V.MURKHANDE      | U15KM23S0012 | 1   | 2    | 3    | 3    |
| 2     | ZIYA KHATOON               | U15KM23S0013 | 1   | 2    | 3    | 4    |
| 3     | MEENAKSHI<br>I.MATHPATI    | U15KM23S0023 | 1   | 2    | 3    | 4    |
| 4     | HARANI S. NAIKAR           | U15KM23S0024 | 1   | 2    | 3    | 4    |
| 5     | RAGINI DASAGOND            | U15KM23S0026 | 1   | 2    | 3    | 4    |
| 6     | SHEELAV. ALOOR             | U15KM23S0027 | 1   | 1    | 2    | 3    |
| 7     | NARESH PAWAR               | U15KM23S0029 | 1   | 2    | 3    | 4    |
| 8     | GURANAGOUDA P.<br>BIIRADAR | U15KM23S0052 | 0   | 1    | 2    | 3    |
| 9     | VIJAYALAXMI<br>B.GUNNAPUR  | U15KM23S0141 | 0   | 1    | 2    | 3    |
| 10    | MADIHA MAKANDAR            | U15KM23S0143 | 1   | 2    | 3    | 4    |
| 11    | SANKET SOMAPUR             | U15KM23S0148 | 1   | 2    | 3    | 4    |
| 12    | SANIA SHAIKH               | U15KM23S0152 | 1   | 2    | 3    | 4    |
| 13    | SACHIN BIRADAR             | U15KM23S0173 | 1   | 1    | 2    | 3    |
| 14    | SHIVANAND G. NAYAK         | U15KM23S0179 | 1   | 2    | 3    | 3    |
| 15    | SHABEENA<br>R.CHAPPARBAND  | U15KM23S0183 | 1   | 2    | 2    | 3    |
| 16    | MISBA PATIL                | U15KM23S0196 | 1   | 2    | 3    | 4    |
| 17    | BHUMIKA CHOURAD            | U15KM23S0198 | 1   | 2    | 3    | 4    |
| 18    | PREETI A KOLUR             | U15KM23S0199 | 1   | 2    | 3    | 4    |
| 19    | SAHANA S.VADDAR            | U15KM23S0200 | 1   | 2    | 3    | 4    |
| 20    | SHILPA Y. KURI             | U15KM23S0202 | 0   | 1    | 2    | 3    |
| 21    | BASAYYA R.<br>CHIKKAPATTA  | U15KM23S0218 | 1   | 2    | 3    | 4    |
| 22    | SAVITA K. ADIHUDI          | U15KM23S0219 | 1   | 2    | 3    | 4    |
| 23    | M RAKSHITA                 | U15KM23S0220 | 1   | 2    | 3    | 3    |
| 24    | SHREYA KATTI               | U15KM23S0232 | 1   | 2    | 2    | 3    |
| 25    | PRUTHVIRAJ KALLUR          | U15KM23S0233 | 1   | 2    | 3    | 4    |
| 26    | PATIL<br>P.MALAKARASIDDHA  | U15KM23S0237 | 1   | 2    | 3    | 4    |
| 27    | SAYIL S.CHAVAN             | U15KM23S0239 | 1   | 2    | 3    | 4    |
| 28    | SANTOSH S. NAVI            | U15KM23S0254 | 1   | 2    | 2    | 3    |
| 29    | KEERTI KALAGI              | U15KM23S0263 | 1   | 2    | 3    | 4    |
| 30    | ROHIT K. DESAI             | U15KM23S0266 | 1   | 2    | 3    | 4    |

  
HEAD  
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(Affiliated to Rani Channamma University, Belagavi)



Date: 05/07/2024

## NOTICE

The value added course theory and practical Examinations will be conducted On the below dates. All the students attend both the Exams without fail.

|           | Date       | Time             |
|-----------|------------|------------------|
| Theory    | 10/07/2024 | 9 am to 10.00 am |
| Practical | 11/07/2024 | 8 am to 10.00 am |

  
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**DEPARTMENT OF BOTANY**

Skill Based Value Added Course Examination (theory)  
**PLANT TISSUE CULTURE TECHNIQUES.**  
(Sub Code: 23UGVABOT02)

Date: 10-07-2024  
Max.Marks:30

Time: 9 am- 10 am  
Duration: 1 Hour

Q.NO.I. Answer any **FIVE** of the following. (5X2=10)

- |                          |                 |                        |
|--------------------------|-----------------|------------------------|
| 1. Surface sterilization | 2. Hot Air oven | 3. Micropropagation    |
| 4. Callus                | 5. M S Media    | 6. Inoculation chamber |

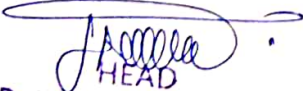
Q.NO.II. Answer any **Three** of the following. (3X4=12)

7. Explain the various parts of explants selection
8. What are the uses of Plant tissue culture in Agriculture?
9. Explain the direct shoot organogenesis.
10. Explain the inoculation methods.
11. Give an Account on Preparation of MS media.

