



**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY**  
WAKNAGHAT, P.O. – WAKNAGHAT,  
TEHSIL – KANDAGHAT, DISTRICT – SOLAN (H.P.)  
PIN – 173234 (INDIA) Phone Number- +91-1792-257999  
(Established by H.P. State Legislature vide Act No. 14 of 2002)



## Report of Motivational session on Cultivating Innovation: The Future of Plant Tissue Culture



### EXPERTS



**Prof. Dr. Hemant Sood**  
Professor  
Department of Biotechnology & Bioinformatics



**Dr. Saurabh Bansal**  
Associate Professor  
Department of Biotechnology & Bioinformatics

[www.juit.ac.in](http://www.juit.ac.in)



01792-257999

### MOTIVATIONAL SESSION

On

### Cultivating Innovation: The Future of Plant Tissue Culture

**Date :08th November, 2024  
at 03:00 PM**

**Venue:  
Plant Tissue Culture Lab  
(Department Of BT and BI), JUIT**

The Institution Innovation Council (IIC) in collaboration with Gender Champions Club and and the Technology Incubation and Entrepreneurship Development Cell (TIEDC) and Department of Biotechnology and Bioinformatics organized **Motivational session on Cultivating Innovation: The Future of Plant Tissue Culture** on 8<sup>th</sup> November 2024 in Plant tissue Laboratory of the Department, Jaypee University of Information Technology, Solan, Himachal Pradesh.

The session's objectives were to share different innovative technologies for growing commercially important medicinal and ornamental plants and motivate the participants to use innovative techniques for the sustainable growth of plants.

### Key Insights:

- **Nov 8, 2024:** Professor Hemant Sood and Dr Saurabh Bansal oriented the participants with different techniques of growing commercial important plants. The theory part was covered in class followed by experimental demonstration in plant tissue culture lab and final applicative demonstration in greenhouse.



## Topics Covered: Plant Tissue Culture

### 1. Introduction

Plant tissue culture is a technique used to grow plant cells, tissues, or organs under sterile conditions on a nutrient culture medium. This method leverages the totipotency of plant cells, which is their ability to regenerate into a whole plant.

### 2. Basic Requirements

- **Aseptic Conditions:** The tissue culture laboratory must be free from pathogens to ensure healthy cultures.
- **Control of Temperature:** Typically, temperatures between 18-25°C are maintained.
- **Proper Culture Media:** The medium contains essential nutrients, carbohydrates, vitamins, and hormones.
- **Sub-culturing:** Regular transfer of growing tissues to fresh media to promote growth.

### 3. Important Steps



- **Selection of Explant:** Choosing the plant part to be cultured (e.g., leaf, stem, root).
- **Sterilization:** Ensuring the explant and culture media are free from contaminants.
- **Initiation:** Placing the explant on the culture medium.
- **Multiplication:** Promoting the growth of multiple shoots or callus.
- **Rooting:** Inducing root formation in the cultured shoots.
- **Acclimatization:** Gradually adapting the plantlets to external conditions before transplantation.

### Benefits of the session

It helps them to understand how the plant tissue culture techniques can be applied for accomplishing followings :

- **Commercial Plant Production:** Rapid multiplication of plants for horticulture and agriculture.
- **Conservation:** Preservation of rare and endangered plant species.
- **Research:** Studying plant diseases, genetics, and development.
- **Crop Improvement:** Developing plants with desirable traits such as disease resistance and higher yield.

**Conclusion:** Plant tissue culture is a powerful tool in modern botany and agriculture, enabling the rapid propagation and genetic improvement of plants. Its applications are vast, ranging from commercial production to scientific research.

### Participants :

S.No.	Name	Roll Number
1.	ABHINAV UJAGIR PANDEY	241011027
2.	Akshita Bhatt	241011026
3.	Anshika Mishra	241011016
4.	ARYAN SHARMA	241011025
5.	ASHUTOSH KUMAR	241011012
6.	BHAVIKA SOOD	241011017
7.	DEVANSHI SINGH	241011019
8.	DIVYANSH PANDEY	241011020
9.	Hemanya Bokolia	241011031



**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY**  
**WAKNAGHAT, P.O. – WAKNAGHAT,**  
**TEHSIL – KANDAGHAT, DISTRICT – SOLAN (H.P.)**  
**PIN – 173234 (INDIA) Phone Number- +91-1792-257999**  
(Established by H.P. State Legislature vide Act No. 14 of 2002)



10.	IPSHITA KANUNGO	241011023
11.	KAVYA BHATT	241011003
12.	ANWESHIKA MITTRA	241011013
13.	VINAY MOUDGIL	241011021
14.	NANDINI THAKUR	241011022
15.	NANDNI	241011030
16.	RISHIKA SHARMA	241011001
17.	RIYA CHAUHAN	241011009
18.	SINKU KUMARI	241011024
19.	TAMANNA PRAKASH	241011010
20.	ANANYA TOMAR	241011004
21.	VANSHIKA MAHAJAN	241011028
22.	VANSHIKHA KHATRI	241011008
23.	VIDHI RATURI	241011005
24.	IRA GAUTAM	241011002
25.	LAVANYA BANSAL	241011006
26.	SHIVI ARORA	241011029
27.	Hardik Sachan	241011033
28.	ADITYAVARDHAN GULERIA	241010006
29.	ANUSHKA DUBEY	241010004
30.	BHAAVYA SINHA	241010002
31.	KUNAL KUMAR DEKA	241010003
32.	HARSH VARDHAN SINGH	241010008
33.	KUSHAGRA SHARMA	241010005
34.	SACHIN SHARMA	241010007
35.	SHIVANSHU TIWARI	241010001
36.	AASTHA AGARWAL	245111002
37	AANCHAL	245111003
38	JASMINE CHAUHAN	245111004
39	HARSH DEEP DUBEY	245111005



**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY**  
**WAKNAGHAT, P.O. – WAKNAGHAT,**  
**TEHSIL – KANDAGHAT, DISTRICT – SOLAN (H.P.)**  
**PIN – 173234 (INDIA) Phone Number- +91-1792-257999**  
(Established by H.P. State Legislature vide Act No. 14 of 2002)



40	SHIVAM SINGH	245111007
41	KAJAL RAJESHKUMAR SHUKLA	245111008
42	SHAMBHAVI PRIYA	245111010
43	SHEHRIZ KHAN	245111014