

**Ref. No.-UBKV/DR/652**

**Date: 06-12-2024**

**NOTICE**

**The University is offering a three months course on “Certificate Course Cum Training on Plant Tissue Culture Technique” from 02.01.2025 to 08-04.2025.**

Total Duration: 3 (Three) months

Working days: 5 (Five) per week [Monday to Friday except any kind of holidays]

Working Hours: 10.30AM – 5.30PM each day

Attendance required for completion: 90 (Ninety) %

Examinations to be conducted: After completion of each 25% of the syllabus

Total Marks: 300

Short test (Objective type): 100 marks

Practical Examination: 100 marks

Viva-Voce: 100 marks

Interested Educated Youth, Start ups, Future Entrepreneurs and Entrepreneurs are hereby requested to apply for admission to the course following the attached application format within 27<sup>th</sup> December, 2024. The Minimum Educational Qualification is Madhyamik / Secondary Examination Pass. Course Fee will be **Rs.15000/-** (Rupees fifteen thousand only) per person per training excluding the cost of accommodation, staying and food. The Merit List will be prepared as per the following norm –

60% weightage of marks of Madhyamik / Secondary Examination + 20% weightage of marks of Higher Secondary Examination + 20% weightage of marks of Graduation

Interested candidates should sent the duly filled in application form to the email id - [ptccertificatecourseubkv@gmail.com](mailto:ptccertificatecourseubkv@gmail.com).

Sd/-  
(Director of Research, UBKV)

# Application Form

**CERTIFICATE COURSE CUM TRAINING ON PLANT TISSUE CULTURE  
TECHNIQUE**

**DIRECTORATE OF RESEARCH  
UTTAR BANGA KRISHI VISWAVIDYALAYA  
PUNDIBARI, COOCHBEHAR, WEST BENGAL, PIN – 736165**



## APPLICATION FORM

(Softcopy will be submitted during application period to the email id - [ptccertificatecourseubkv@gmail.com](mailto:ptccertificatecourseubkv@gmail.com). To be filled by the candidates in his/her own handwriting. Original filled in application form needs to be submitted during registration on 02.01.2025.)

Name (in block letter)	:	
Name of Father / Mother / Guardian	:	
Date of Birth	:	
Gender	:	
Caste	:	
Nationality	:	
AADHAAR number	:	
Address for communication	:	
Permanent address	:	
Contact Number and Email id	:	
Present status of the applicant	:	

Educational qualification		:				
Name of the Programme	Board / University	Year of passing	Subject	Full marks	Marks obtained	Class / Division

I shall abide by all the rules and regulations of the University and the Certificate Course.

Date:

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(SIGNATURE OF THE APPLICANT)

# SYLLABUS

## Certificate Course cum Training on Plant Tissue Culture Technique



### Directorate of Research

### Uttar Banga Krishi Viswavidyalaya

Pundibari, CoochBehar, West Bengal, PIN – 736165

Theory : (60 Hours)

History of plant tissue culture technique, introduction to plant tissue culture, importance and scope of plant tissue culture, organization of a plant tissue culture laboratory, instruments required for a plant tissue culture laboratory, chemicals required for a plant tissue culture laboratory, role of the chemicals in plant tissue culture activity, culture medium preparation technique, methods of plant tissue culture technique, micropropagation, organ culture, callus culture, anther culture, ovule culture, meristem tip culture, other methods, synthetic seed production, explants and its selection, surface sterilization of explants, growth medium sterilization and inoculation of explants, culture and subculture of explants, acclimatization of plantlets, maintenance of hardened plants, cost norms to set up a plant tissue culture unit

#### Lecture Break Up

Sl. No.	Topic	Classes required (1 theory class = 1hour)
1	Inauguration of the Programme	1
2	History of Plant Tissue Culture Technique	2
3	Introduction to Plant Tissue Culture	1
4	Importance and Scope of Plant Tissue Culture	2
5	Organization of a Plant Tissue Culture Laboratory	2
6	Instruments Required for a Plant Tissue Culture Laboratory	4
7	Chemicals Required for a Plant Tissue Culture Laboratory	2
8	Role of the Chemicals in Plant Tissue Culture Activity	1
9	Culture Medium Preparation Technique	1
10	Methods of Plant Tissue Culture Technique	1
11	Micropropagation	1
12	Organ Culture	1
13	Callus Culture	1
14	Anther Culture	1
15	Ovule Culture	1

Sl. No.	Topic	Classes required (1 theory class = 1hour)
16	Meristem Tip Culture	1
17	Other Methods	1
18	Synthetic Seed Production	1
19	explants and Its Selection	1
20	Surface Sterilization of Explants	1
21	Growth Medium Sterilization and Inoculation of Explants	2
22	Culture and Subculture of Explants	2
23	Acclimatization of Plantlets	2
24	Maintenance of Hardened Plants	1
25	Cost Norms to Set Up a Plant Tissue Culture Unit	2
26	Special Lectures and Valedictory	10
27	Examinations	14
<b>Total</b>		<b>60</b>

Practical: (240 Hours)

Laboratory organization, component parts of a plant tissue culture laboratory, acquaintance to the instruments in the plant tissue culture laboratory, identification of chemicals and plant bioregulators, preparation of artificial growth medium, creation of controlled atmosphere, selection and collection of explants, surface sterilization of explants, inoculation of explants, methods of plant tissue culture technique - micropropagation, organ culture, callus culture, anther culture, ovule culture, meristem tip culture, culture and subculture, synthetic seed production, hardening of plantlets, maintenance of saplings, record keeping, preparation of a project proposal on establishment of a plant tissue culture unit

#### Topic-wise Break Up

Sl. No.	Topic	Classes required (1 practical class = 2 hours)
1	Inauguration of the Programme	1
2	Laboratory Organization	3
3	Component Parts of a Plant Tissue Culture Laboratory	3
4	Acquaintance to the Instruments in the Plant Tissue Culture Laboratory	5
5	Identification of Chemicals and Plant Bioregulators	2
6	Preparation of Artificial Growth Medium	30
7	Creation of Controlled Atmosphere	2
8	Selection and Collection of Explants	6
9	Surface Sterilization of Explants	12
10	Inoculation of Explants	16
11	Methods of Plant Tissue Culture Technique - Micropropagation	2
12	Methods of Plant Tissue Culture Technique - Organ Culture	2

Sl. No.	Topic	Classes required (1 practical class = 2 hours)
13	Methods of Plant Tissue Culture Technique - Callus Culture	2
14	Methods of Plant Tissue Culture Technique - Anther Culture	2
15	Methods of Plant Tissue Culture Technique - Ovule Culture	2
16	Methods of Plant Tissue Culture Technique - Meristem Tip Culture	2
17	Culture and Subculture	6
18	Synthetic Seed Production	4
19	Hardening of Plantlets	6
20	Maintenance of Saplings	4
21	Record Keeping	2
22	Preparation of a Project Proposal on Establishment of a Plant Tissue Culture Unit	4
23	Practical Examination	2
<b>Total</b>		<b>120</b>

Sd/-  
(Director of Research, UBKV)