Q.NO.III. Answer any **One** of the following. (1X8=08)

12. What is callus? Explain the callus initiation steps
13. What is totipotency? Explain the protoplast culture.
14. Explain the role of macro and micronutrients in plant tissue culture

\*\*\*\*\*

  
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## PLANT TISSUE CULTURE TECHNIQUES

Skill Based Value Added Course Examination  
B.Sc II Semester, Theory Exam student signature list 2023-24  
Date:10/07/2024

| SL.NO | NAME OF THE STUDENTS            | UUCMS NO.    | STUDENTS SIGN |
|-------|---------------------------------|--------------|---------------|
| 1     | ANJANA VEERANNA MURKHANDE       | U15KM23S0012 |               |
| 2     | ZIYA KHATOON                    | U15KM23S0013 |               |
| 3     | MEENAKSHI IRASANGAYYA MATHPATI  | U15KM23S0023 |               |
| 4     | HARANI SURESH NAIKAR            | U15KM23S0024 |               |
| 5     | RAGINI DASAGOND                 | U15KM23S0026 |               |
| 6     | SHEELAVANTI ALOOR               | U15KM23S0027 |               |
| 7     | NARESH PAWAR                    | U15KM23S0029 |               |
| 8     | GURANAGOUDA P. BIIRADAR         | U15KM23S0052 |               |
| 9     | VIJAYALAXMI BASAVARAJ GUNNAPUR  | U15KM23S0141 |               |
| 10    | MADIHA MAKANDAR                 | U15KM23S0143 |               |
| 11    | SANKET SOMAPUR                  | U15KM23S0148 |               |
| 12    | SANIA SHAIKH                    | U15KM23S0152 |               |
| 13    | SACHIN BIRADAR                  | U15KM23S0173 |               |
| 14    | SHIVANAND GANGAPPA NAYAK        | U15KM23S0179 |               |
| 15    | SHABEENA REHAMANSAB CHAPPARBAND | U15KM23S0183 |               |
| 16    | MISBA PATIL                     | U15KM23S0196 |               |
| 17    | BHUMIKA CHOURAD                 | U15KM23S0198 |               |
| 18    | PREETI A KOLUR                  | U15KM23S0199 |               |
| 19    | SAHANA SHIVANAND VADDAR         | U15KM23S0200 |               |
| 20    | SHILPA YANKANNA KURI            | U15KM23S0202 |               |
| 21    | BASAYYA REVANAYYA CHIKKAPATTA   | U15KM23S0218 |               |
| 22    | SAVITA KALLAPPA ADIHUDI         | U15KM23S0219 |               |
| 23    | M RAKSHITA                      | U15KM23S0220 |               |
| 24    | SHREYA KATTI                    | U15KM23S0232 |               |
| 25    | PRUTHVIRAJ KALLUR               | U15KM23S0233 |               |
| 26    | PATIL PRATIK MALAKARASIDDHA     | U15KM23S0237 |               |
| 27    | SAYIL SANTOSH CHAVAN            | U15KM23S0239 |               |
| 28    | SANTOSH SHIVASHANKAR NAVI       | U15KM23S0254 |               |
| 29    | KEERTI KALAGI                   | U15KM23S0263 |               |
| 30    | ROHIT KALLAPPA DESAI            | U15KM23S0266 |               |

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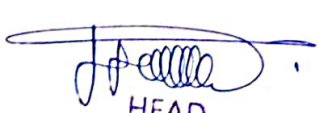
Skill Based Value Added Course Examination (Practical) 2023-24  
**PLANT TISSUE CULTURE TECHNIQUES**  
(Sub Code: 23UGVABOT02)

Date:-11-07-2024  
Max. Marks: 20

Time: 8 am to 10am  
Duration: 2 Hours

---

- Q.NO. I. Writes media components and demonstrates the preparations  
and Sterilization of media "A" 03 Marks
- Q.No. II. Inoculation of stem/leaf culture in aseptic condition "B" 05 Marks
- Q.NO.III. Comment on experiments "C" \_\_\_\_\_ 03 Marks
- Q.NO.IV. Identify and Comment on the materials "D, & E " 04 Marks
- Record 05 Marks

  
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**DEPARTMENT OF BOTANY**

**PLANT TISSUE CULTURE TECHNIQUES**

Skill Based Value Added Course Examination

B.Sc II<sup>nd</sup> Semester Practical Exam student signature list 2023-24

Date:11/07/2024

| SL.NO | NAME OF THE STUDENTS            | UUCMS NO.    | STUDENTS SIGN |
|-------|---------------------------------|--------------|---------------|
| 1     | ANJANA VEERANNA MURKHANDE       | U15KM23S0012 |               |
| 2     | ZIYA KHATOON                    | U15KM23S0013 |               |
| 3     | MEENAKSHI IRASANGAYYA MATHPATI  | U15KM23S0023 |               |
| 4     | HARANI SURESH NAIKAR            | U15KM23S0024 |               |
| 5     | RAGINI DASAGOND                 | U15KM23S0026 |               |
| 6     | SHEELAVANTI ALOOR               | U15KM23S0027 |               |
| 7     | NARESH PAWAR                    | U15KM23S0029 |               |
| 8     | GURANAGOUDA PARAGOUDA BIIRADAR  | U15KM23S0052 |               |
| 9     | VIJAYALAXMI BASAVARAJ GUNNAPUR  | U15KM23S0141 |               |
| 10    | MADIHA MAKANDAR                 | U15KM23S0143 |               |
| 11    | SANKET SOMAPUR                  | U15KM23S0148 |               |
| 12    | SANIA SHAIKH                    | U15KM23S0152 |               |
| 13    | SACHIN BIRADAR                  | U15KM23S0173 |               |
| 14    | SHIVANAND GANGAPPA NAYAK        | U15KM23S0179 |               |
| 15    | SHABEENA REHAMANSAB CHAPPARBAND | U15KM23S0183 |               |
| 16    | MISBA PATIL                     | U15KM23S0196 |               |
| 17    | BHUMIKA CHOURAD                 | U15KM23S0198 |               |
| 18    | PREETI A KOLUR                  | U15KM23S0199 |               |
| 19    | SAHANA SHIVANAND VADDAR         | U15KM23S0200 |               |
| 20    | SHILPA YANKANNA KURI            | U15KM23S0202 |               |
| 21    | BASAYYA REVANAYYA CHIKKAPATTA   | U15KM23S0218 |               |
| 22    | SAVITA KALLAPPA ADIHUDI         | U15KM23S0219 |               |
| 23    | M RAKSHITA                      | U15KM23S0220 |               |
| 24    | SHREYA KATTI                    | U15KM23S0232 |               |
| 25    | PRUTHVIRAJ KALLUR               | U15KM23S0233 |               |
| 26    | PATIL PRATIK MALAKARASIDDHA     | U15KM23S0237 |               |
| 27    | SAYIL SANTOSH CHAVAN            | U15KM23S0239 |               |
| 28    | SANTOSH SHIVASHANKAR NAVI       | U15KM23S0254 |               |
| 29    | KEERTI KALAGI                   | U15KM23S0263 |               |
| 30    | ROHIT KALLAPPA DESAI            | U15KM23S0266 |               |

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**DEPARTMENT OF BOTANY**

**PLANT TISSUE CULTURE TECHNIQUES  
B.Sc. II<sup>nd</sup> Semester student's marks list- 2023-24**

| Sl. No | Name of the student                | UUCMS No.    | Theory<br>30 marks | Practical<br>20 marks | Total<br>50 marks |
|--------|------------------------------------|--------------|--------------------|-----------------------|-------------------|
| 1      | ANJANA VEERANNA MURKHANDE          | U15KM23S0012 | 24                 | 20                    | 44                |
| 2      | ZIYA KHATOON                       | U15KM23S0013 | 23                 | 18                    | 41                |
| 3      | MEENAKSHI IRASANGAYYA MATHPATI     | U15KM23S0023 | 20                 | 20                    | 40                |
| 4      | HARANI SURESH NAIKAR               | U15KM23S0024 | 26                 | 19                    | 45                |
| 5      | RAGINI DASAGOND                    | U15KM23S0026 | 26                 | 18                    | 44                |
| 6      | SHEELAVANTI ALOOR                  | U15KM23S0027 | 25                 | 20                    | 45                |
| 7      | NARESH PAWAR                       | U15KM23S0029 | 27                 | 19                    | 46                |
| 8      | GURANAGOUDA PARAGOUDA<br>BIIRADAR  | U15KM23S0052 | 28                 | 19                    | 47                |
| 9      | VIJAYALAXMI BASAVARAJ GUNNAPUR     | U15KM23S0141 | 29                 | 20                    | 49                |
| 10     | MADIHA MAKANDAR                    | U15KM23S0143 | 21                 | 17                    | 38                |
| 11     | SANKET SOMAPUR                     | U15KM23S0148 | 22                 | 19                    | 41                |
| 12     | SANIA SHAIKH                       | U15KM23S0152 | 20                 | 17                    | 37                |
| 13     | SACHIN BIRADAR                     | U15KM23S0173 | 26                 | 18                    | 44                |
| 14     | SHIVANAND GANGAPPA NAYAK           | U15KM23S0179 | 27                 | 19                    | 46                |
| 15     | SHABEENA REHAMANSAB<br>CHAPPARBAND | U15KM23S0183 | 25                 | 17                    | 42                |
| 16     | MISBA PATIL                        | U15KM23S0196 | 26                 | 18                    | 44                |
| 17     | BHUMIKA CHOURAD                    | U15KM23S0198 | 19                 | 18                    | 37                |
| 18     | PREETI A KOLUR                     | U15KM23S0199 | 28                 | 19                    | 47                |
| 19     | SAHANA SHIVANAND VADDAR            | U15KM23S0200 | 18                 | 17                    | 35                |
| 20     | SHILPA YANKANNA KURI               | U15KM23S0202 | 22                 | 18                    | 40                |
| 21     | BASAYYA REVANAYYA CHIKKAPATTA      | U15KM23S0218 | 27                 | 20                    | 47                |
| 22     | SAVITA KALLAPPA ADIHUDI            | U15KM23S0219 | 22                 | 19                    | 41                |
| 23     | M RAKSHITA                         | U15KM23S0220 | 28                 | 20                    | 48                |
| 24     | SHREYA KATTI                       | U15KM23S0232 | 22                 | 18                    | 40                |
| 25     | PRUTHVIRAJ KALLUR                  | U15KM23S0233 | 23                 | 18                    | 41                |
| 26     | PATIL PRATIK MALAKARASIDDHA        | U15KM23S0237 | 24                 | 17                    | 41                |
| 27     | SAYIL SANTOSH CHAVAN               | U15KM23S0239 | 21                 | 18                    | 39                |
| 28     | SANTOSH SHIVASHANKAR NAVI          | U15KM23S0254 | 25                 | 20                    | 45                |
| 29     | KEERTI KALAGI                      | U15KM23S0263 | 24                 | 19                    | 43                |
| 30     | ROHIT KALLAPPA DESAI               | U15KM23S0266 | 18                 | 17                    | 35                |

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**DEPARTMENT OF BOTANY**

Skill Based Value Added Course 2023-24  
**PLANT TISSUE CULTURE TECHNIQUES**  
(Sub Code: 23UGVABOT02)

Students Feedback

Date :16/07/2024

✓ Rate the following aspects with tick marks ( )

| Aspects                                        | Ratings          |                     |             |                     |
|------------------------------------------------|------------------|---------------------|-------------|---------------------|
|                                                | Excellent<br>(1) | Very<br>Good<br>(2) | Good<br>(3) | Satisfactory<br>(4) |
| 1. Course contents and relevance               |                  |                     |             |                     |
| 2. Organisation and conduction                 |                  |                     |             |                     |
| 3. Trainers expertise                          |                  |                     |             |                     |
| 4. Usefulness of Course / Skill<br>development |                  |                     |             |                     |

Comments (If any) :

  
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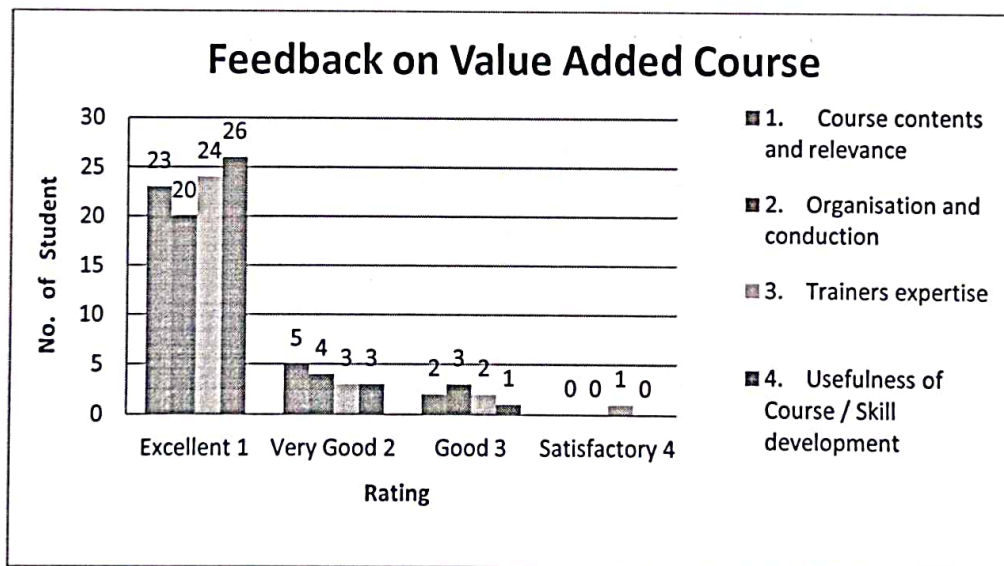
## Feedback questions analysis

### Question asked

### Ratings

|     |                                          |                                                                                 |                 |
|-----|------------------------------------------|---------------------------------------------------------------------------------|-----------------|
| Q1. | Course contents and relevance            | <b>Value added Course<br/>Entitled:<br/>PLANT TISSUE CULTURE<br/>TECHNIQUES</b> | 1.Excellent     |
| Q2. | Organization and conduction              |                                                                                 | 2. Very Good    |
| Q3. | Trainers expertise                       |                                                                                 | 3. Good         |
| Q4. | Usefulness of Course / Skill development |                                                                                 | 4. Satisfactory |

| Questions                                  | Ratings       |               |          |                  |
|--------------------------------------------|---------------|---------------|----------|------------------|
|                                            | Excellent (1) | Very Good (2) | Good (3) | Satisfactory (4) |
| 1.Course contents and relevance            | 23            | 5             | 2        | 0                |
| 2.Organisation and conduction              | 20            | 4             | 3        | 0                |
| 3.Trainers expertise                       | 24            | 3             | 2        | 1                |
| 4.Usefulness of Course / Skill development | 26            | 3             | 1        | 0                |



  
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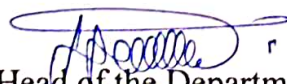
Date: 16/07/2024

**VALUE ADDED COURSE**

**Course outcome**

|                                                                |                                                      |
|----------------------------------------------------------------|------------------------------------------------------|
| <b>Name of the value added course</b>                          | Plant tissue culture techniques                      |
| <b>Course code</b>                                             | 23UGVABOT02                                          |
| <b>Course Coordinator of the VAC</b>                           | Dr. Ramachandra Naik.M                               |
| <b>Duration of the course</b>                                  | 01-06-2024 to 30-06-2024                             |
| <b>No. of hours of the course</b>                              | 30 Hours                                             |
| <b>Total number of participants enrolled for VAC</b>           | 30 Students                                          |
| <b>Successfully completed the VAC course (passed students)</b> | 30 Students                                          |
| <b>Type of Assessment</b>                                      | Descriptive (Theory 30 marks and Practical 20 marks) |

The Value Added Course – **Plant tissue culture techniques** will help the students for learning new methods of conventional breeding techniques fulfill the required demand of crops. Tissue culture came around as a grand leap in breeding practices. It makes use of parts of a plant to generate multiple copies of the plant in a very short duration. This technique explains the property of totipotency of plant cell which means that any cell from any part of the plant can be used to generate a whole new plant. After complete this course is more beneficial to create self-employment income generating to students for multiplication of many plants in their own nursery. This Plant tissue culture techniques course focuses on all round development of the students to face competitive world.

  
**Head of the Department**  
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(Re-Accredited by NACC at 'A' Level in 3<sup>rd</sup> Cycle)

*Internal Quality Assurance Cell Initiative*



**VALUE ADDED COURSE**

*Certificate*

This is to certify that Mr./Ms. Nareesh Pawlax

has Completed the Value Added Course on Plant Tissue Culture Tech.

Conducted by the Department of Botany during the

Year 2023 - 24

Head of the Department

Co-Ordinator, IQAC

Principal